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## Do sports matter to people? A cross-national multilevel study

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### ABSTRACT

Do people consider sports as important? In this article, I investigate how people ( $N \approx 44,000$ ) in 33 countries (ISSP 2007) assess three aspects of sports: sports as socialization, integration and internationalization. I study opinions on sports in light of individual and national characteristics, and find that close to 90% of the inhabitants of the nations participating in this study supports the idea that sports matters for socialization, whereas 76% of the respondents think that sports also have a positive integrative effect. People agree less with the idea that sports help for the relations between nations. The multivariate analyses show that high education and high income go together with positive opinions on most aspects of sports. There is an interaction showing that the effect of education depends on the GNP of nations. Women tend to be more skeptical towards the benign effects of sports, whereas older people are more positive.

### KEYWORDS

Opinions, sports, socialization, integration, internationalism

### Introduction

Sports and physical activity are typically perceived as worthy endeavours: They are healthy, they are fun, they are social. Accordingly, most modern nations have policies intended to promote sports and physical activity<sup>1</sup> and scientists are eager to explain why some people choose to participate in sports and physical activity while others do not.<sup>2</sup>

Many factors influence individuals' participation in sports and physical activity, including material and cultural resources, socialization, individual motivation, social networks, information and opportunity structures. Even though research has contributed significantly to our knowledge of the effect of many of these factors, one important and self-evident reason for sports participation has been under-researched: How do people around the world actually perceive sports and as part hereof: Do they consider sports and physical activity as consequential? The importance assigned to sports could have a direct impact: the higher people value sports, the more they will participate in sports; indirectly, the more positively people perceive sports, the more responsive they will be to various policy measures intended to increase sports participation.

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In his seminal book *Sport Matters*, Dunning (1999, 1) claims that ‘There is no need to support the contention that sports are important by reference to facts and figures’. However, even though many people have positive views about sports, there is no reason to assume that all people appreciate sports to the same degree and extent. This is true for two reasons. First, because weighty arguments exist that deny or denigrate the value of sports (Hughson 2009; Bale 2010; Lasch 2010; Morgan 2010; Carlsson and Hedenborg 2014). Second, because there are more than enough reasons within sports to question their benefits and to perceive them as problematic and unattractive, including doping, cheating, injuries, violence, corruption, hooliganism, fanaticism, nationalism, eating disorders, male chauvinism, narrow-mindedness, smugness, commercialization and too much (or too little) elite sports at the expense of grassroots sports (Tännsjö and Tamburrini 2000; Petroczi 2009; Pielke 2016). In short: The question of how people think about sports is both timely and consequential.

Dunning (1999, 5) claims that ‘In modern industrial societies, sports have come to be important at the individual, local, national and international level’. In line with this categorization, the data applied in this study provide the opportunity to address people’s opinions on sports at three of these four levels through people’s opinions on three statements in a global survey. The first asks whether sports are important for individuals’ social development: *Sports as socialization*. A second statement claims that local-level sports might bring together different groups of people in positive ways within communities: *Sports as social integration*. The third questions whether sports have a role to play at the global level by bringing nations and cultures together: *Sports as internationalization*.

While the importance that people assign to sports might depend on specificities of particular sports, the extent to which sports matter will also differ between groups of people: Highly educated people for example tend to participate more in sports than others (Dishman, Sallis, and Orenstein 1985; Downward and Rasciute 2010). In addition, national differences within sports traditions and cultures (Houlihan 1997; Bairner 2001) and political and organizational structures (Bergsgard et al. 2007; Hallmann and Petry 2013) may impact how sports are valued around the world: Richer nations tend to have more developed sports infrastructures than poorer nations. Moreover, the influence of individual characteristics presumably depends on national features: The differences between highly and lowly educated people might be smaller in richer than poorer nations. Capturing the full set of explanatory factors for the importance assigned to sports at both individual and national levels requires a multilevel model (Gelman and Hill 2007; Snijders and Bosker 2011) which is the chosen method for this study.

Using the three themes of sports for socialization, social integration and internationalization, this study assesses the importance of sports for people across 33 nations. The purpose is both to describe how the significance assigned to sports differs in general and across nations and to study how the importance attached to sports depends on social background variables, national characteristics and the interplay between the two. In the next section, I will present previous research and a set of assumptions guiding the empirical analyses. Next, data will be described, the methods

will be outlined and empirical results will be presented. Finally, a summation will describe and explain the global views surrounding sports, and topics for future research will be identified.

