

The contribution of sport to national pride and well-being: An international perspective

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Abstract

As well as being a growing academic literature, SWB is now firmly on the public policy agenda. Likewise, the sports industry is viewed as being of growing economic significance, reflected in its promotion in public policy. This paper explores the impact of engagement with sports on individual subjective well-being (SWB) for a sample of 34 countries. Engagement with sports is defined to include formal and informal participation, as well as attendance at sports events. It is hypothesized that one dimension of SWB associated with sports by individuals in a country is the pride felt by them as a result of international sports success. To provide a robust account of the determinants of these dimensions of SWB a variety of estimators are employed that also account for any feedback between them. Account is also taken of different country level effects on the impacts. Controlling for standard covariates associated with SWB the results suggest that all forms of sports engagement enhance SWB. However, it is suggested that there is also an indirect impact of pride felt from international sporting success on SWB. Crucially, these effects are, in part, determined by formal participation in sport, or attendance at sport events but not informal participation. Further, there is some evidence that pride has a strong country-level dimension. A further interesting policy dilemma raised by the research is that passive engagement at sports is more likely to raise SWB.

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I. Introduction

Whilst traditionally investigation of the subjective well-being (SWB) of citizens has been associated with psychologists, seminal work by economists such as Van Praag and Frijters (1999) or Kahneman et al. (1999) has burgeoned into a large literature (Clark et al. 2008a). Distinguishing features of the economics literature are that it tends to draw upon large-scale secondary datasets (Dolan et al. 2008) and that it is motivated as an attempt to measure the utility of individuals (Gardner and Oswald 2006; Kahneman and Krueger 2006; Shields and Wheatley Price 2005).²

The economics literature focuses upon the impact of both 'internal' and 'external' characteristics that affect SWB (Shields et al. 2009). Internal characteristics would include personal characteristics such as age, gender, health and education, as well as marital status, family organisation and relationships, the health of family members and social interactions with family and friends. Finally, economic characteristics such as employment status and income have been investigated.³ External characteristics would include factors such as political and economic reunification in Germany, economic transition in Russia and drought in Australia.⁴

Significantly, policy makers are now recognising the importance of SWB as a policy target. In the UK, the coalition government has asked the Office for National Statistics to debate and to devise appropriate measures of SWB.⁵ This echoes President Sarkozy's earlier championing of Professor Joseph Stiglitz's arguments that the welfare of an economy is not measured by Gross Domestic Product, but should reflect broader concerns with well-being.⁶

The growing economics literature on SWB, however, has relatively neglected investigation of the impact of sport (Dolan et al. 2008). This is in contrast to a large psychological and physiological literature.⁷ This is perhaps not surprising given that sport, like SWB, has not traditionally been considered a significant focus for economic research. This is now changing. Like SWB, sport economics has a

² The precise definition of utility varies as discussed further below.

³ The relationship between income and SWB is often discussed in the context of the Easterlin Paradox following Easterlin (1974). This paradox has been extensively discussed in Clark et al. (2008a) and Clark and Senik, (2010).

⁴ Dolan et al. (2008) describe these factors in terms of personal characteristics, socially developed characteristics, attitudes and beliefs towards others, relationships and, finally, environmental characteristics.

⁵ This issue draws upon long-standing advice to the cabinet office, by Professor Andrew Oswald (See, for example, Oswald 1997 and <http://www.independent.co.uk/news/uk/politics/cameron-defends-wellbeing-measure-2143595.html>. Accessed 12 December 2010).

⁶ <http://www.telegraph.co.uk/finance/economics/6189582/Nicolas-Sarkozy-wants-well-being-measure-to-replace-GDP.html>. Accessed 12 December 2010.

⁷ The psychological and physiological literature ubiquitously recognises that physical activity promotes health and well-being (Scully et al. 1999; Sila 2003; Biddle and Ekkekakis 2005; Biddle et al. 2004; Kara et al. 2005; Lafont et al. 2007).

developing research base.⁸ Further, the development of sport in economies has become a policy target. In recognition of this the European Union (EU) is producing Satellite Accounts to chart the macroeconomic significance of the sector and to inform EU strategy. Initial analysis suggests, for example, that sport comprises between 3% to 3.7% of consumer expenditure, 2.2% to 4.0% of Gross Value Added and 2.0% to 5.8% of employment across countries. Sport has also become of significance for health and social public policy. On this basis progressive governments in the 1990s and 2000s have sought to encourage sports participation and to host major sports events .

The background to such developments are World Health Organisation (WHO) estimates that up to 60 per cent of the world's population does not undertake the physical activity required to obtain health benefits, which are also identified as a component of SWB (Rasciute and Downward 2010). Such inactivity translates into considerable health care costs. DCMS/Strategy Unity (2002) estimates that this might be equivalent to £2 billion for the UK. In Canada, Katzmarzyk et al. (2000) estimate health-care costs of \$2.1 billion (Canadian), which is about 2.5% of the total. For the US Colditz (1999) estimates the figures to be \$24.3 billion (US) or 2.4% of the total, whilst Smala et al. (2001) estimate health-care costs of CHF2.4 billion in Switzerland, or 16% of total health-care costs. It follows that if policies can directly affect sports participation then they can help increase health and SWB and reduce health-care costs.

Significantly, recent policy has also suggested that hosting major sporting events can act as a catalyst to promoting participation and thereby indirectly generating health and SWB benefits. Moreover, it is argued that hosting major events can have direct effects on SWB through the 'feel-good' factor following sporting success (Maennig and Porsche 2008; Downward et al. 2009; Kavetsos and Szymanski 2010; DCMS/Strategy Unit 2002).⁹ Consequently, this paper seeks to make a unique contribution to the existing literature by exploring the impact of sports engagement, seen as a growing sector of the economy, for a broad cross-section of countries, and for a variety of forms of engagement. These include formal and informal active sports participation that may have health and SWB impacts as well as passive attendance at sports events, that are more likely to affect SWB only. A novel feature of the paper is that it distinguishes the impact that international sporting success has on SWB through the promotion of individual pride. This is in contrast to measuring the impact of sporting success on SWB at the country-level, which is the case in the limited existing literature (Kavetsos and Szymanski 2010). Investigating such issues is perhaps of more importance now, in the light of the banking crisis and rapid rise of public sector debt. Public authorities have to scrutinise more closely the claims made about their policies. The question is, should sports provision be reduced because of public sector cuts? The answer to this question, of course, depends on the impact on both Health-care costs and SWB, if these are current policy targets.

To address these issues, Section 2 briefly examines the measurement of SWB and then reviews the literature that has assessed the impact of sport and physical activity

⁸ There is now a growing literature supported by a journal, *the Journal of Sports Economics*, and also textbooks (Fort 2003; Leeds and von Allmen 2005; Downward et al. 2009; Sandy et al. 2004 ; Gratton and Taylor 2000) and research monographs (Kesenne 2007; Dobson and Goddard 2001).

