

**National Pride, Sporting Success and Event Hosting: An Analysis of Intangible
Effects Related to Major Athletic Tournaments**

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ABSTRACT

Contemporary research into the impact of major sports events shows that the widely used (and popular) claim of economic benefits associated with hosting them is misleading or – at best – overrated. In this paper, we aim to measure whether other potential *intangible* effects can be found, specifically that of national pride. We expand on existing research by including more international sports events and nations while also including a medal index into our regression models to test the effect of athletic achievement. Our results suggest that international sporting success is not a significant driver of national pride. Hosting mega sports events is positively correlated with pride, although this is not significant in our estimations. Implications for nations are that they should become much more strategic in order to harvest potential intangible effects. (JEL: D60; I31)

Keywords: National Pride; International Sporting Success; Mega Sport Events; Economic Impact; Intangible Effects.

I. INTRODUCTION

Research into the question of impact and legacy of major sports events has grown significantly over the years (Wicker *et al.* 2012; Preuss 2015). Due to the considerable use of public money on hosting them, scientific and public interest in understanding the payoff of such ‘investments’ has increased correspondingly (Preuss 2018; Thomson *et al.* 2018).

The overall picture of the debate on this issue is that advocates of the events – for example politicians, sport managers, and even public authorities – often claim that significant tangible effects are the direct result of hostship (Atkinson *et al.* 2012). The argument is that hosting a mega sport event will have a positive spillover effect in other areas such as industrial development (Huang 2011), foreign direct investments (Jakobsen *et al.* 2013), exports (Chung and Woo 2011), and branding (Bodet and Lacassagne 2012) – which in turn is expected to increase tourism (Fourie and Santana-Gallego 2011) through a better ‘destination image’ (Whitson and Macintosh 1996; Grix 2012).

The same ideas seem to be present in connection with the nation’s international sporting success where it is assumed that being a successful competitor, for example in the Olympics or the FIFA World Cup, will lead to all kinds of benefits – usually the same as described earlier in this paper (Storm *et al.* 2017). Also, the widespread anticipation of improved national health due to a so-called ‘trickle-down effect’, where people are inspired by top athletic performances to take up sport themselves, is part of the advocacy argument (Wicker and Sotiriadou 2013; Haut and Gaum 2017).

Usually the advocacies of hosting events, as well as the supporters using public money to secure international elite sport success, base their ideas on myths rather than

scholarly evidence. In fact, academic studies in the field of sports economics reveal that tangible effects are hard to find. According to Zimbalist (2015, 2017), mega sport events are more of an economic burden than a benefit to host nations as they usually result in massive cost overruns (Flyvbjerg and Stewart 2012) and white elephants¹ (Alm *et al.* 2014; Drummond and Cronje 2018). Andrew (2017) argues that hosting mega sport events is like a ‘winner’s curse’, where the actual tourist inflow is far below the pre-event estimate, and post-event costs greatly exceed the budget. In terms of net tangible effects, there is general consensus among scholars that they are absent or at best negligible (Coates and Humphreys 2008; Kavetsos and Szymanski 2010). Concerning the question of international sporting success, the weight of evidence suggests the same disappointing findings, for example that international sporting success does not trickle down per se (Storm *et al.* 2018).

With this evidence present, a central question arises. Are there better ways of justifying the use of public resources on mega sport events and elite sport? Can they be backed by sound evidence? The short answer to this question is that this could be the case. For example, in connection to the London 2012 Olympics, reports were made which showed that sporting success and hostship boosted national pride (Marsh 2012) thus providing some indication of connected *intangible* effects.

Regarding scholarly evidence, however, it seems clear that while the question of tangible effects associated with events and elite sport success has been widely researched, the question of intangible effects such as the creation of national pride or

¹ ‘White elephants’ is a metaphor for large (‘oversized’) and expensive stadiums, which are built in connection to major sports events and that are difficult to utilise subsequently. Because their ex ante and ex post costs are so big in relation to their use, they thus represent a welfare economic cost to society. Refer to Alm *et al.* (2014) for a more thorough understanding of this phenomenon.

identity still needs to be thoroughly examined. Only a few academic studies of the subject exist (see below). The question is relevant because it is important to understand whether there are other effects of hosting major sport events or winning medals in international elite sport tournaments when the tangible effects are shown to be absent. Does sporting success or hosting major events contribute positively to the people of a nation in other ways than tangible effects? Can this become an argument for using public resources to foster such effects?

In this paper we test the assumption of intangible effects in more detail where we ask the following research question: To what extent can international sporting success and/or hostship serve as a means of creating national pride? In an attempt to answer this, we expand upon existing research by including more nations and events in our empirical econometric tests than has been done previously (see for example, Kavetsos and Szymanski 2010; Seippel 2017).

The paper is structured as follows. First, we review existing literature on the intangible effects of major sporting events and international sporting success simultaneous to presenting our approach to answering the research question (Section II). Second, we present the data deployed in the study and provide a brief overview of the methodological issues associated with our analysis (Section III). Third, the results are presented and discussed (Section IV) followed by a conclusion focusing on the implications and limitations of our findings and prospects for future research on the subject (Section V).