## **Opinions on sports: previous research and theoretical perspectives**

The purpose of this study is to investigate how important people think sports might be for social processes at different social levels, and given the originality of the topic, the study has an explorative character. On the one hand, searches in SPORTDiscus and Web of Science (linking ‘opinion\*’ and/or ‘attitude\*’ to ‘sport\*’) indicate that not very much research exists on people’s opinions about sports as articulated in this study. Results from such searches tell that opinions and attitudes towards sports are almost exclusively related to themes as doping, nutrition, medicine, technology and achievements and not directly relevant for the topic of the present study. On the other hand, there is research addressing topics that could be used, indirectly, to develop some assumptions also relevant for the questions asked in this study.

A first likely relevant yet dissimilar topic is the question of what motivates people for doing sports. Although such studies are not explicitly addressing our concern with socialization, there is a clear indication of people appreciating the social aspects of doing sports (Seippel 2006; Sirard, Pfeiffer, and Pate 2006; Seippel 2008; Harwood et al. 2015). From this, it seems reasonable to assume that many people have positive feelings for the everyday social(ization) aspects of sports.

For the second topic, an option is to look at studies that actually address integration. Although these studies do not address people’s opinions on sports and integration, there are so many projects concerned with sports as arena for social integration (Walseth 2008; Burrmann 2011; Ibsen, Nichols, and Elmoose-Østerlund 2016), that both politicians, scientists and common people must be assumed to have at least a certain belief in sports capacity for integrating (marginal) social groups.

International sports are mostly elite sports, and if sports should have a function promoting internationalization, it seems, accordingly, reasonable to assume it must be achieved through elite sports. An indirect indicator of people’s belief in sports as internationalization could then be found in their view on elite sports. The antagonism between elite sports and grassroots sports is found in several nations (Bergsgard et al. 2007; Breuer et al. 2015) and a recent German study shows that the public support for elite sports is restricted (Haut, Prohl, and Emrich 2016). From this, it might be assumed that the belief in sports as a factor of importance for internationalization is limited. It also seems as reasonable to expect sports as socialization and integration to have higher support than sports for internationalization.

Even though these more indirect looks into relevant aspects of sports studies do suggest what to expect in a very general sense – the level of support – when approaching our questions, they do not tell us very much about how we could expect these opinions to vary by social and/or national background. To find some clues about how such background factors might matter and to formulate a set of assumptions for the subsequent empirical analyses, I will very briefly review research concerning participation in physical activity in general. The assumption will be that

participation in sports and physical activity itself could function as an indication of views on how sports matter for socialization, integration and internationalization.

As a general theoretical framework, I will distinguish between two sorts of explanatory factors, each embedded in various streams of research. On the one hand, there are individuals with their interests, desires and beliefs. On the other hand, there are contextual factors of a structural or cultural (national) character (Hedström 2005). Sports have traditionally been perceived as a male world (Theberge 2000). The conventional stance is that women are more removed from sports than men and could therefore be less positive towards sports. Recent studies (Van Tuyckom, Scheerder, and Bracke 2010; Taniguchi and Shupe 2014) have revealed a shift in female sports participation across nations. This means that gender, as a potentially significant factor, could have varying meanings that differ across nations. The causes of these shifts are related to both structural and cultural factors – new and more equal gender roles, shifts in labour market relations and changes in exercise habits – which vary between nations. Age shows an analogous pattern where sports traditionally are associated with young people, but current studies (Hovemann and Wicker 2009) show that sports today are less ‘aged’ than previously. Again, these shifts consists of various factors – new understandings of old age, better health conditions among older people and more old people with experiences from sport and physical activity – which vary between nations. Consequently, the effects of both gender and age – whether positive, neutral or negative – should be left as open issues. Furthermore, high levels of education and income are associated with high levels of physical activity (Scheerder, Vanreusel, and Taks 2005; Stokvis 2011), which presumably corresponds with positive perceptions towards sports. Another factor that could impact perceptions is whether oneself is active in sports; individuals’ sports participation is probably associated with their positive perceptions of sports.

On a contextual (national) level, this study includes two explanatory factors. A basic assumption is that the level of modernization – as measured by economic wealth and cultural globalization – impacts how one perceives sports. Based on the logic of post-materialism (Inglehart 1997), one can assume that wealth and education liberate people from everyday necessities, promotes non-material values and thereby make sports a more likely and attractive activity than in poorer and less educated societies. To address multilevel effects, two strategies are applied. First, gender and age are included as random effects – that is, their effects are assumed to vary between nations. Second, the interaction between individual and national characteristics will be included. On the one hand, social status (as measured by education) influences various sports-relevant behaviours positively. On the other hand, it is reasonable to ask whether the influence of education depends on the nation’s level of prosperity. Specifically, are the effects of education stronger and more distinct in poorer nations?