⁹ National sporting success has also been linked to increased productivity, through 'feelgood', as measured in stock-market returns (Berman et al. 2000; Ashton et al. 2003 and Veraros et al. 2004).

on SWB. Section 3 outlines the data and variables employed in this study. Section 4 outlines the modelling techniques used to analyse the data to produce robust estimates, before Section 5 presents the results. Section 6 offers the main conclusions to the paper. The results suggest that all forms of sports engagement enhance well-being. However, it is suggested that there is also an impact of pride felt from international sporting success on well-being. Crucially, these effects are, in part, determined by formal participation in sport, or attendance at sport events but not more informal participation. In this respect the formal sports organisation of a country can have both direct and indirect influences on SWB. A further interesting result of the paper is that it is passive sports engagement, such as attending sports events, that creates the greatest impact on SWB directly and also on pride felt from sporting success. As there is feedback also between SWB and pride, this suggests that the health and SWB implications of sports events are not necessarily symbiotic, and is an issue that requires further research. It is also suggested that pride may be primarily a country-level phenomenon.

II. Subjective well-being and sports

A variety of definitions of utility have been identified in the SWB literature. In general a theoretical distinction is drawn between 'decision' utility and 'experienced' utility (Frey 2008). The former is identified by Kahneman et al. (1997) with the axiomatic, revealed preference approach to consumer theory. The latter reflects a more subjective hedonic experience in which the context of experience matters for choices. It is this concept of utility that is measured in the SWB literature.¹⁰

An important feature of this broader concept of utility is that preferences are presented as not just reflecting individual self interest, but that they also capture 'externalities' such as altruism and the relativity of utility associated with social comparison. This means that utility can be associated with the social interactions implied in consumption (Frey and Stutzer 2002; 2005). Social interactions can arise in the consumption of 'relational goods', whose consumption directly leads to increases in individual utility to others (Gui 2000; Becchetti et al. 2008).

From the theoretical point of view of this paper, the consumption of sports can clearly be linked to social interactions and relational goods and, consequently, as having a direct effect on SWB. The decision to undertake a sports activity must logically be associated with an increase in the SWB of a rational utility maximising individual. However, the relational element of this activity is also relevant. For example, competitive sports participation often takes place in formal, though often voluntary, organised group settings. Even non-competitive sports participation often requires partners or team members (Downward and Rasciute 2010; Downward et al. 2009). Further, such associational activity would also apply to observing sports events 'live' as part of a crowd. It has been argued elsewhere that the atmosphere of the crowd in

¹⁰ From an empirical perspective, a variety of measurements of SWB have been employed. The most common measures of well-being in the economics literature have included statements about the respondents happiness (for example, Blanchflower and Oswald 2004; Golden and Wiens-Tuers 2006 and Shields et al. 2009) or satisfaction with life as a whole (for example Winkelman and Winkelman 1998; Winkelman 2005; Gardener and Oswald 2006 and Frijters et al. 2008). SWB has also been measured by aggregating categories of well-being. For example, Brown et al. (2005) and Gardener and Oswald (2006) have made use of the General Health Questionnaire 12 Score (GHQ12), developed by Goldberg (1972).

part comprises the core product that is professional sports (Borland and McDonald 2003; Baimbridge et al. 1996). It is well known that this social context of consuming an event can influence sporting outcomes by helping to create home advantage and influencing officials (Sutter and Kocher 2004; Buraimo et al. 2007; Dawson et al. 2007; Dawson and Dobson 2010; Page and Page 2010). Given that it is also well known that success tends to promote further attendance (Downward and Dawson 2000), this would also suggest that some degree of SWB can be linked to sporting performance, which is in turn affected by the consumption of sport.

From an empirical perspective, the extensive literature on the significant determinants of SWB, including the datasets employed, are surveyed in Dolan et al. (2008) and Frey (2008). Since these reviews there has been an emergent empirical literature examining the direct impact of sport and sporting success on SWB, reflecting its growth in significance for policy, and which is now discussed.

Becchetti et al. (2008) examine the German Social Economic Panel (GSOEP) to see how ordered variables measuring the frequency of attending social gatherings, attending cultural events, participation in sports, performing volunteer work and attending church or religious events affect an ordered measure of life satisfaction. These covariates are presented as relational goods. Other standard covariates are employed as indicated in the introduction. Treating the dependent variables as continuous, Ordinary Least Squares (OLS) and Fixed Effects (FE) models are estimated with the result that the relational goods, including sports participation individually and collectively increase life satisfaction.¹¹

Lechner (2009) also uses the GSOEP in a complex research design that explores how sports participation affects monthly earnings and hourly wages; health measures (days unable to work, two ordinal measures of subjective health including the subject's own view of their health and their satisfaction with their health) as well as ordinal indicators measuring whether the individual is worried or not about the economic situation and their general satisfaction with life. Lechner (2009) exploits the panel structure of the data differently than simply using instrumental variables and lags in the research design. A matching estimator is applied to subsamples which are defined so that sports participation for individuals is initially the same. The impact of subsequent changes in this covariate over time are then explored. Significant effects of sport participation upon the SWB of males are identified but positive and insignificant effects for females.

Based on cross-section UK data from the Taking Part Survey, Rasciute and Downward (2010) explore how a binary variable measuring participation in any of 67 sports, as well as binary variables measuring walking and cycling activity affect ordinal measures of happiness and subjectively defined health. The walking variable was disaggregated to account for both recreational and utilitarian walking. Similarly, recreational, utilitarian and sports forms of cycling activity were also identified. Bivariate probit, ordered probit and seemingly unrelated regression (SUR) estimates were obtained to try to account for unobserved relationships between happiness and health. It was found that sports participation and walking have a positive effect on both the individual's health and happiness. However, whilst cycling has health

¹¹ It is unclear what the fixed effects measure.

benefits, it also appears to involve some negative impact on happiness, which could be the disutility associated with traffic congestion.

Downward and Raschute (forthcoming) also make use of the Taking Part Survey to analyze the effects of sports participation on SWB, defined as an ordinal variable measuring happiness. In this paper a heterogeneous threshold ordered probit estimator is employed to establish if different effects on SWB are due to sports that have more social interactions associated with them than others. This might be the case in activities such as team sports and sports undertaken with a partner such as racquet sports. The results show that sports participation increases SWB generally, but more so in the context of social interactions. Monetary evaluations of the impacts are also provided.

Finally, and as an exception to the economic studies that have made use of larger-scale data sets, Lee and Park (2010), on a small primary data study for the Korean Sports Association, examine the impact of physical activity on the SWB of the disabled. SWB is measured as either an overall ordinal measure of life satisfaction or an average of five ordinal scales measuring items associated with life satisfaction. Ordered probit and ordered logit estimators were applied to the first dependent variable and OLS to the latter. Controlling for six different types of physical disability it is shown that sports participation raises the probability of higher levels of SWB.