II. NATIONAL PRIDE, INTERNATIONAL SPORTING SUCCESS, AND SPORT MEGA-EVENT HOSTSHIP: A REVIEW OF THE LITERATURE

Theoretical assumptions of the intangible effects associated with international sporting success and sport mega-events are widespread (Haut *et al.* 2017). Freeman (2012) argues that events and international sporting success can contribute to nation-building and branding, and thus help to strengthen the image of the nation elsewhere in the world (Houlihan 1997). For example, there is no doubt that nations participating in the international sporting arms race (De Bosscher *et al.* 2006) do this to showcase their power and capabilities in a broader sense (Grix and Carmichael 2012). Medal portfolios are – in relation to other nations – externally seen as a symbol of international geopolitical power and thus identity-making symbols (Hilvoorde, *et al.* 2010; Freeman 2012). During the Cold War, the Eastern and Western blocs fought to show each other their system-superiority by means of delivering sporting success (Balbier 2005; D’Agati 2013). Dominating nations in modern-day Olympics such as the US, China, and Russia are still competing to gain the highest number of gold, silver and bronze medals.

Over the years, an increasing number of nations have joined this battle (De Bosscher *et al.* 2015) indicating that international sporting success has become important to an increasing number of nations because they want to improve their image of being a powerful nation (Houlihan and Green 2008; Haut *et al.* 2017). Further, and for internal reasons, sport is often seen as a tool – or a force – for creating a universal sense of belonging to a specific culture or nation (Seippel 2017). Australia’s massive investment in elite sport, which took form in the early 1980s, was – according to Stewart *et al.* (2004) – a deliberate strategy aimed at creating a national identity in a young nation. China has also used a similar approach to create a national coherence of keeping up and

even beating the modern Western world in terms of progress (Hong 2008; Zheng and Chen 2016).

To a certain extent, sport was similarly used as means to unite East and West Germany following the end of the Cold War (Meier and Mutz 2016). In short, success in sport is seen as a way to increase national pride (Allison and Monnington 2005; Elling *et al.* 2014) – or stated differently: to create a kind of national identity (Haut, 2016).

In relation to hosting mega sport events, Gorokhov (2015) argues that hosting such tournaments is about nation-building. It seems clear that bidding for and hosting the Olympics, the FIFA World Cup or similar events, is also part of a deliberate strategy whereby nations – besides aiming at acquiring the tangible effects described above – want to gain soft power (Grix and Houlihan 2014; Grix and Kramareva 2017), diplomatic connections (Rocha 2017), to brand themselves (Whitson and Macintosh 1996), or create a common national identity of belonging (Kavetsos and Szymanski 2010).

However, while theoretical assumptions imply that sport can affect national pride and prestige, scholarly empirical studies of whether these intangible effects materialise or not are still scarce (Kavetsos and Szymanski 2010; Haut *et al.* 2017). Some exist though, and can roughly be divided into two categories: 1) Studies that focus on the effects on national identity and pride from both hostship (of mega-events) *and* sporting success;² and 2) Studies that concentrate on one dimension only, usually that of athletic

² It should be mentioned, though, that some newer studies (e.g. Pfitzner and Koenigstorfer 2016; Schlegel, Pfitzner and Koenigstorfer 2017; Oja, Wear and Clopton 2018) also examine whether the ‘particular atmosphere perceived by host city residents during the hosting of a mega sport event contributes to subjective well-being’ (p. 606) thus leaving out the sporting success aspect.

performance (performed by a nation's athletes) and the connection to a 'feel good-factor', that is, subjective wellbeing or pride.

In their study, where they focus unidimensionally on international sporting success and national identity, Breuer and Hallmann (2011) find that a substantial part of the German population (78.2 percent) regard athletic performance as being important to Germany's reputation abroad. A related study (Hallmann *et al.* 2013) which focuses on internal factors, reports that Germans feel happy and proud when their athletes win medals at (mega) sporting events.

Humphreys *et al.* (2018) use a contingent valuation approach (CVM) to measure Canadians' willingness to pay for sporting success at the 2010 Winter Olympic Games. They report that willingness to pay is high and closely associated with the prestige and pride Canadians attach to the performance of their athletes.

When analysing a representative sample from the US General Social Survey programme, Denham (2010) accordingly finds that the international success of American athletes is important for US citizens because it makes them proud. This feeling was primarily identified among black males, elderly people, republicans, persons with lower education, and those who watch a lot of television.

Taking a similar approach, Dóczy (2012) investigates the Hungarian context and reports that sport plays a significant role in forming national identity. Using a representative sample of the adult population, he finds that elite sport success matters. Moreover, he reports that in cases of failure and scandals, identification with Hungarian athletes decreases.

Elling *et al.* (2014) studied the Dutch population and the pride they take in international sporting success. Their findings reveal that 'international sporting success of Dutch athletes contributes to the testimony and expression of national pride and

belonging' (Elling et al. 2014, p. 129). The results also reveal that national pride derived from sporting success differs in respect of sociodemographic characteristics, for example gender.

Evans and Kelly (2002) expand the scope of the subject of pride and international sporting success in their study by including 24 countries. Using International Social Survey Programme (ISSP) data from 1995–1996, they find that pride connected to international athletic performance matters most in smaller nations. However, in general, sport is the basis for pride throughout all the included nations, though with variations in strength from country to country.

Seippel (2017) also employs data from the ISSP (2007), although his analysis covered 25 countries in the period 2006–2008. His findings suggest that more democratic countries are less sports-nationalistic than, for example, poorer nations and those which are less democratic. Further, he finds that overall feelings of sport pride – being proud when national athletes succeed – are 'relatively strong and widespread' (p. 56).

Pawlowski *et al.* (2014) deploy a broader approach in methodical terms, and investigate both subjective wellbeing and pride connected to sporting success by examining how this is linked to international sporting success through pride. They use the same data source as Seippel (2017), and Evans and Kelly (2002) examining the 2007 sample. Results suggest that a link between pride and international sporting success is absent. However, even though not tested directly, the authors argue that hosting mega-events might be connected to pride and subjective wellbeing since attending sport events generally generates significant effects in their estimated models.