## Data and methods

Data on approximately 44,000 individuals from 33 nations – Argentina, Australia, Austria, Flanders (Belgium), Bulgaria, Chile, Taiwan, Croatia, Cyprus, Czech Republic, Dominican Republic, Finland, France, Germany, Ireland, Israel, Japan, South Korea, Latvia, Mexico, New Zealand, Norway, Philippines, Poland, Russia,

Slovak Republic, Slovenia, South Africa, Sweden, Switzerland, Great Britain, United States and Uruguay – are presented in this article and come from the International Social Survey Program's 2007 study 'Leisure and Sport'. Even though the data collection was part of an internationally organized project, there are, apart from a common set of questions, significant differences among the questions included in various nations, the sample sizes, response rates and data-collecting procedures. Given the magnitude of the data, it is not possible to delve into the details. The data applied in this study are freely available. For information on data and/or downloading of data, visit: <https://dbk.gesis.org/dbksearch/sdesc2.asp?no=4850>.

The purpose of this study is to determine how individual and national characteristics alone and together influence on opinions on sports, and for this purpose multilevel regression is the best method, The subsequent analyses is in line with the approach and vocabulary used by Snijders and Bosker (2011) and Gelman and Hill (2007).<sup>3</sup> Multilevel regression is in many ways similar to ordinary least squares (OLS) regression, apart from the fact that the variance of a selection of coefficients (intercept and/or slopes) is allowed to vary depending on grouping variables. In this study, we apply a random slope model (Snijders and Bosker 2011, 74–93) which implies that the intercept (level of agreement with statements on sports social character) and the effect of individual characteristics, (gender and age), might be different in various nations.

Compared to OLS regression, this complicates the interpretation of the results in two ways. First, there is a set of familiar regression coefficients, fixed effects being the same for all individuals, which should be read as ordinary regression coefficients: one unit change in the independent variable (e.g. gender) gives a change in the dependent variable (e.g. whether one sees sports as an activity that matters for socialization) expressed in the regression coefficient. These are some kind of average effects valid for all units in the analysis. The crux of multilevel modelling is the opportunity to decide, based on previous findings, theoretical curiosity or more technical-statistical indications, for the intercept (random intercept model) and/or one or more independent variables (random slope model) to depend on the group level (which here is nations). The random effects are reported in variances and tell how much variance there is associated with (e.g.) the intercept in the model. In our case, we have an intercept (fixed effect) of 4.3 which is the mean value on this variable in the sample (given that all independent variables are centred (and those on the national level also standardized)). The random variance of the intercept is 0.033 (SD =0.18) which implies that about 95% of the nations is expected to have values on this variable between 3.9 and 4.7 ( $4.3 \pm 2 \times 0.18$ ). The same logic goes for the interpretation of the regression coefficients included as random variables.

The fit of the models is most reliably tested by 'deviance' which works through the comparisons of the fit of the more complex model to a simpler model. Whereas REML (restricted maximum likelihood) are recommended to estimate the models, ML (maximum likelihood) estimation is necessary when comparing models containing, as in this case, random slopes. A more convenient  $R^2$ -measure for fit is developed by Nakagawa and Schielzeth (2013). This  $R^2$ -measure describes the proportion of variance explained by the fixed factor(s) alone (marginal  $R^2$ ) and the proportion of variance explained by both the fixed and random factors (conditional  $R^2$ ).

The dependent variables are measured by asking the following question: ‘Given that people have different opinions about sports, to what extent do you agree or disagree with the following statements?’: ‘Taking part in sports develops children’s character’, ‘Sports bring different groups and races inside [name of the country] closer together’ and ‘International sports competitions create more tension between countries than good feelings’. Opinions are categorized as ‘Agree strongly’, ‘Agree’, ‘Neither agree nor disagree’, ‘Disagree’ and ‘Disagree strongly’. There is also a ‘Can’t choose’ option that is removed from the data.