There is one major study on the impact of sporting events on SWB, as indicated earlier. Kavetsos and Szymanski (2010), for 12 European countries, between 1974 and 2004, used Eurobarometer Survey Series data to examine the impact of better than expected athletic performance and hosting major events on an ordered measure of life satisfaction. The events examined included the Olympic Games, the FIFA World Cup and the UEFA European Cup. The sports impacts were calibrated by comparing actual to predicted medals or soccer ranks, as indicators of success, which were then employed in ordered logit regressions. A difference-in-difference estimator was also employed to examine the impacts of hosting (non-Olympic) events, as it was suggested that the periodicity of data collection straddled the summer period in which the events took place. The ordered logit results suggest broadly positive, but typically insignificant, effects of greater than expected performance on life satisfaction. In contrast, the difference-in-difference estimator revealed positive and significant hosting effects. It is concluded that hosting rather than success at sporting events increases happiness.

In this paper a number of related contributions to the literature are offered. First, the direct effect of sports engagement on SWB is investigated, but this is for a broad cross-section of countries unlike the existing literature examining the effects of sports participation on SWB which have been country specific. Further, the distinction between the effects of formal and informal sports participation as well as attendance at sports events are explored, which is not the case in the literature. This helps to examine the different forms of engagement with sport. Secondly, the individual pride felt following international sporting success is examined as a potential determinant of SWB. This stands in contrast to Kavetsos and Szymanski (2010) in which international sporting success is measured at the aggregate, country level only. Further, because the effects on pride and SWB are measured at the individual level, this means that the relationship between them can also be investigated. The suggested related hypothesis is that the pride experienced from international sporting

success may thus be related to, but is qualitatively different from, well-being generally.

III. Data

The data employed in this analysis draw on the International Social Survey Programme (ISSP), which is a collaborative survey programme that currently comprises 46 member countries. Data are collected on a variety of social, economic and environmental themes and in 2007 it investigated sports and leisure activities through a Leisure Time and Sports module. In the current research a sample size of $n=49,730$ is obtained from 34 of the 36 participant countries in this module.¹²

In line with the research questions posed, two ordered dependent variables measuring happiness (happy) and pride felt from success at international sports competitions (pride) are identified. As discussed above, the former reflects overall SWB whilst the latter is a hypothesized component of this directly connected with success by teams and athletes at international competitions but measured at the individual level.¹³

It is assumed, that interpersonal differences in both variables might be explained due to differences in sports engagement. Consequently a series of covariates measuring participation in sports informally and participation in sports via groups or associations are identified. Participation through a group or association obviously discriminates for more formal activity. Attendance at sporting events is also included as an covariate because of the obvious pleasure that might be enjoyed directly or through spillovers from the crowd and social context as discussed earlier in connection with relational goods. As with the dependent variables these covariates are measured on ordinal scales but are recoded into four dummies. Each dummy indicates the corresponding engagement in sport. Participation in sport through a club or association is recoded as four dummies but with different meanings, reflecting the different periodicity that is measured.

Since sporting events are also possibly seen on TV for most individuals, as well as the fact that TV comprises the single largest leisure alternative to sports activity, the frequency of watching television is also included in the analysis.¹⁴ This measure is also recoded as four dummies.

Prompted by the general literature on SWB the analysis controls for standard determinants. These included age in years, age², gender (sex), household size, years of education, currently in education, marital status, employment status, as well as income. The treatment of income in the current research required some manipulation. Two strategies were adopted. In one case all country-specific incomes were transformed into a net annual US dollar purchasing power equivalent income estimate. Therefore, in a first step all income estimates were divided by the country-specific purchasing power parity exchange rate (PPP) which is given with local

¹² At the time of writing data from Denmark and the Netherlands were not available.

¹³ In this study these variables were originally coded as 1=very happy...4=not happy at all; 1=I am very proud...4=I am not proud at all. They were recoded in reverse to make the signs of effects more 'logical' in the regression analysis.

¹⁴ For example, Bruni and Stanca (2008) argue that by the age of 75 an average European will have spent approximately 12 years watching television.

currency unit per international dollar obtained from the United Nations' webpage. In a second step, monthly income was multiplied by 12 to obtain annual income for all countries but Australia, Great Britain, Ireland, Japan, Norway, New Zealand, Slovakia and the United States of America in which annual income was presented. Finally, for some countries the income estimates had to be transformed from gross into net values. Using data from national statistics' offices home pages, and identifying the gross domestic product (GDP) as gross income in an economy, a tax rate 't' was calculated as the ratio of a countries' annual income tax revenues to its GDP. Net incomes were generated by multiplying gross incomes from the actual data by a factor calculated as '1' minus the implied tax rate, 't'.¹⁵ To check the robustness of this transformation, standardized measures of each country's income series were also obtained to remove differences in the levels and variances of the differently recorded incomes. As this produced incomes that could vary across zero, a dummy variable was also constructed to be scored '1' whenever 'negative' income was recorded and was also included in the regression analysis with the standardized income measures to check for the sign of effects. The standardised measures produced extremely similar results and thus are omitted for economy of presentation.¹⁶

In the literature the impact of income on SWB is identified to be positive, though subject to some considerable discussion arising from the 'Easterlin paradox' (Easterlin, 1974) in which rising real incomes have not been correlated with rising levels of SWB over time and yet cross-sectional studies identify a positive effect of income on well-being (Blanchflower and Oswald 2004; Shields and Wheatley Price 2005) as do panel data studies (Winkelmann and Winkelmann 1998; Ferrer-i-Carbonell and Frijters 2004; Ferrer-i-Carbonell 2005, Clark et al. 2005 and Frijters et al. 2006). Clark et al. (2008b) suggest a solution to the paradox by arguing that a stronger relationship between income and well-being will occur within a country at a point in time rather than over time across countries because of the status benefits or losses accrued by having relative differences in income to others. Over time well-being will also be connected to the level of consumption facilitated by income. Consequently, diminishing marginal consumption benefits, and thus well-being, will occur as income increases over time. This supports the explanation offered by Frey and Stutzer (2002) that it is relative income that ultimately affects well-being as an example of the relativity of individual's judgment of their well-being. Of course in a cross-section context for any given comparator income, absolute and relative incomes will be perfectly correlated as income is simply rescaled. An important and recent contribution to the discussion of the impact on income on SWB is provided by Powdthavee (2010), who uses instrumental variables in a panel data setting to explore the causality between income and SWB. The results suggest that endogeneity can downward bias the impacts of income significantly. In this respect the literature probably understates the impact of income.