The question of hostship is directly included in the study undertaken by Kavetsos and Szymanski (2010). They use Eurobarometer data from twelve European

countries spanning the period 1974-2014 to assess the impact on population happiness of hosting the Olympic Games, the FIFA World Cup, the UEFA European Championship, and athletic success. Their findings suggest that hostship is a significant driver of happiness while sporting success is not.

Kavetsos (2012) extends the use of the Eurobarometer data covering sixteen nations in order to test whether hosting the 2000 UEFA European Championship, or being successful at the event, impacts national pride. He finds positive and significant effects for hostship and successful nations.

Summing up these existing studies, it seems clear that research on national pride related to sport has been primarily concerned with the effect of sporting success. The question of the equivalent effect of *hostship* has been addressed in only very few of the reviewed studies. Further, some of the contemporary evidence focuses on just one nation, raising generalisability issues of the findings. Moreover, several of the studies are too old to make them appropriate for the contemporary debate on the value of intangible effects. Based on this, there is clearly a need for more studies in order to better understand the connection between sporting success, hostship and national pride.

In this paper, we add to existing knowledge by including more countries, years, and events to improve the current understanding of the subject. Further, we specifically expand on the research examining *sporting success* and *hostship* in the same study by including both dimensions in our estimation techniques. In the following section we present our empirical approach in more detail.

III. DATA, METHODS AND EMPIRICAL REGRESSION MODELS

There are many ways to empirically approach the question of intangible effects of (mega) sport events and international sporting success. As can be seen from the above literature review, Contingent Valuation Methods (CVM) and studies focusing on subjective wellbeing or happiness have been deployed. Here we choose to focus on national pride because, from a theoretical perspective, this phenomenon is an integral part of the identity-forming process connected to international sporting tournaments and sporting success (Hjerm 1998; Kersting 2007) which can be argued to have a positive effect for the citizens in question. Further, and for more practical reasons, the question of national pride is integrated in some of the largest international survey programmes (see below) enabling us to gain a thorough macro-level understanding of the subject not provided in existing studies which generally focus on fewer nations and events.

To expand on studies approaching the question of how hostship of international (mega) tournaments *and* the sporting success achieved at these tournaments affects national pride we choose appropriate regression estimation techniques enabling us to incorporate both dimensions in the same methodological design.

Dependent variable

Our data on national pride, which forms the dependent variable, are gathered from six rounds of the World Values Survey (WVS),³ and four rounds of the European Values Study (EVS)⁴ covering 96 countries and 253 country-survey-years, and almost 350,000 respondents in the period 1981–2014 (Inglehart *et al.* 2014). The WVS/EVS provide

³ The World Values Survey is provided by a non-commercial global network of social scientists, and covers almost 100 countries, that is, close to 90 percent of the world's population. It has run since 1981. Web: <http://www.worldvaluessurvey.org/wvs.jsp>

⁴ <https://europeanvaluesstudy.eu/>

variables measured at the individual level and in addition to our dependent variable *national pride* (1–4) also includes the control variables *age*, *woman* (0–1), *partner* (0–1), and *ethnic aversion* (0–1).⁵ It is important to point out that the WVS/EVS data do not provide full time-series for any one country as they are not annual surveys. For example, for Germany data is available for 1981, 1990, 1997, 1999, 2006, 2008, and 2013. However, the data set is still exhaustive, and provides a relevant possibility to test our subject of research.

Independent variables

The main independent variables are *medal index 1*, *medal index 2*, *host 1*, and *host 2*.

Medal index 1 is an index of medal placements or success in large sporting events (see below) for the same year or the year prior to the survey.⁶ This means that for the dependent variable measured in Germany in 1997, *medal index 1* includes data for 1997 and 1996; *Medal index 2* includes data for 1997, 1996, and 1995.

The same logic regarding time-lags is true for the variables *host 1* and *host 2*, the difference being that these variables denote whether that country hosted or co-hosted the same events as the medal index variables.

In order to cover relevant events broad sets are included. These comprise the Summer Olympics, the Winter Olympics, the FIFA World Cup, the UEFA European Championship, the Cricket World Cup, the Commonwealth Games, Copa América, Africa Cup of Nations, AFC Asian Cup, OFC Nations Cup, Rugby World Cup, and

⁵ The question asked in relation to the variable *national pride* is ‘How proud are you to be [nationality]?’ with the answers ranging from (1) ‘Not at all proud’ (4) to ‘Very proud’. *Ethnic aversion* relates to the question ‘In this list are various groups of people. Could you please indicate any that you would not like to have as neighbours?’, where respondents who indicated ‘People of a different race’ have been given the value 1.

⁶ Our analysis cover men’s sporting events only.

Rugby League World Cup. By including a larger set of events than previously found in the literature, we take into consideration that for some countries events other than the Olympics or the FIFA World Cup are important and can affect our subject in question. For smaller nations, which are not competitive in the biggest events, smaller or continental tournaments can theoretically be regarded as their primary source of sport-related national pride.

The index scores used are dependent on final placement in the tournaments (for the medal indexes), and importance and size of the event (both medal indexes and scores on the host variables).⁷ Based on the existing literature (for example Kavetsos and Szymanski, 2010), it is expected that nations hosting a given event will experience an increase in national pride among its citizens related to the hostship. It is also expected that achievement of good sporting results at these tournaments will have a positive influence on national pride (for example Kavetsos, 2012). However, we assume that it is more likely that a positive effect of hostship will be found than of sporting success. This expectation is also formed by looking at the results from the literature review in Section II.