The three topics at the core of this study – sports as socialization, integration and internationalization – represent conceptual interpretations of three statements in an already existing ISSP-survey. As such, the statements are not specifically developed for the present study and not necessarily optimal operationalizations of the three phenomena of interest. The starting point is, nevertheless, that these questions somehow tap into phenomena that it should be worthwhile to compare across nations, and also that, being part of an ISSP-survey, they have been carefully chosen and developed by the experts working out the questionnaire

For construct validity, the challenge is to choose the best concepts to get at what the statements actually tap into. The socialization-statement asks for people beliefs about how sports might contribute to individual development among children. Integration points to how sports could contribute to bringing groups and races closer together. Internationalization reflects whether people think sports could play a role in creating tension between nations, and, as used here, those not agreeing with this statement expressing the opposite view: that sports could contribute to less tense international relations. This implies that the three variables all capture important aspects of what their chosen concepts connote, but also that they are rather general and crude measures, that ideally, should have been more carefully constructed from more questions/statements securing both a broader and more explicit operationalization of the concepts.

The variable age (Table 1) is split into six categories: 15–27, 28–36, 37–45, 46–54, 55–65 and 66–98 (age 6). The category of education is divided into quintiles and reflects the number of years of education: 0 through 8 years (0), 9 through 11 years (1); 12 years (2); 13 through 16 years (3) and 17 years + (4) (education 5). ‘Still at college/university’ is included in category 3. Income is based on national quintiles of family income where respondents from each nation are divided into five, as far as possible, equally sized groups (income 5). Given the relatively low response rates on the question of income,

**Table 1.** Descriptive statistics, independent variables.

|                            | Range       | Mean   | SD     |
|----------------------------|-------------|--------|--------|
| Female                     | 0:1         | 0.55   | 0.50   |
| Age                        | 15:98       | 45.89  | 17.36  |
| Age, six values            | 0:5         | 2.45   | 1.71   |
| Education, quintiles       | 0:4         | 1.86   | 1.29   |
| Income, quintiles          | 0:4         | 2.08   | 1.49   |
| Income, quintiles, imputed | 0:4         | 2.14   | 1.39   |
| Sport participation        | 0:4         | 1.87   | 1.45   |
| GNP                        | 1590:79,113 | 25,140 | 19,266 |
| Cultural globalization     | 40.9:94.9   | 69.7   | 15.3   |

values for this variable were imputed through regression predictions (Gelman and Hill 2007, 535). The variable ‘physical activity’ reflects how often respondents ‘Take part in physical activities such as sports, going to the gym, [or] going for a walk’ with the response alternatives ‘Daily’ (4), ‘Several times a week’ (3), ‘Several times a month’ (2), ‘Several times a year or less often’ (1) and ‘Never’ (0). ‘Economic development’ is measured by gross national product (GNP) (2007) (please see <http://data.worldbank.org/indicator/NY.GNP.PCAP.CD>). ‘Cultural globalization’ is taken from the KOF index of globalization (Dreher 2007) and is comprised of the spread of ideas, images, people and information (please see <http://globalization.kof.ethz.ch>).

Evaluative questions as those at the core of this study, often come with more biased response rates than simpler factual questions (Fink 2003). Comparing response rates for the three questions central to this study with two simpler questions on the reminiscent topic of physical activity – How often do you (i) take part in physical activities such as sports, going to the gym, going for a walk or (ii) attend sporting events as a spectator – we find that there is a lower response rate on evaluative questions, respectively 3, 6 and 8% non-response compared to 1% for both simpler questions. Comparing response rates relative to gender, age and education for our three questions, reveals that men tend to answer more often than women<sup>4</sup>; middle aged more often than the older and youngest cohort<sup>5</sup>; highly educated more often than less educated<sup>6</sup>. In short, we have a bias in the response to our questions towards middle-aged, well-educated men, which should be taken into consideration when interpreting the results. To help interpret the results, all variables are mean centred, and the variables at the national level are also standardized. Analyses and graphical works are conducted with the program R (R Core Team 2016).

Next, I first describe the overall level of support for the three social aspects of sports and how this support varies between nations. Second, I present the standard information on the multilevel regressions (fixed effects, random effects and model fits). Since MLM are difficult to interpret when interactions are involved (Ferron et al. 2008), I illustrate some of the findings in figures showing both random effects – how individual effects depend on nations – and interaction – how individual effects depend on national characteristics. A second reason for helping with interpretation is the fact that large samples, as used in this study, can easily make small effects significant, meaning it is crucial to be aware of the real substance of these effects, besides being significant (Gill 1999). There are no serious outliers in the study (Nieuwenhuis, Pelzer, and Te Grotenhuis 2012).

## **Do sports matter? Where does it matter?**

Although there is obviously a certain level of scepticism towards sports in modern societies (Seippel et al. 2016), the main impressions from reading newspapers, watching TV and surfing the Internet remain overwhelmingly positive. The above brief review of relevant research also indicated expectation for support of socialization and integration, but probably a lower backing for internationalization.