The literature also argues that employment and self-employment tends to increase well-being, in contrast to unemployment (Shields and Wheatley Price 2005; Andersson 2008; Winkelmann and Winkelmann 1998). This is not only because of

¹⁵ Note, that this approximation might be biased since it does not consider social insurance charges which can be high (for instance in Norway or Sweden). Furthermore, GDP contains factors that do not reflect the household's income, i.e. exports or public expenditures.

¹⁶ They are available on request.

access to income but also because of identity, self-esteem, social recognition, and the provision of a sense of purpose and opportunities for social interaction (Shields and Wheatley Price 2005). Furthermore, it is argued that levels of education are not closely linked to levels of well-being (Shields and Wheatley Price 2005). However, in as much that income and education are likely to be correlated, then one might expect that levels of education being higher will be associated with higher reported SWB. The expectation from the literature on the other covariates is that a U-shaped relationship is expected on age (and age²) as identified in cross-section data (Shields and Wheatley Price 2005), panel data (Winkelmann and Winkelmann 1998; Winkelmann 2005) or pooled data, with cohorts accounted for (Blanchflower and Oswald 2008). The direct effects of gender are rarely discussed. It is found that being married raises well-being compared to being divorced, separated or having suffered bereavement, the latter of which has the largest (and negative) effect (Oswald and Powdthavee 2008). Further, it is shown that becoming married generates a positive 'shock' to well-being that eventually returns to previous levels after about 5 years. In contrast, the reduction in well-being from suffering the bereavement of a partner dissipates more slowly over 8 years (Lucas et al. 2003). In the case of divorce it is found that well-being reduces more for females than for males (Clark et al. 2008a) but that those who remarry recover their levels of well-being (Johnson and Wu 2002). In contrast, Gardner and Oswald (2006) identify that whilst divorce can reduce well-being, once one allows for higher initial stress levels, the apparent reductions in well-being are actually a return to normal levels. Further, Stutzer and Frey (2006) identify that there are selection effects in household composition. In this regard marriage is more likely for happier people. In the current context, this would also suggest that the size of the household is likely to raise SWB.

IV. Estimators

To account for the fact that the dependent variables (happy and pride) are ordinal variables, ordered estimators were employed. However, a variety of versions of these estimators were employed to try to produce robust estimates of the effects of sports engagement on SWB and pride allowing for their likely mutual relationship, and accounting for the fact that the data measured individual responses across different countries.

To explore the mutual relationship between the happy and pride variables, 'reduced form' ordered regressions of SWB and pride on the sports, TV and socio-economic covariates were undertaken. To account for the direct or indirect feedback between SWB and pride 'structural' versions of these models were first estimated by including the alternative ordered variable as a covariate and, then, second the reduced form specifications were estimated in a bivariate setting to explore for any unobserved correlation between the variables.¹⁷ Because SWB and the pride felt from sporting success might reflect national preferences, for example reflecting cultural relativities and nationalist preferences, and, indeed simply because of sampling across different countries, three further specifications were estimated (see, for example, Wooldridge 2009). Both random effects (RE) and fixed effects (FE) models were used to control for the country of observation being a grouping variable. The final specification

¹⁷ In fact no unobserved correlation was observed between SWB and pride, as ρ was estimated to be extremely small (0.125 E-10) and statistically insignificant, consequently, only the single 'reduced' form equation results are presented along with the other specifications.

involved estimating the ordered model allowing for clustering of the standard errors within countries.¹⁸ This adjusts the variances because of correlation between the observations in a cluster, reflecting the sampling strategy, and producing latent heterogeneity (Greene 2008).

Finally, from the point of view of the interpretation of these models, it should be noted that the existing literature applying ordered choice models to investigate SWB has tended to concentrate empirical discussion upon estimated coefficients. The absolute values of the estimated parameters, however, do not have much explanatory value on their own due to scale differences. The effect of a change in one of the variables in the model depends on all the model parameters, the data, and which probability (cell) is of interest. Therefore, one possibility is to compute partial effects to give the impact on the specific probabilities associated with each category of the dependent variable per unit change in the covariate. From a qualitative perspective, however, it should be noted that when the utility function underlying the estimation is linear in parameters, it might be regarded that a positive (negative) coefficient is connected with a reduction (increase) in the probability in the lowest cell and an increase (reduction) in the probability in the highest cell. Therefore, the sign of the partial effect of the highest cell of the ordered dependent variable will coincide with that of the covariate indicating the direction of the effect (Greene and Hensher 2010). Comparison of the size of the partial effects then allows the magnitude of changes in the covariates upon the ordered dependent variable to be compared.

V. Results and Discussion

As well as providing the names and descriptions of the dependent variables and covariates for the whole sample, table 1 also presents their summary statistics.

From an unconditional perspective on average people are happy (mean: 3.07) with their life. In addition, people are (more) proud following international sporting success (mean: 3.14). The largest proportion of people practice sport several times a week and watch television daily, though the latter corresponds to about three times the size of the former. However, only a few people attend sporting events or participate in sports groups or associations regularly. The average household's annual net income measures around 20,000 PPP-US\$. Furthermore, respondents are on average around 46 years old, have 12 years of education and live in a household of three persons. More than 55 percent of respondents are couples and around 45 percent of respondents are full time employed.

¹⁸In the random effects context the impact of the country effects can be established with reference to a rho (ρ) statistic $\rho = \sigma_c^2 / \sigma_c^2 + \sigma_{ic}^2$ where c is a country specific variance and ic a random variance across individuals and countries. $\rho > 0$ suggests correlations of errors of individuals in any country. Because of the likely endogeneity between country effects and the covariates FE models are generally preferred (Wooldridge 2009)

Table 1: Variable description (GESIS 2009, own calculations).