Controls

As mentioned above, we have included *age*, *woman* (0–1), *partner* (0–1), and *ethnic aversion* (0–1) as controls. By including these we aim to control for differences between

⁷ For a list of the countries in our dataset which are included together with scores on at least one of the four main independent variables, see Appendix A1. For a list of scores associated with different placements in the events, see Appendix A2. Note that the score of hosting an event equals that of winning (or having the best medal score) in an event. If the event is shared by two countries, the main host acquires 75% of that score while the junior host acquires 25%. If it is shared between three or more, the senior acquires 75% and the others each acquire 50% of the score. For the Cricket World Cup in the West Indies, all the host countries acquire 1/3 of the score except the country hosting the final, which acquires 50%.

specific respondent groups because: ‘Existing research has demonstrated that national pride is a function of a variety of individual-specific characteristics’ (Dimitrova-Grajzl *et al.* 2016).

The country-year-level control variables including *GDP per capita* (log transformed and lagged), level of *unemployment* (in percent of labour force), and *population* (log transformed), are all gathered from the World Bank (2018) database.⁸ The *GDP/cap* variable is entered because higher levels of GDP/cap are expected to be associated with lower levels of national pride (Bekhuis *et al.* 2014). Richer countries are less affected by variables determining national pride – such as sport – as their populations are more materially secure than those of poorer countries (Denham 2010; Seippel 2017).⁹ National unemployment levels are included as a (control) variant of this, but the other way around because there is a possibility that people outside the labour market – who are more insecure financially – are more likely to be influenced by factors that aim to give them confidence in their nation (Hjerm 2009; Han 2013). Sporting success or hostship can theoretically trigger feelings of national pride, and, thus, we expect that higher levels of unemployment can lead to higher levels of national pride.

Regarding the population variable, we anticipate that hosting events or achieving sporting success affects larger countries differently than smaller countries, with large countries being less affected than smaller ones. However, we are also aware that the specific effects on national pride very likely depend on the specificities of the nations in

⁸ We use the *World Development Indicators* data base: <https://data.worldbank.org>

⁹ We have also run models including level-1 GINI coefficient data showing that unequal societies generally have higher levels of national pride. The drawback of this variable is its limited *N*, which means that the number of countries in our analysis is reduced from 96 to 61, and the number of country-survey-years from 253 to 113. We have thus chosen to keep GINI coefficient data out of the final models.

question. Thus, we include additional controls in order to get the clearest and most reliable effects of our main variables.

From the *V-Dem institute* (Coppedge *et al.* 2015), we have included the continuous variable *democracy* (0–1), which measures the extent to which the liberal principle of democracy is achieved in the nations included in the data. In accordance with Meier and Mutz (2018), we test whether different political regimes in terms of democratic character affects national pride. We expect that less democratic nations in general are more prone to sports related pride because such nations have a tradition of using sport to foster national cohesion and – also sports related – national pride. In short, “the authoritarian character of a political regime makes it more likely that it pursues sport-centred identity policies, which leave an impact on sport-related national pride” (p. 528).

In addition, we include one measure of ethnic composition for each country in a given year: *ethnic fractionalisation*. The data for this variable is gathered from the Composition of Religious and Ethnic Groups (CREG) Project (Nardulli *et al.* 2012). From this annual data source we have calculated the ethnic structure by taking 1 minus the score from the Herfindahl index, giving the probability that two randomly drawn individuals from the population of a given country-year belong to different ethnic groups. The scores range from 0 (ethnic homogeneity) to 1 (ethnic heterogeneity). This variable controls for an expectation of (more) ethnic heterogenous populations being less proud of the nation where they reside (Heere *et al.* 2016), thus also having less pride in the hostship of sports events or the sporting success enjoyed by their country. However, in order to allow for non-linearity we also add the variable *ethnic fractionalisation squared*.

Finally, we include a control for *Germany/Japan* to account for the difficulty of these countries in dealing with questions of national pride due to events in the Second World War.¹⁰

Specifications

We present a total of six multilevel models (ML) and two fixed effects models (FE), half of which are used to test the 1-year lag version of the main independents, and half for testing the 2-year lag. For each lag, we present one main ML model, one including *Germany/Japan* as a control, and one model excluding these two countries. As we are dealing with within effects in the FE model, it is not necessary to account for the two countries in the same way as in the ML models. We have chosen to present both ML and FE models since there are strengths and weaknesses associated with both.

Our ML models are three-level models, as this is the structure of our data with individuals, country-survey-year, and countries. Our independent variable is situated at the lowest (individual) level, and we seek to explain its variation using information from all levels (Steenbergen and Jones 2002). It is important to note that even though we are operating with a large level-1 N , the variables *medal index* and *host* are situated at level-2. As such, their standard errors are based on the level-2 N of 96, and therefore we also discuss results that are significant at the 0.10-level. An empty three-level model can formally be defined as:

$$[1] Y_{ijk} = \beta_0 + e_{ijk} + u_{0,jk} + v_{0k},$$

¹⁰ We see from the Appendix table A2 that Germany and Japan score low on *national pride*. When taking into account their high scores on our two main independent variables, we argue that it makes sense to test the multilevel models while controlling for these as well as excluding them from the model. This is not necessary in the fixed effects models.