For the first statement that ‘Taking part in sports develops children’s character’, opinions are very positive; almost 90% of respondents ‘agree’ or ‘agree strongly’ that

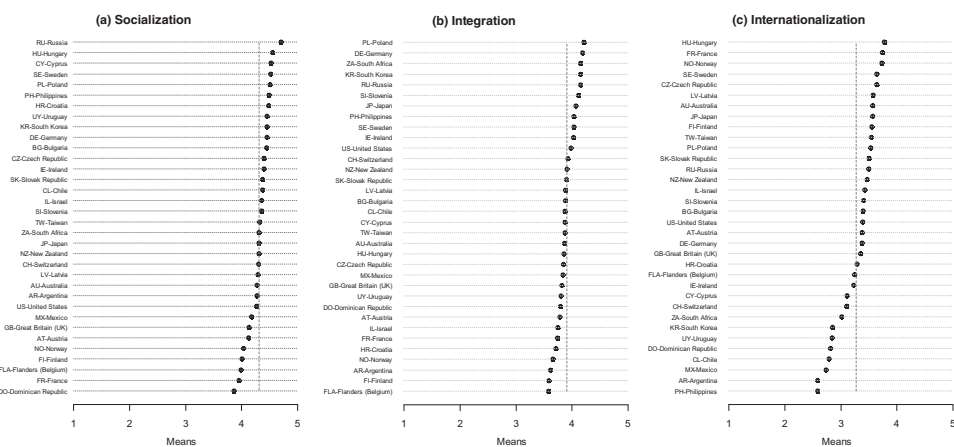


this is true (Table 2). For the second statement that ‘Sports bring different groups and races inside [the name of the country] closer together’, there is still solid support; approximately 75% of respondents ‘agree’ or ‘agree strongly’ with this idea of social integration. For the third statement that ‘International sports competitions create more tension between countries than good feelings’, 48% of respondents support (i.e. disagrees with the statement) the view of sports having a positive global integrative effect. Thus, our expectations are confirmed: Sports as affecting individual development (sports as socialization) has the strongest support, and the importance assigned to sports declines at higher societal levels. For these three statements, on a scale from one (disagree strongly) to five (agree strongly), the average support for socialization (4.3) ranks higher than social integration (3.9), which in turn ranks higher than internationalization (3.3 (with scale inverted)).

Looking more closely at national differences in evaluation of sports (Figure 1), it is difficult to detect clear systematic patterns. For sports as socialization, Eastern European nations – Russia, Hungary and Poland – have high supportive scores. One Western European nation – Sweden – and one Southern European nation – Cyprus – also have strong beliefs in sports as socialization. Those with lower opinions about sports as socialization mostly include Western European nations: Norway, Finland, Flanders and France. There are exceptions to this trend, the clearest being the Dominican Republic with the lowest support for sports as socialization view. Concerning sports as social

**Table 2.** Agreement with three statements on sports social character (%).

|   | Disagree strongly | Disagree | Neither | Agree | Agree strongly | N      |
|---|-------------------|----------|---------|-------|----------------|--------|
| Taking part in sports develops children’s character                                       | 0.7               | 2.4      | 7.9     | 43.1  | 45.9           | 48,124 |
| Sports bring different groups and races inside [country] close together                   | 1.5               | 6.1      | 17.0    | 51.2  | 24.3           | 46,744 |
| International sports competition create more tension between countries than good feelings | 13.7              | 34.3     | 24.6    | 20.7  | 6.7            | 45,829 |



**Figure 1.** Opinions on three social aspects of sports across nations. Means (on scale 1:5), for nations (dots), mean value all nations (line). (a) ‘Taking part in sports develops children’s character’; (b) ‘Sports bring different groups and races inside [country] closer together’; (c) ‘Sports competitions create more tension between countries than good feelings’ (Negative wording! Scale inverted).

integration, the patterns are less clear. Nations where people favour sports as social integration include a mixture of Eastern Europe, Western Europe, Africa and Asia. Nations that are less inclined to favour sports as social integration primarily include European nations and Argentina. The idea of sports as internationalization has the lowest support. Among the nations with the lowest mean values we find mostly non-European nations, especially Latin American nations, as the Philippines, Argentina, Mexico and then Chile. Conversely, of those with the highest trust in sports as internationalization, only Eastern and Western European nations were identified: Hungary, France, Norway, Sweden, Czech and Latvia.