Variables	Description	mean (s.d.)
Dependent		
happy	Life happiness Ordinal (4=very happy...1=not at all happy)	3.098 (0.695)
pride	Pride at success at international sports competitions Ordinal (4=very proud...1=not proud at all)	3.1347 (1.036)
Sport / Leisure		
Participation	Reference category: never	
spdaily	Dummy (1=take part: daily, 0=else)	.150 (.357)
spweek	Dummy (1=take part: several times a week, 0=else)	.252 (.434)
spmonth	Dummy (1=take part: several times a month, 0=else)	.183 (.387)
spyear	Dummy (1=take part: several times a year, 0=else)	.124 (.330)
Sporting event	Reference category: never	
spevdaily	Dummy (1=attend as a spectator: daily, 0=else)	.013 (.114)
spevweek	Dummy (1=attend as a spectator: several times a week, 0=else)	.050 (.219)
spevmonth	Dummy (1=attend as a spectator: several times a month, 0=else)	.126 (.332)
spevyear	Dummy (1=attend as a spectator: several times a year, 0=else)	.281 (.450)
Sports group	Reference category: never	
spgweek	Dummy (1=participation: at least once a week, 0=else)	.090 (.286)
spgmonth	Dummy (1=participation: at least once a month, 0=else)	.055 (.229)
spgsev	Dummy (1=participation: several times, 0=else)	.066 (.249)
spgonce	Dummy (1=participation: once or twice, 0=else)	.070 (.254)
Television	Reference category: never	
tvdaily	Dummy (1=watch TV, DVD, videos: daily, 0=else)	.713 (.453)
tvweek	Dummy (1=watch TV, DVD, videos: several times a week, 0=else)	.185 (.388)
tvmonth	Dummy (1=watch TV, DVD, videos: several times a month, 0=else)	.053 (.224)
tvyear	Dummy (1=watch TV, DVD, videos: several times a year, 0=else)	.025 (.156)
Socioeconomic		
income	Metric (net income per person)	21417 (30045)
age	Metric (age of respondents)	46.235 (16.439)
age ²	Metric (age of respondents squared)	2407.9 (1628.5)
sex	Dummy (1=man, 0=else)	.460 (.198)
hsize	Metric (size of household)	3.273 (1.802)
eduyear	Metric (years of education)	11.867 (3.750)
educ	Dummy (1=currently in education, 0=else)	.025 (.158)
Marital status	Reference category: single	
couple	Dummy (1=partnership, 0=else)	.580 (.494)
divorced	Dummy (1=divorced, 0=else)	.067 (.249)
separated	Dummy (1=separated, 0=else)	.275 (.164)
widowed	Dummy (1=widowed, 0=else)	.077 (.267)
Employment status	Reference category: unemployed	
ftemp	Dummy (1=full time employment, 0=else)	.484 (.500)
ptemp	Dummy (1=half time employment, 0=else)	.111 (.315)
retired	Dummy (1=retired, 0=else)	.172 (.377)
keephouse	Dummy (1=housewife or man, 0=else)	.096 (.294)
illnotwork	Dummy (1=unemployed, 0=else)	.014 (.121)
otheremp	Dummy (1=other employment, 0=else)	.022 (.147)

As expected, some differences exist between the different countries, which is suggestive of cultural or national relativities. For economy of presentation and since a major focus is put on differences across countries, table 2 provides an overview of the descriptive statistics (mean, standard deviation) of the variables happy, pride, participation, sporting event, and sporting group per country, notwithstanding their ordinal nature.

Table 2: Descriptive statistics per country (GESIS 2009, own calculations).

Country	n	Happy (4=very happy) mean (s.d.)	Pride (4=very proud) mean (s.d.)	Participation (1=daily) mean (s.d.)	Sport. event (1=daily) mean (s.d.)	Sports group (1=1 a week) mean (s.d.)
Argentina	1529	3.138 (.676)	1.598 (.826)	2.483 (1.524)	1.563 (.936)	1.409 (1.092)
Australia	2098	3.201 (.632)	1.816 (1.022)	3.514 (1.141)	1.822 (.795)	2.123 (1.544)
Austria	856	3.140 (.576)	1.810 (.826)	3.271 (1.152)	1.929 (.968)	2.166 (1.511)
Bulgaria	772	2.715 (.950)	1.725 (.805)	1.782 (1.234)	1.313 (.644)	1.091 (.464)
Chile	1407	3.082 (.774)	1.592 (.920)	2.348 (1.472)	1.588 (.976)	1.656 (1.297)
Croatia	1009	2.800 (.757)	1.683 (1.000)	2.609 (1.592)	1.685 (.937)	1.536 (1.182)
Cyprus	890	3.063 (.691)	1.415 (.822)	1.762 (.974)	1.389 (.863)	1.497 (1.045)
Czech Rep	1012	3.121 (.567)	3.394 (.793)	2.937 (1.310)	1.681 (.841)	1.599 (1.234)
Dominican Rep.	916	3.210 (.872)	1.230 (.649)	2.544 (1.374)	2.433 (1.180)	2.172 (1.344)
Finland	842	2.962 (.631)	2.105 (.951)	3.646 (1.016)	1.724 (.665)	1.944 (1.443)
Flanders	965	3.232 (.576)	2.076 (.892)	2.732 (1.164)	1.705 (.827)	2.074 (1.514)
France	1264	2.862 (.654)	2.081 (.932)	3.260 (1.095)	1.601 (.718)	2.240 (1.610)
Germany	1352	3.026 (.620)	1.943 (.927)	3.226 (1.326)	1.697 (.824)	2.031 (1.616)
Great Britain	591	3.235 (.622)	3.372 (.753)	3.415 (1.296)	1.602 (.736)	1.790 (1.395)
Ireland	1665	3.437 (.581)	1.665 (.967)	3.114 (1.468)	1.926 (.968)	1.851 (1.371)
Israel	999	3.013 (.766)	2.000 (1.027)	2.785 (1.482)	2.390 (1.420)	1.445 (1.097)
Japan	882	3.043 (.636)	1.906 (.886)	2.769 (1.317)	1.351 (.563)	1.375 (.933)
Latvia	723	2.781 (.635)	1.595 (.829)	2.707 (1.511)	1.721 (.784)	1.414 (.950)
Mexico	1093	3.376 (.658)	2.048 (1.145)	2.952 (1.571)	1.923 (1.121)	1.913 (1.424)
New Zealand	66	3.379 (.627)	2.000 (1.150)	3.803 (1.140)	2.000 (.911)	2.727 (1.535)
Norway	916	3.240 (.591)	2.074 (.890)	3.540 (1.008)	1.763 (.749)	2.119 (1.524)
Philippines	1145	3.092 (.755)	1.385 (.726)	2.183 (1.318)	2.531 (1.253)	1.651 (1.056)
Poland	1002	3.091 (.678)	1.469 (.719)	2.092 (1.434)	1.548 (.765)	1.155 (.671)
Slovakia	934	2.822 (.627)	1.847 (.925)	2.636 (1.312)	1.777 (.953)	1.383 (.924)
Slovenia	788	2.944 (.617)	1.687 (.849)	3.118 (1.407)	1.673 (.828)	1.714 (1.326)
South Africa	2474	3.097 (.796)	1.456 (.919)	2.116 (1.457)	1.816 (1.097)	1.865 (1.403)
South Korea	1177	2.906 (.651)	1.497 (.712)	3.313 (1.484)	1.573 (.939)	1.899 (1.385)
Switzerland	907	3.329 (.583)	2.084 (.883)	3.694 (1.170)	1.659 (0.793)	1.910 (1.536)
Taiwan	1768	3.068 (.592)	1.438 (.792)	3.213 (1.390)	1.279 (.534)	1.167 (.636)
United States	1467	3.319 (.621)	3.470 (.721)	3.338 (1.367)	1.812 (.837)	1.655 (1.248)
Uruguay	1238	3.091 (.753)	1.632 (.920)	2.349 (1.559)	1.556 (.901)	1.533 (1.191)
Σ	34747	3.098 (.695)	1.865 (1.036)	2.847 (1.454)	1.737 (.952)	1.728 (1.320)