where β_0 is the constant, e represents the level-1 residual, u and v represents the level-2 and level-3 residuals respectively. The subscript i varies across level-1 units (individuals), while j varies across the level-2 units (country-survey-year), and k varies across level-3 units (countries). Our main full models (models 1, 3, 4, and 6) which include random slopes for *medal index* and *host* can be defined as:

$$[2] \quad Y_{ijk} = \beta_0 + \beta_1 X_{1ijk} + \beta_2 X_{2ijk} + \beta_3 X_{3ijk} + \beta_4 X_{4ijk} + \beta_5 X_{5jk} + \beta_6 X_{6jk} + \beta_7 X_{7jk} + \beta_8 X_{8jk} \\ + \beta_9 X_{8jk} X_{8jk} + \beta_{10} X_{9jk} + \beta_{11} X_{10jk} + \beta_{12} X_{11jk} + e_{ijk} + u_{0jk} + v_{0k} + v_{1k} X_{10} + v_{1k} X_{11}$$

while models 2 and 5 can be presented as:

$$[3] \quad Y_{ijk} = \beta_0 + \beta_1 X_{1ijk} + \beta_2 X_{2ijk} + \beta_3 X_{3ijk} + \beta_4 X_{4ijk} + \beta_5 X_{5jk} + \beta_6 X_{6jk} + \beta_7 X_{7jk} + \beta_8 X_{8jk} \\ + \beta_9 X_{8jk} X_{8jk} + \beta_{10} X_{9jk} + \beta_{11} X_{10jk} + \beta_{12} X_{11jk} + \beta_{13} X_{12k} + e_{ijk} + u_{0jk} + v_{0k} + v_{1k} X_{10} + v_{1k} X_{11}$$

where β_1 to β_{13} denote the coefficients for the variables described above: *age* (β_1), *woman* (β_2), *partner* (β_3), *ethnic aversion* (β_4), *democracy* (β_5), *GDP/cap* (β_6), *unemployment* (β_7), *ethnic fractionalisation* (β_8), *ethnic fractionalisation squared* (β_9), *population* (β_{10}), *medal index* (β_{11}), *host* (β_{12}), and *German/Japan* (β_{13}) [β_{13} only in models 2 and 5].

As mentioned, we also present two FE models. This is done by way of collapsing the dependent variable, giving us the mean for each country-year. One major advantage of FE models is that they enable us to control for all time invariant variables. This removes much of the problem of spurious relationships (as was the case with Germany and Japan), leaving us with a purer relationship between X and Y (Mehmetoglu and Jakobsen, 2017). We thus look at the variation within each country, excluding all the countries which have neither hosted nor achieved a medal-score on our index for the years when the survey was conducted (or the one or two preceding years). A disadvantage of this modelling is that we have to aggregate our dependent variable

and are not able to control for individual level characteristics. Our two FE (within) models (7 and 8) can be represented as:

$$[4] \quad Y_{it} = \beta_{0W} + \beta_{1W} X_{1it} + \beta_{2W} X_{2it} + \beta_{3W} X_{3it} + \beta_{4W} X_{4it} \\ + \beta_{5W} X_{4it} X_{4it} + \beta_{6W} X_{5it} + \beta_{7W} X_{6it} + \beta_{8W} X_{7it} + \alpha_i + e_{it}$$

where β_1 to β_8 denotes the coefficients for the variables entered in these models (also described above): *democracy* (β_1), *GDP/cap* (β_2), *unemployment* (β_3), *ethnic fractionalisation* (β_4), *ethnic fractionalisation squared* (β_5), *population* (β_6), *medal index* (β_7), and *host* (β_8). In the following sections, we present the results derived from our modelling.

IV. RESULTS AND DISCUSSION

In Table 1 we present the output from the models testing *medal index 1* and *host 1* (models 1–3) as well as *medal index 2* and *host 2* (models 3–6). We see from all models that elderly persons and those who are married or cohabiting hold more national pride than younger and single persons respectively. These results are largely consistent with the results reported by Dimitrova-Grajzl *et al.* (2016) who argue that national pride is associated with historically-rooted social conventions that are more likely to take effect in elderly people. It is also consistent with Seippel (2017) who finds age to be positively correlated with national pride. One possible explanation regarding our finding on marriage and partnership could be a general association with traditional family patterns among couples, which is also (theoretically) associated with national pride. However, we have not been able to find other studies confirming this.

A weaker but still significant effect is that women are slightly more proud of their country than men, while the positive relationship between ethnic aversion and national pride is not statistically significant. The result of *woman* is partly inconsistent with existing research. Contrary to our finding, Smith and Kim (2017) report that men generally take more pride in their country than women. However, this depends on the nation in question and has only a weak effect when present. Overall, gender is seen to be insignificant more often than not.

Our ethnic aversion variable has not been tested directly in other studies on sport, and finding this to be non-significant might simply mean that national pride is a phenomenon not directly related to ethnic intolerance.

Regarding our level-2 controls, the first significant relationship found is in the variable *democracy*. As can be seen from Table 1, the more democratic a country is, the less proud are the inhabitants (Meier and Mutz 2018).