### **For whom and where do sports matter?**

The usefulness of a multilevel approach is indicated by the correlation between individual and national characteristics with intraclass correlation coefficients of .06 (socialization), .04 (social integration) and .09 (internationalization).<sup>7</sup> Multivariate analyses provide a composite pictures of how a selection of variables – individual, national and a combination of both – impact opinions about sports. Results from the multilevel models are comprised of three parts. The first part reports on fixed effects, meaning the average effects held in common in all cases. The second part reports on random effects, where some effects that are reported as fixed also vary across nations, like intercept, gender and age. The third part reports on the fit of the model.

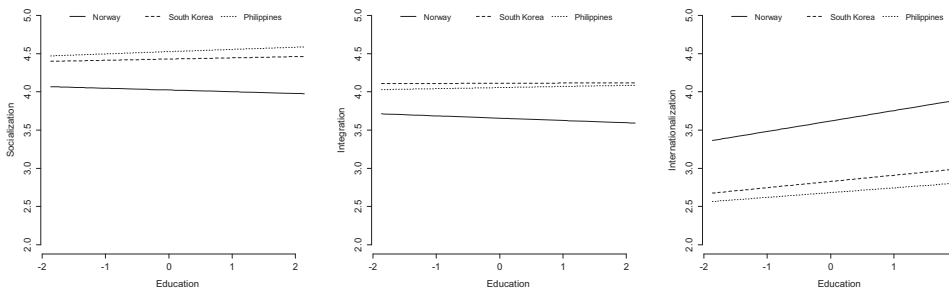
In [Table 3](#), several findings are noteworthy for all three sports themes. First, as already indicated in the univariate analyses, the random effects for the intercepts indicate that there are substantial national differences in the levels of importance ascribed to sports: support for socialization as most widespread. Second, education and income both have, as assumed, positive effects on most themes (please note that to make it more convenient to compare effects on the three dependent variables, the scale of the internationalization variable is inverted). This confirms that the importance of sports have the strongest support in high social status segments of the population. This seems to be the case more for internationalization than socialization and integration. A third finding modifies this impression somewhat by indicating that significant interactions exist between education and GNP. This implies that in richer nations, the effects of education are less conducive to positive views on sports as socialization and integration, whereas the effect of education is stronger in rich nations for sport as internationalization. Sports as socialization give one illustrative example ([Figure 2](#)) where the effects of education are positive for nations in the span from close to the median (South Korea) to the poorer (as the Philippines), whereas the effects are negative for richer nations (as Norway). For sports as social integration, the effects of education for ‘the median to the poor’ seem very small but they become negative as they move towards the richer pole. Concerning internationalization, the effects of education are clearly positive in all nations but are even more so in richer nations.

Women appear at first sight (fixed effects) to be less supportive about sports, especially sports as socialization and internationalization. However, the effects of gender were allowed to vary across nations (as random effects), and we found that especially for sports as socialization and internationalization gender had a weakly positive as well as negative

**Table 3.** Multilevel multivariate regression. Fixed effects: regression coefficients (standard errors), Random effects: Variances. All independent variables centred, variables at national level also standardized.