While people living in Ireland tend to be very happy (mean: 3.45) people living in Latvia tend to be less happy (mean: 2.72). In addition, we can observe countries where people are more proud at sporting success (e.g. mean for the US: 3.47, Czech Republic: 3.39, UK: 3.37) than others (e.g. mean for Dominican Republic: 1.23, Philippines: 1.39). On average, people practice sports several times a month (mean: 2.85) while they attend sporting events several times a year or less (mean: 1.74). While people living in New Zealand practice sport several times a week (mean: 3.69), people living in Cyprus only practice sports several times a year or less (mean: 1.76). In addition, while people living in the Philippines attend sporting events quite regularly (mean: 2.53) people living Taiwan are not used to attending sporting events (mean: 1.28). Furthermore, people participate in sports groups or association on average once or twice (mean: 1.73). While this participation turns out to be more frequent in New Zealand (mean: 2.73) than, for example, people living in Bulgaria who tend never to participate in any sports group or association (mean: 1.09).

Interestingly, all country specific mean values described above are accompanied by quite large standard deviations. This means, that some significant variations in the values is left to be explained by further variables. The standard deviations within countries are greater for the pride compared to the happy variable. This result is underpinned by a generally more dispersed set of frequencies across categories, but which are not presented here for brevity.

Table 3 presents the results of the different regression models. Because of missing values across the covariates the sample size on which estimation took place was $n=34,747$ the missing values meant that the countries Russia, Sweden and Hungary were omitted from the analysis.

The first two models correspond to the basic ordered probit model. The second two models correspond to the basic ordered probit model but with pride entering the happiness equation and happy entering the pride equation respectively, to explore the observed correlation between the variables. The remaining models presents the random effects (RE), fixed effects (FE) and cluster-variance versions of this extended model. For each model estimated coefficients and t-statistics are provided. Coefficients marked ***, ** or * are significant at the 1%, 5%, 10% level respectively.

The marginal effects for the sports covariates, as well as TV watching for all of the models are presented in table 4. As discussed earlier, the marginal effects help to gauge the scale of the effects. The values associated with the highest levels of happy and pride are reported. As the signs can only change once over the range of discrete outcomes, they are indicative of a redistribution of probabilities either towards or away from this possible outcome, so some sensible overall indication of the impact of the covariate can be established.

The first comment to note is that the SWB equations suggest strongly robust results. The same is true for pride with the exception of the FE model. The FE model for pride would not converge due to strong multicollinearity. As the other models converged, this suggests strong relationships between the fixed effects and covariates. Pride may well be viewed as more unique to countries than happiness, so country-level effects in essence become measured twice through the fixed effects and covariates. This is intuitively sensible as the pride associated with international success, though measured individually, is referring to a country-level concept. With this caveat in mind, an observed positive relationship between both happy and pride is evident and suggests that sports pride is a component of SWB and provides an indirect route through which factors can also affect SWB. Further the p statistics for the RE suggest that it is important to control for unobserved country heterogeneity.

Table 3: Model estimates (GESIS 2009, own calculations).

	Ordered Probit for Happy		Ordered Probit for Pride		Ordered Probit for Happy (+Pride)		Ordered Probit for Pride (+Happy)	
	Coeffs	t-stat	Coeffs	t-stat	Coeffs	t-stat	Coeffs	t-stat
constant	2.10773***	29.58	1.35620***	18.77	2.06612***	28.48	1.25529***	16.83
happy							.04969***	5.44
pride					.01832***	3.08		
Sport / Leisure								
Participation								
spdaily	.23794***	11.71	-.12335***	-5.99	.24014***	11.81	-.13117***	-6.35
spweek	.13071***	7.2	-.14082***	-7.66	.13275***	7.3	-.14571***	-7.92
spmmonth	.06972***	3.63	-.15625***	-8.05	.07207***	3.75	-.15929***	-8.2
spyear	.05322**	2.52	-.13199***	-6.17	.05518***	2.61	-.13444***	-6.28
Sporting event								
spevdaily	.26444***	4.8	.32625***	5.53	.26061***	4.73	.31962***	5.42
spevweek	.16362***	5.53	.18170***	5.92	.16146***	5.45	.17698***	5.76
spevmonth	.15669***	7.64	.15077***	7.19	.15478***	7.54	.14642***	6.98
spevyear	.06830***	4.49	-0.00253	-0.17	.06840***	4.5	-.00467	-0.31
Sports group								
spgdaily	.14193***	6.11	.08183***	3.53	.14058***	6.05	.07824***	3.37
spgweek	.09470***	3.39	.11107***	3.93	.09303***	3.33	.10881***	3.85
spgmonth	.09788***	3.82	.13102***	5.04	.09590***	3.74	.12882***	4.96
spgyear	.06308**	2.55	.09502***	3.81	.06163**	2.49	.09363***	3.75
Television								
tvdaily	.21342***	5.52	.16983***	4.29	.21100***	5.46	.16310***	4.12
tvweek	.22387***	5.51	.0463	1.12	.22334***	5.49	.03907	0.94
tvmonth	.18277***	3.95	.07538	1.6	.18181***	3.93	.06954	1.48
tvyear	.13071**	2.43	.05013	0.92	.13006**	2.42	.04584	0.84
Socioeconomic								
income	.176D-05***	7.06	-.340D-05***	-14.29	.182D-05***	7.27	-.344D-05***	-14.5
age	-.04146***	-17.02	.00257	1.05	-.04152***	-17.04	.00379	1.54
age2	.00039***	15.79	-.4855D-04*	-1.95	.00039***	15.83	-.6015D-04**	-2.4
sex	-.06721***	-5.01	.02663**	1.97	-.06759***	-5.04	.02882**	2.13
hsize	.01397***	3.69	.04939***	12.52	.01326***	3.5	.04901***	12.42
eduyear	.01469***	8.03	-.02242***	-12.2	.01503***	8.21	-.02290***	-12.45
educ	.30169***	6.57	-.09006*	-1.91	.30343***	6.61	-.10003**	-2.12
Marital status								
couple	.27798***	15.33	.02768	1.52	.27747***	15.3	.01934	1.06
divorced	-.04062	-1.44	-.18810***	-6.65	-.03721	-1.31	-.18659***	-6.6
seperated	-.02123	-0.54	.06701*	1.65	-.02201	-0.56	.06806*	1.68
widowed	-.11378***	-3.88	.00599	0.2	-.11384***	-3.88	.01018	0.34
Employment status								
ftemp	.26831***	10.98	-.06847***	-2.67	.26914***	11.01	-.07755***	-3.02
ptemp	.25633***	8.87	-.13838***	-4.62	.25823***	8.93	-.14699***	-4.9
retired	.16360***	5.2	-.16216***	-4.99	.16587***	5.27	-.16807***	-5.17
kephouse	.34538***	11.25	-.17437***	-5.5	.34798***	11.33	-.18568***	-5.84
illnotwork	-.077	-1.43	-.27594***	-4.99	-.07264	-1.35	-.27370***	-4.95
otheremp	.22884***	4.94	-.14066***	-2.96	.23100***	4.98	-.14825***	-3.12
Mu(1)	1.05381***	120.27	.43410***	78.36	1.05402***	120.27	.43371***	78.31
Mu(2)	2.74506***	279.49	1.21781***	161.63	2.74550***	279.49	1.21795***	161.58

Table 3: continued.