Table 1: Random slope models on national pride

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>	<i>Model 6</i>
	<i>t, t-1</i>	<i>t, t-1</i>	<i>t, t-1</i>	<i>t, t-1, t-2</i>	<i>t, t-1, t-2</i>	<i>t, t-1, t-2</i>
Constant	3.470*** (0.438)	3.229*** (0.441)	3.253*** (0.442)	3.444*** (0.446)	3.203*** (0.449)	3.230*** (0.448)
<i>Level-1</i>						
Age	0.003*** (0.000)	0.003*** (0.000)	0.003*** (0.000)	0.003*** (0.000)	0.003*** (0.000)	0.003*** (0.000)
Woman	0.014** (0.006)	0.014** (0.006)	0.018*** (0.005)	0.014** (0.006)	0.014** (0.006)	0.018*** (0.005)
Partner	0.026*** (0.006)	0.026*** (0.006)	0.026*** (0.006)	0.026*** (0.006)	0.026*** (0.006)	0.026*** (0.006)
Ethnic aver.	0.015 (0.011)	0.015 (0.011)	0.012 (0.011)	0.015 (0.011)	0.015 (0.011)	0.012 (0.011)
<i>Level-2</i>						
Democracy	-0.281** (0.109)	-0.267** (0.106)	-0.260* (0.106)	-0.269** (0.109)	-0.258** (0.106)	-0.255** (0.107)
GDPpc	0.002 (0.024)	0.010 (0.023)	0.010 (0.023)	0.002 (0.024)	0.010 (0.023)	0.010 (0.023)
Unemploy.	-0.002 (0.004)	-0.002 (0.004)	-0.002 (0.004)	-0.002 (0.004)	-0.002 (0.004)	-0.002 (0.004)
Fractional.	-0.713* (0.397)	0.909** (0.365)	-0.956** (0.371)	-0.650 (0.407)	-0.863** (0.370)	-0.930** (0.375)
Fractional. ²	1.036** (0.441)	1.201*** (0.416)	1.243*** (0.423)	0.970** (0.451)	1.154*** (0.421)	1.218*** (0.427)
Population	0.002 (0.023)	0.015 (0.023)	0.015 (0.023)	0.003 (0.023)	0.016 (0.023)	0.016 (0.023)
Medal Ind.	-0.017 (0.010)	-0.013 (0.009)	-0.006 (0.009)	-0.016* (0.008)	-0.014* (0.007)	-0.009 (0.007)
Host	0.012 (0.008)	0.011 (0.008)	0.008 (0.010)	0.010 (0.008)	0.011 (0.009)	0.007 (0.009)
Ger./Japan	---	- 0.645*** (0.104)	---	---	- 0.653*** (0.100)	---
<i>Covariance</i>						
Var(e_{ijk})	0.454 (0.020)	0.454 (0.020)	0.445 (0.019)	0.454 (0.020)	0.454 (0.020)	0.449 (0.019)
Var(u_{0jk})	0.014 (0.002)	0.014 (0.002)	0.015 (0.002)	0.014 (0.002)	0.014 (0.002)	0.014 (0.002)
Var(v_{0k})	0.068 (0.000)	0.061 (0.000)	0.063 (0.000)	0.068 (0.000)	0.061 (0.000)	0.062 (0.000)
Level-1 <i>N</i>	348,158	348,158	333,557	348,158	348,158	333,557
Level-2 <i>N</i>	253	253	244	253	253	244
Level-3 <i>N</i>	96	96	94	96	96	94
Log Lik.	-	-	-	-	-	-
	356,291.0	356,285.7	338,034.5	356,290.7	356,285.3	338,034.5

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$. *Democracy* and *unemployment* are lagged, *GDPpc* and *population* is lagged and log transformed. For list of countries included in the models, see Appendix A3. Respondents

are weighted. In models 3 and 6 Germany and Japan are excluded. The slopes of medal index and host are allowed to vary at the country level.

These findings are consistent with our expectations and existing research (e.g. Seippel 2017). Further, we find that our two variables *fractionalisation* and its polynomial are significant (at the 5 %-level or lower) in models 2, 3, 5 and 6, giving us less national pride up until a certain turning point (according to our data, when the index reaches 0.34). This is an interesting finding and the substantive meaning is that national pride will decrease the less homogenous a country is, until it reaches a point between being homogeneous and polarised (where there are large groups of roughly equal size), and then start to increase the more fractionalised the country is. The impact of fractionalisation on national pride is, in other words, J-shaped.

In models 2 and 5 we control for whether a country was one of the main actors on the losing side of the Second World War. Not surprisingly, this is a very strong and negative relationship since the levels of national pride in Germany and Japan are the lowest in our sample.

Regarding our main explanatory variables we see that *host* is positively associated with *national* pride throughout our models. However, our output never reaches statistically significant levels. On the contrary, the medal index is negative, and even becomes significant at the 10 %-level in models 4 and 5. Yet, we suspected that much of this trend was driven by Germany and Japan (which have low values on national pride and high values on the medal index), and when removing them from the model (as in models 3 and 6), the relationship becomes weaker. In total, these results indicate that medal success does not have an effect on national pride, a finding consistent with some of the existing research (e.g. Evans and Kelley 2002; Kavetsos and Szymanski 2010).

In Table 2, we present our two FE models, testing the within-variation in each country. We have to take into account that we have a relatively low N of 110 and 121, respectively. However, the FE models confirm the trend seen in the ML models where *medal index* has a negative effect and *host* has a positive effect on national pride, yet neither is statistically significant.