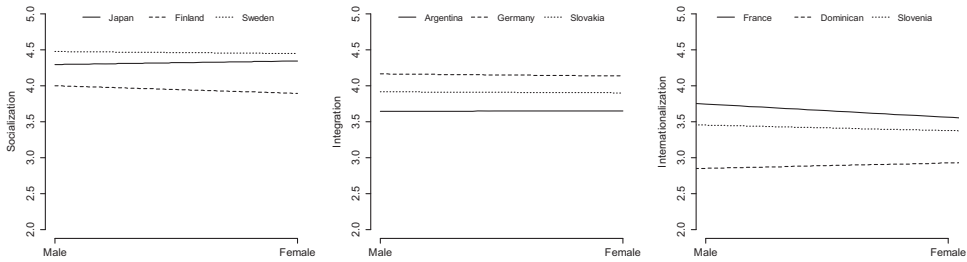
|                                      | Sport as socialization | Sport as integration | Sport as internationalization |
|--------------------------------------|------------------------|----------------------|-------------------------------|
| <i>Fixed effects</i>                 |                        |                      |                               |
| Intercept                            | 4.312***<br>(0.033)    | 3.901***<br>(0.03)   | 3.264***<br>(0.044)           |
| <i>Individual level</i>              |                        |                      |                               |
| Female                               | -0.033**<br>(0.010)    | -0.014<br>(0.008)    | -0.064***<br>(0.016)          |
| Age 6                                | 0.017**<br>(0.006)     | 0.006<br>(0.006)     | 0.019***<br>(0.004)           |
| Education 5                          | 0.014***<br>(0.003)    | 0.001<br>(0.004)     | 0.084***<br>(0.004)           |
| Income 5                             | 0.020***<br>(0.003)    | 0.015***<br>(0.003)  | 0.043***<br>(0.004)           |
| Physical activity                    | 0.053***<br>(0.003)    | 0.056***<br>(0.003)  | 0.020***<br>(0.004)           |
| <i>National level</i>                |                        |                      |                               |
| GNP                                  | -0.125***<br>(0.043)   | -0.015<br>(0.047)    | -0.048<br>(0.065)             |
| Cultural globalization               | 0.061*<br>(0.045)      | -0.039<br>(0.048)    | 0.202**<br>(0.067)            |
| <i>Individual and national level</i> |                        |                      |                               |
| Education × GNP                      | -0.013***<br>(0.003)   | -0.011*<br>(0.004)   | 0.018***<br>(0.004)           |
| <i>Random effects</i>                |                        |                      |                               |
| Intercept                            | 0.035                  | 0.031                | 0.063                         |
| Female                               | 0.002                  | 0.000                | 0.005                         |
| Age                                  | 0.001                  | 0.001                | 0.0002                        |
| $R^2$ , marginal                     | 0.022                  | 0.010                | 0.047                         |
| $R^2$ , conditional                  | 0.087                  | 0.054                | 0.098                         |
| Deviance, empty model, ML            | 107,389                | 116,955              | 134,785                       |
| Deviance, full model, ML             | 103,009                | 112,920              | 130,071                       |
| $\chi^2$ , deviance empty vs. full   | 4380***                | 4035***              | 4713***                       |
| N: individuals/nations               | 45,694/33              | 44,445/33            | 43,604/33                     |

Significance codes: \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ .

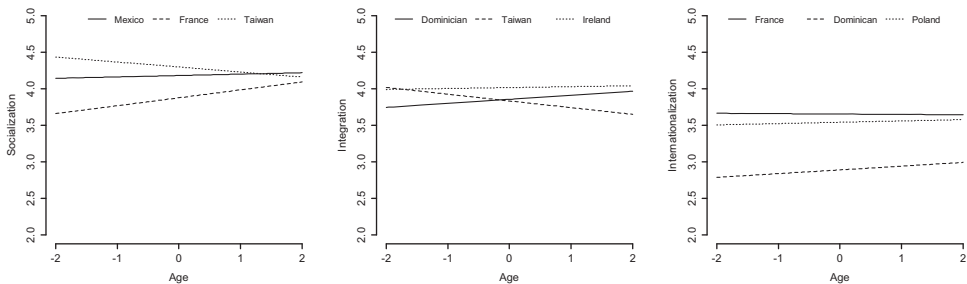


**Figure 2.** (a–c) Examples of interaction effects on sports socialization, integration and internationalism: Effect of education by GNP. Norway has the highest GNP, Philippines the lowest, South Korea has the value closest to the median GNP value (among the nations in the study).

effect, depending on national context (Figure 3). Based on the fixed effects, age significantly matters positively for opinions on socialization and internationalization. However, examining examples of the random effects of age reveals interesting pictures (Figure 4). For nations close to the median of the distribution for the effects of age, age has a relatively moderate effect on socialization and social integration. However, the effects of age



**Figure 3.** (a–c). Examples of random effects of gender for socialization, integration and internationalism. Each model contains the nations with the lowest, highest and closest to median values for the distributions of gender effects.



**Figure 4.** (a–c). Examples of random effects of age for sports socialization, integration and internationalism. Each model contains the nations with the lowest, highest and closest to median values for the distributions of age effects.

vary between clearly positive and negative values. For sports as internationalization, we find that the effects of age vary from close to zero to clearly positive.

People who exercise tend, not surprisingly, to be more positive towards all three aspects of sports importance. Concerning national characteristics, the belief in sports as socialization is weaker in richer nations, whereas people in culturally globalized nations believe that sports are good for both socialization and internationalization.

Deviances indicate that the full model is significantly better than the empty model. For all three models, we see a clear increase in  $R^2$  when including random effects. Based on  $R^2$ , the best fit is for the internationalization model, the largest increase in  $R^2$  when adding level-2 variables is found for socialization.