	RE Ordered Probit for Happy (Country) (+Pride)		RE Ordered Probit for Pride (Country) (+Happy)		Clustered Ordered Probit for Happy (+Pride)		Clustered Ordered Probit for Pride (+Happy)		FE Ordered Probit for Happy (Country)		FE Ordered Probit for Happy (Country) (+Pride)	
	Coeffs	t-stat	Coeffs	t-stat	Coeffs	t-stat	Coeffs	t-stat	Coeffs	t-stat	Coeffs	t-stat
constant	2.06612***	35.92	1.25529***	17.58	2.10857***	30.49	1.44870***	20.34				
happy			.04969***	6.07			.01889**	2.09				
pride	.01832***	3.95			-0.00158	-0.27					.06153***	7.84
Sport/Leisure												
Participation												
spdaily	.24014***	14.32	-.13117***	-6.89	.23755***	11.8	-.21183***	-10.42	.29696***	12.25	.29480***	12.15
spweek	.13275***	8.66	-.14571***	-8.76	.10065***	5.56	-.19594***	-10.71	.19030***	8.66	.18769***	8.54
spmonth	.07207***	4.31	-.15929***	-8.66	.03837**	1.98	-.19340***	-9.85	.13484***	5.92	.13245***	5.82
spyear	.05518***	3.06	-.13444***	-6.58	0.01913	0.89	-.19616***	-9.04	.11917***	4.81	.11798***	4.76
Sporting event												
spevdaily	.26061***	6.09	.31962***	6.04	.28110***	5.46	.37570***	6.77	.26152***	4.28	.25471***	4.16
spevweek	.16146***	6.6	.17698***	6.58	.14282***	4.97	.14511***	4.88	.07305**	2.12	.06643*	1.93
spevmonth	.15478***	9.09	.14642***	7.57	.14176***	6.98	.15554***	7.48	.07062***	2.94	.06286***	2.61
spevyear	.06840***	5.06	-0.00467	-0.32	.06167***	4.06	-.02839*	-1.87	.04289**	2.43	.03813**	2.16
Sports group												
spgdaily	.14058***	7.13	.07824***	3.49	.13282***	5.64	.08939***	3.82	.15398***	5.72	.15100***	5.6
spgweek	.09303***	3.75	.10881***	4.07	0.03963	1.42	.15533***	5.47	.06678**	2.09	.06313**	1.97
spgmonth	.09590***	4.27	.12882***	5.18	.07161***	2.81	.16682***	6.45	.06874**	2.35	.06561**	2.24
spgyear	.06163***	2.81	.09363***	3.77	.04460*	1.81	.08810***	3.54	.05548**	1.97	.05276*	1.87
Television												
tvdaily	.21100***	7.64	.16310***	4.55	.23176***	6.75	.15400***	4.37	.25598***	5.81	.24536***	5.57
tvweek	.22334***	7.57	0.03907	1.02	.22152***	6.08	.06590*	1.77	.24549***	5.33	.23791***	5.16
tvmonth	.18181***	5.21	0.06954	1.53	.18288***	4.29	0.0496	1.14	.14500***	2.77	.13846***	2.64
tvyear	.13006***	3.09	0.04584	0.86	.12827**	2.51	0.05222	1.01	.11789*	1.94	.11443*	1.89
Socioeconomic												
income	.182D-05***	9.75	-.344D-05***	-62.02	.23701D-05***	9.5	-.57177D-05***	-24.6	.23350D-05***	7.55	.23338D-05***	7.55
age	-.04152***	-19.89	0.00379	1.59	-.03939***	-16.52	0.00276	1.15	-.03962***	-14.38	-.03975***	-14.42
age2	.00039***	18.62	-.6015D-04**	-2.47	.00036***	14.97	-.69336D-04***	-2.84	.00036***	12.67	.00036***	12.72
sex	-.06759***	-5.81	.02882**	2.16	-.08390***	-6.29	.02871**	2.13	-.08487***	-5.59	-.08419***	-5.54

hsize	.01326***	4.43	.04901***	13.81	.01010***	2.69	.04471***	11.46	.00848*	1.88	.00826*	1.83
eduyear	.01503***	10.45	-.02290***	-14.29	.01622***	8.69	-.02558***	-13.68	.02150***	9.58	.02189***	9.75
educ	.30343***	7.86	-.10003**	-2.28	.29998***	7	-0.0196	-0.44	.29458***	5.7	.29416***	5.69
Marital status												
couple	.27747***	17.89	0.01934	1.08	.27543***	15.3	.08174***	4.5	.34769***	16.61	.34597***	16.53
divorced	-0.03721	-1.53	-.18659***	-7.01	0.00594	0.22	-.15341***	-5.59	-0.04888	-1.53	-0.04892	-1.53
seperated	-0.02201	-0.71	.06806*	1.77	0.01395	0.35	0.03197	0.78	-.14366***	-3.16	-.14380***	-3.17
widowed	-.11384***	-4.71	0.01018	0.36	-.07286***	-2.59	.05130*	1.8	-.06665**	-2.02	-.06922**	-2.1
Employment status												
ftemp	.26914***	13.98	-.07755***	-3.29	.24394***	10.56	-.13248***	-5.4	.29462***	10.58	.29302***	10.52
ptemp	.25823***	10.95	-.14699***	-5.15	.23344***	8.4	-.22365***	-7.72	.21528***	6.51	.21744***	6.57
retired	.16587***	6.3	-.16807***	-5.54	.17072***	5.63	-.16913***	-5.37	.24899***	6.97	.24716***	6.91
kephouse	.34798***	14.37	-.18568***	-6.12	.32217***	10.79	-.30399***	-9.85	.30017***	8.46	.30294***	8.54
illnotwork	-.07264*	-1.66	-.27370***	-5.25	-.11778**	-2.22	-.25394***	-4.64	-.10742*	-1.75	-.10561*	-1.72
otheremp	.23100***	6.01	-.14825***	-3.26	.19758***	4.26	-.22560***	-4.74	.22468***	4.21	.22537***	4.22
Mu(1)	.30000***	46.03	.30000***	74.38	1.04573***	120.2	.46667***	84.41	1.19611***	68.63	1.19817***	68.62
Mu(2)	2.74550***	184.95	1.21795***	181.07	2.70492***	277.72	1.18857***	160.59	3.07156***	154.09	3.07569***	154.01
Sigma	.07071***	11.35	.07071***	20.5								

Table 4: Marginal effects (GESIS 2009, own calculations).