Table 2: Fixed effects models on national pride

	<i>Model 7</i>	<i>Model 8</i>
	<i>t, t-1</i>	<i>t, t-1, t-2</i>
Constant	10.437*** (3.910)	10.302** (3.762)
Democracy	0.006 (0.202)	0.013 (0.193)
GDPpc	0.021 (0.080)	-0.007 (0.076)
Unemploy.	-0.001 (0.005)	-0.002 (0.005)
Fractional.	-0.414 (1.212)	-0.261 (0.994)
Fractional. ²	1.897 (1.704)	1.819 (1.449)
Population	-0.420 (0.243)	-0.402* (0.236)
Medal index	-0.017 (0.010)	-0.016* (0.008)
Host	0.013 (0.010)	0.011 (0.009)
<i>N</i>	110	121
Groups	33	37
<i>F</i>	0.96	1.09
<i>R</i> ² (within)	0.100	0.103

Note: ***p<0.01, **p<0.05, *p<0.10. *Democracy* and *unemployment* are lagged, *GDPpc* and *population* is lagged and log transformed. For list of countries included in the models, see Appendix A4 and A5.

Our results are somewhat surprising in so far as we expected significant effects of hostship and sporting success since these relationships are found in a number of other studies. However, it is important to understand that our data covers a very large set of nations and respondents. Our level of measurement can be said to be much higher than

the coverage presented in the contemporary literature so far. This might make it more difficult to capture the potential effect of national pride associated with sport due to differences in the interest in sport and sport-related pride across nations and among different segments of the population in the countries included.

If this is a correct interpretation, even providing appropriate modelling on extensive data does not necessarily ensure that a potential effect will emerge as significant. Thus, it is, of course, possible that the specific composition of our data covering many nations, years and events could be a weakness. On the other hand, our findings also point towards the important conclusion that national pride associated with sport – if identifiable – is only present among certain population segments in any given nation, in addition to varying across nations. Future studies should aim at focusing on a more limited set of groups or nations to better single out potential effects. Such a conclusion would be consistent with existing research on national pride (e.g. Smith and Kim 2017) who find many covariates affecting pride, although with different impacts depending on the nation in question.

Further, and as pointed out by Elling *et al.* (2014), national identity and pride are quite stable phenomena that might not be subject to much change due to temporary events or sporting results. Pride might enjoy an increase in connection with good sporting results or hostship, but may decline shortly after the circus has left town, or may only be present among a limited number of people in a given nation. In the concluding sections we sum up our findings and present the implications of our study. Further, we touch upon the limitations of the study and suggest future research perspectives regarding national pride associated with athletic achievement and event hostship.

V. CONCLUSION, IMPLICATIONS AND FUTURE RESEARCH

Summary

This paper has examined the question of *intangible* effects of (mega) sport events and international sporting success. Taking the evidence of missing tangible effects as our starting point, we aimed at investigating whether there are other effects that can be used to justify public involvement in these events and elite sport. While there are many ways of approaching this question, we have looked at national pride as a way of measuring intangible effects. Our study expands on existing research by including a larger set of events and data than – to the best of our knowledge – have been deployed in research hitherto.

Results

Our regression estimates reveal that no significant effects regarding sporting success can be found. This is also the case in relation to hostship. Our findings are inconsistent with existing research in as much as we do not find any of the expected effects identified there. This is interesting because it indicates that national pride cannot be enhanced by means of sporting success or hostship per se. This being said, due to the scope and limitations of our study, we cannot rule out the existence of such a relationship in more local settings. Our data holds its strength on the overall macro-level. As mentioned, we have deployed a larger set of data than previously used in order to understand whether the results from existing studies may be generalised so as to apply to more nations and continents. This does not seem to be the case, and our findings can be used to direct attention towards more focussed studies.

Implications

Our results have implications for politicians and sport managers working with attracting (mega) sport events to their respective nations, or with improving the performance of their respective national athletes. In brief, such stakeholders should be careful when using arguments related to intangible effects such as national pride to justify the use of public money on event hostship or to gain international elite sport success.

Further, if nations want to invest in elite sport for the sake of increasing national pride they should become more strategic in leveraging the potential effect. As pointed out in our modelling it is clear that national pride following from sporting success or event hosting is not an automatic effect suggesting that other (deliberate) initiatives fostering national pride – or other kinds of intangible effects – should supplement elite sport success or host ship investments if a nation wants to achieve the anticipated effects.

However, given that our results primarily concern the overall macro-perspective by focussing on a broad set of nations, closer examination of national preferences is needed to reveal whether there are nations where this kind of argumentation can be used and where the effect is more automatic. As pointed out in other studies, it is likely that the inhabitants of some nations hold the relevant preferences thus representing positive cases of intangible effects. Future research should have a national focus and further investigate what specific groups or segments of a given population are more or less affected by hostship or international sporting success.

Limitations and future research

The limitations of our research point towards potential new research areas. As mentioned above, some countries or specific cases can be examples where events yield utility (pride) among the population. Our results only indicate that from a general over-

all perspective this cannot be assumed to be the case. The great advantage of our analysis is the power of the data in terms of coverage. Yet, this coverage is also a double-edged sword as our data might be too broad to capture potential effects that can vary significantly across nations and segments of given populations in the nations covered. Even when conducting appropriate modelling, these effects might 'drown' due to the size of the data pool.

That being said, the evidence still adds to existing research by pointing towards how the characteristics of national pride is related to sport. In short, it seems that national pride related to sport cannot be stated to exist as a general element in all world populations. Instead its potential significance must be found on lower national levels, as indicated by the previous research referenced in this paper.

Thus, future research should continue to test the main questions examined here, although, on more limited data covering smaller sets of nations or continents. Such research should aim at understanding the diversity of preferences among national groups of people and try to understand why some nations place more pride in hostship or sporting success than others. This would help to shed more light on the issues dealt with in this paper and whose conclusion only can be applied to the overall level our deployed data represents.