## Conclusions

Sports obviously are central in many nations around the world. Most public authorities also perceive sports as increasingly important, and include sports issues in their policies. When creating such policies, their legitimacy and efficiency could be impacted by how people perceive and value sports. In this study, we have investigated how people in 33 countries assess the importance of three aspects of sports. We found that close to 90% of individuals participating in this study positively perceived sports as an arena for socialization: ‘Taking part in sports develops children’s character’. Support for the integrative power of sports – ‘Sports bring different groups and

rases inside [the name of the country] closer together' – was less intense but still relatively united. Finally, sports as internationalization – 'International sports competitions create more tension between countries than good feelings' – was somewhat more contested. Comparing the scores on these three aspects of how sports matter, we find interesting differences between nations. However, few were easily interpretable systematic patterns appear.

Multivariate analyses provided additional insight into the complexity of these patterns concerning how sports are valued around the world. First and most systematically, social status – education and income – is seemingly connected with positive opinions for most aspects of sports. Our understanding of these effects is improved when looking at the interactions between education (individual level) and GNP (national level), which indicates that the richer the nation, the less positive (for some it is even negative) the individual effects of education for socialization and integration, the more positive for internationalization.

For two of the themes, women are more negative towards sports than men. At first glance, age seems to have a positive effect. However, examining the random effects revealed that age has a more complex impact on individuals' opinions about sports. For both socialization and integration, the effects of age vary between neutral and unmistakably negative and positive. For internationalization, the effects are clearly positive in some nations and negative in others. Individuals who take part in sports or physical activity have higher beliefs in the importance of sports as a means of providing social goods.

Theoretically, we find a complex picture with explanatory factors at both the individual and the national level. Some of these factors are related to culture (though often embedded in structural positions): Gender roles, ideas of what it means to become old, national sports traditions, the social status of sports and what represents a proper (bodily) appearance in late modern societies. Other explanatory factors tend towards the structural: having the time, energy and money to do sports and finding the opportunity (facilities) to do so. We also see that factors at the two levels and of different sorts interact: the effect of individual variables as education (possibly reflecting the social status of sports) depends, in both positive and negative directions, on national structural factors: The wealth of nations.

These studies face several challenges. First, there is the problem of understanding questions that have been used in different cultural contexts similarly (Heath, Maratin, and Spreckelsen 2009). Further studies should examine the more qualitative aspects of these challenges to provide a better understanding of how cultural differences might affect the responses given in studies as these. At the same time, there are some relatively clear and consistent findings in the study, and the most intriguing results point towards differences between nations. Such findings require more detailed studies that examine the cultural aspects of why there are differences in opinions about sports between nations. There should also be an increased focus on why effects of education vary by GNP, even in opposite direction, as seen in this study. Additionally, we should address the topics where the random effects indicate consequential substantive differences, for example with respect to the effects of age across nations. In part, these challenges require an improved understanding of particularities of different nations: Does the

historical centrality of specific sports in particular nations affect how they are viewed? Does the organization of a sports – politically or economically – make a difference for how people value sports? These are challenging question for future studies of how sports are perceived in different nations. A better understanding of these factors could be useful for developing more appropriate policies for sports and physical activity.

## Disclosure statement

No potential conflict of interest was reported by the authors.

## Notes

1. See Houlihan and Lindsey (2013), Stewart et al. (2004), Bergsgard et al. (2007), Breuer et al. (2015) and European Commission (2007).
2. See Downward and Rasciute (2010), Dishman, Sallis, and Orenstein (1985), Humphreys and Ruseski (2011), Hovemann and Wicker (2009), Beenackers et al. (2012), Van Tuyckom, Scheerder, and Bracke (2010) and Koski (2008).
3. See Schlesinger and Nagel (2016) for another example of this way to interpret multilevel models.
4. Percent non-response (male vs. female) for question 1: 2.9 versus 3.5, question 2: 4.7 versus 7.0, question 3: 5.6 versus 9.6.
5. Percent non-response (six age groups, see Table 2) for question 1: 2.4, 1.9, 2.1, 2.8, 3.4 and 7.3; question 2: 4.1, 3.7, 4.3, 5.3, 6.2 and 12.7; question 3: 4.1, 3.7, 4.3, 5.3, 6.2 and 12.7.
6. Percent non-response (five levels of education, see Table 2) for question 1: 5.8, 3.8, 2.2, 1.6 and 2.1; question 2: 10.6, 6.4, 4.5, 3.5 and 3.8; question 3: 4.1, 8.6, 5.6, 4.8 and 4.4.
7. Another way to interpret ICC coefficients is as proportion of variance found at group level (between nations) compared to all variance in the empty model.

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