	Ordered Probit for Happy	Ordered Probit for Pride	Ordered Probit for Happy (+Pride)	Ordered Probit for Pride (+Happy)	RE Ordered Probit for Happy (Country)	RE Ordered Probit for Pride (Country)	Clustered Ordered Probit for Happy (+Pride)	Clustered Ordered Probit for Pride (+Happy)	FE Ordered Probit for Happy (Country)	FE Ordered Probit for Happy (Country) (+Pride)
Participation										
spdaily	0.0817	-0.0491	0.0825	-0.0522	0.0823	-0.0520	0.0834	-0.0834	0.1024	0.1015
spweek	0.0436	-0.0560	0.0443	-0.0580	0.0443	-0.0578	0.0343	-0.0774	0.0637	0.0627
spmonth	0.0231	-0.0621	0.0239	-0.0633	0.0239	-0.0632	0.0130	-0.0763	0.0450	0.0441
spyear	0.0176	-0.0525	0.0183	-0.0534	0.0183	-0.0533	0.0065	-0.0772	0.0399	0.0394
Sporting event										
spevdaily	0.0929	0.1284	0.0915	0.1259	0.0913	0.1256	0.1012	0.1482	0.0914	0.0887
spevweek	0.0559	0.0723	0.0551	0.0704	0.0551	0.0702	0.0497	0.0578	0.0243	0.0220
spevmonth	0.0531	0.0601	0.0524	0.0583	0.0523	0.0582	0.0491	0.0620	0.0234	0.0207
spevyear	0.0226	-0.0010	0.0226	-0.0019	0.0226	-0.0019	0.0209	-0.0113	0.0140	0.0125
Sports group										
spgdaily	0.0481	0.0326	0.0476	0.0312	0.0475	0.0311	0.0460	0.0356	0.0520	0.0509
spgweek	0.0318	0.0443	0.0312	0.0434	0.0312	0.0433	0.0135	0.0619	0.0221	0.0209
spgmonth	0.0329	0.0522	0.0322	0.0513	0.0321	0.0512	0.0245	0.0665	0.0228	0.0217
spgyear	0.0210	0.0379	0.0205	0.0373	0.0205	0.0372	0.0152	0.0351	0.0183	0.0174
Television										
tvdaily	0.0678	0.0675	0.0670	0.0649	0.0669	0.0647	0.0756	0.0610	0.0802	0.0769
tweek	0.0763	0.0185	0.0761	0.0156	0.0760	0.0156	0.0773	0.0262	0.0835	0.0807
tvmonth	0.0627	0.0301	0.0624	0.0277	0.0623	0.0277	0.0642	0.0198	0.0491	0.0467
tvyear	0.0444	0.0200	0.0442	0.0183	0.0441	0.0182	0.0446	0.0208	0.0397	0.0384

More specifically the following pattern of results can be established. For the socio-economic covariates a quadratic effect of age is identified on happiness, as noted in the literature. A similar effect is identified for pride. In contrast, the results suggest that generally females are happier, yet males experience greater pride from international sporting success. This is perhaps not surprising since it is recognised that males participate more in sport, and make up more of its audience (Downward et al. 2009). As also indicated in the literature, greater household size and being a couple, rather than being widowed, divorced or separated contributes to happiness. In contrast, and perhaps not surprisingly given the comments just made, being single or separated is more likely to contribute to pride from international sporting success. Further, in general, work status other than being unemployed or ill and unable to work contributes to happiness as does education and income. The opposite is the case for pride from international sporting success. This would seem to suggest that the pride from sporting success can help to offset economic and social disadvantage.

As far as the key sporting covariates are concerned the main results are robust to specification and suggest that all forms of sporting engagement contribute to SWB, with the marginal effects from table 4 suggesting that this impact is greater the more frequent the sporting activity. Overall, however, and for any given model, it is noted

that attendance at sporting events has the greatest impact on SWB, followed by informal participation, and then participation via formal groups. Interestingly, too, it is noted that the impact of TV watching is to generally raise SWB and that this can be typically more than active participation or attending sports events. It is noted, however, that the greatest impact is for less than daily TV watching, which is similar to Frey's (2008) results that daily TV watching can reduce SWB.

With the exception of the infeasible FE estimation for the pride equation only, the results of sports engagement on pride are also robust across all specifications. It is found that formal sporting participation through groups and associations and watching sports events live contribute towards pride felt from international sporting success. This suggests that the engagement with the formal sports sector is important in delivering a unique element of SWB through pride in international sporting success. The same can be said of frequent TV watching. However, it is shown that more informal participation can be associated with a decrease in the feelings of pride as a result of international sporting success.

Overall the results suggest that sports engagement generally and pride from success in international competitions do contribute to the SWB of individuals on an international level and that both direct and indirect effects can be observed because of the relationship between these outcomes. The results thus give impetus to the growing public policy that seeks to promote sport to raise the SWB of citizens, and also that a sports system that delivers international success, which of course can be facilitated through professional sports activities, may play a role in delivering this outcome.

Some complicated implications are also evident, however. Recognising that informal sports activity and casual as well as passive leisure, such as TV viewing or attendance at sports events, may contribute directly, and most, to SWB, should be balanced against the view that the passive engagement also contributes directly to pride and then indirectly to SWB. This suggests that passive engagement in sport has the greatest impact on SWB. Such passivity may work against any health benefits that arise from active engagement. Further the negative impact of informal participation on pride and hence indirectly on SWB could be because of the view that resources get overly focussed on more competitive forms of physical activity, which generates a degree of dissatisfaction. However, it is these informal activities that contribute most to generating health benefits. Clearly these are issues and cost-benefit trade-offs that need to be further investigated, particularly in what appears to be a growing era of fiscal austerity in public policy.

VI. Conclusions

This paper is unique in that it examines an international sample of countries to explore the impact that sports participation, of both a formal and informal nature, as well as watching sports events, has on SWB directly but also indirectly through the pride felt by international success in sports events. A variety of specifications are used to produce robust estimates of the impact of sports engagement on these ordinal variables. The research reveals a direct relationship between the variables and that, in general participating in, and watching sport (as well as TV), raises both dimensions of welfare. There is some evidence that more informal sports participation can have a negative feedback on SWB via the pride felt from

international sports success, and that this may be due to the crowding out of opportunities. This issue requires further investigation as does the impact of sedentary sports engagement associated with sports spectatorship and TV watching on health as opposed to SWB.

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