Another problem in our design could potentially be that we investigated national pride. As touched upon in the discussion, national pride is a relatively stable phenomenon, while sporting pride can be more dynamic (Elling et al., 2014). As extensive data focussing specifically on sporting pride is not available, a limitation is thus that there is a risk that we have not been capable of correctly identifying potential effects. This is a caveat in the data pool, and future research aimed at identifying

potential intangible effects related to sporting success and hostship would benefit from sampling more focused data on this topic.

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VII. APPENDIX A1**Table A1: Countries, medals, hosting and national pride**

Country	Medal+1	Host+1	Medal+2	Host+2	NatPride
Argentina	Yes	No	Yes	Yes	3.456
Australia	Yes	Yes	Yes	Yes	3.667
Austria	No	Yes	Yes	Yes	3.405
Belgium	Yes	No	Yes	No	3.033
Brazil	Yes	Yes	Yes	Yes	3.223
Canada	No	No	No	Yes	3.589
China	Yes	No	Yes	No	3.120
Colombia	Yes	No	Yes	No	3.818
Croatia	Yes	No	Yes	No	3.258
France	Yes	Yes	Yes	Yes	3.259
Germany	Yes	Yes	Yes	Yes	2.834
Ghana	Yes	No	Yes	No	3.931
Iraq	Yes	No	Yes	No	3.633
Italy	Yes	Yes	Yes	Yes	3.246
Japan	Yes	No	Yes	Yes	2.871
S. Korea	Yes	No	Yes	Yes	3.116
Mexico	Yes	No	Yes	No	3.634
Netherlands	Yes	No	Yes	No	2.963
New Zealand	Yes	Yes	Yes	Yes	3.637
Nigeria	Yes	Yes	Yes	Yes	3.526

Norway	No	No	Yes	Yes	3.347
Pakistan	No	Yes	Yes	Yes	3.781
Peru	Yes	No	Yes	Yes	3.660
Poland	No	Yes	No	Yes	3.586
Portugal	No	No	Yes	No	3.545
Russia	Yes	No	Yes	No	3.064
South Africa	Yes	Yes	Yes	Yes	3.553
Spain	Yes	No	Yes	No	3.432
Sweden	No	No	Yes	No	3.244
Switzerland	Yes	Yes	Yes	Yes	3.163
Thailand	No	Yes	No	Yes	3.816
Turkey	Yes	No	Yes	No	3.655
Egypt	Yes	No	Yes	Yes	3.702
UK	Yes	Yes	Yes	Yes	3.399
Uruguay	Yes	Yes	Yes	Yes	3.602
Uzbekistan	Yes	No	Yes	No	3.878

VIII. APPENDIX A2

Event	1st	2nd	3rd	4th
Summer Olympics	4	3	2	---
Winter Olympics	3	2	1	---
FIFA World Cup	6	3	2	1
UEFA Eur. Champ.	4	2	1	0.5
Cricket World Cup	3	1	---	---
Commonwealth Gam.	2	---	---	---
Copa América	3	1	0.5	0.25
Africa Cup of Nations	3	1	0.5	0.25
AFC Asian Cup	3	1	0.5	0.25
OFC Nations Cup	0.5	0.25	---	---
Rugby World Cup	4	2	1	0.5
Rugby League WC	2	1	0.5	0.25

IX. APPENDIX A3: LIST OF COUNTRIES INCLUDED IN MODELS 1 AND 2

Albania, Algeria, Azerbaijan, Argentina, Australia, Austria, Armenia, Bangladesh, Belgium, Bosnia & Herzegovina, Brazil, Bulgaria, Belarus, Burkina Faso, Canada, Chile, China, Colombia, Croatia, Cyprus, Czech Republic, Denmark, Dominican Republic, Ecuador, Egypt, El Salvador, Ethiopia, Estonia, Finland, France, Georgia, Germany, Ghana, Greece, Guatemala, Hungary, Iceland, India, Indonesia, Iran, Iraq, Ireland, Israel, Italy, Japan, Kazakhstan, Jordan, Korea, Kuwait, Kyrgyzstan, Lebanon, Latvia, Lithuania, Macedonia, Malaysia, Mali, Mexico, Moldova, Montenegro, Morocco, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Peru, Philippines, Poland, Portugal, Qatar, Russia, Rwanda, Saudi Arabia, Singapore, Slovakia, Vietnam, Slovenia, South Africa, Spain, Sweden, Switzerland, Tanzania, Thailand, Trinidad & Tobago, Tunisia, Turkey, Uganda, Ukraine, United Kingdom, United States, Uruguay, Uzbekistan, Venezuela, Yemen, Zambia, Zimbabwe.

X. APPENDIX A4: LIST OF COUNTRIES INCLUDED IN MODEL 7

Argentina, Australia, Austria, Belgium, Brazil, China, Colombia, Croatia, Egypt,
France, Germany, Ghana, Iraq, Italy, Japan, Korea, Mexico, Netherlands, New Zealand,
Nigeria, Pakistan, Peru, Poland, Russia, South Africa, Spain, Switzerland, Thailand,
Turkey, United Kingdom, United States, Uruguay, Uzbekistan.

XI. APPENDIX A5: LIST OF COUNTRIES INCLUDED IN MODEL 8

Argentina, Australia, Austria, Belgium, Brazil, Canada, China, Colombia, Croatia, Egypt, France, Germany, Ghana, Iraq, Italy, Japan, Korea, Mexico, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Peru, Poland, Portugal, Russia, South Africa, Spain, Sweden, Switzerland, Thailand, Turkey, United Kingdom, United States, Uruguay, Uzbekistan.