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Physical activity habits in a European sports event: A case study

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Abstract—The aim of this study is to learn more about the physical activity habits of participants in a popular sporting event such as European Sports Day, which is held simultaneously in five European countries (Spain, Italy, Cyprus, Ireland, and Hungary), and to measure the influence of socio-demographic variables on these habits. This is a cross-sectional study conducted with a sample of 856 participants, stratified by gender, age, and nationality. We statistically analyzed five variables related to physical activity habits: frequency of physical activity practice, places of practice, motives of practice, perceived fitness level, and popular event attendance. Of the participants, 76.8% said they perform physical activity weekly. Fitness/health improvement (34.63%) and entertainment/leisure (26.52%) are the main reasons for the practice of physical activity. Age and nationality are differentiating factors on physical activity habits.

Keywords: sport participation, age, gender, nationality

Resumo—“Hábitos de atividade física em um evento do *European Sports*: Um estudo de caso.” O objetivo deste estudo foi determinar os hábitos dos participantes de um evento popular como o Dia Europeu do Desporto realizado simultaneamente em cinco países europeus (Espanha, Itália, Chipre, Irlanda e Hungria), e medir a influência das variáveis sociodemográficas sobre esses hábitos. Este é um estudo transversal, composto por uma amostra de 856 participantes, estratificada por sexo, idade e nacionalidade. Foram analisados estatisticamente cinco variáveis relacionadas aos hábitos de atividade física: frequência de atividade física, local de práticas, motivações para a prática, nível de condicionamento físico percebido, e frequência de participação em eventos populares. Dos participantes, 76,8% disseram que se envolver em atividade física semanal. Melhorar fitness/saúde (34,63%) e entretenimento (26,52%) foram os principais motivos para a prática de atividade física. Idade e nacionalidade são um fator de diferenciação sobre os hábitos de atividade física.

Palavras-chave: participação, desporto, idade, sexo, nacionalidade

Resumen—“Hábitos de actividad física en un evento deportivo europeo: Un estudio de caso.” El objetivo de este estudio es conocer los hábitos de actividad física de los participantes en un evento popular como el Día del Deporte Europeo, que se celebra simultáneamente en cinco países europeos (España, Italia, Chipre, Irlanda y Hungría) y medir la influencia de las variables sociodemográficas sobre esos hábitos. Este es un estudio transversal compuesto por una muestra de 856 participantes, estratificados por género, edad y nacionalidad. Se analizaron estadísticamente cinco variables relacionadas con los hábitos de actividad física: frecuencia de práctica de actividad física, lugar de práctica, motivaciones de práctica, nivel de condición física percibido y frecuencia de asistencia a eventos populares. De los participantes, el 76,8% aseguraron que realizaban actividad física semanalmente. Mejorar la condición física/salud (34,63%) y el ocio y entretenimiento (26,52%) son las principales razones para la práctica de actividad física. Edad y nacionalidad son un factor diferenciante sobre los hábitos de actividad física.

Palabras clave: participación deportiva, edad, género, nacionalidad

Introduction

At present, several studies have demonstrated numerous health benefits from practicing physical activity (Blair & Morris, 2009; Cavill, Kahlmeier, & Racioppi, 2006), such as reduced risk of coronary heart disease (Batty, 2002), diabetes (Cimbiz *et al.*, 2011), and cancer (Wen *et al.*, 2011), or even improvements in the bone health of players (Gracia-Marco *et al.*, 2011). Also, some authors argue that practicing only 15 minutes of moderate-intensity physical activity causes a decrease in overall mortality and an increase in life expectancy by three years (Wen *et al.*, 2011). In Europe, between 1960 and 1990, there was a significant increase both in the number of people doing physical and sports activities and in the frequency of their participation (Gratton & Taylor, 2000). Also, these authors compared the situation in various European states using data provided by the COMPASS 1999. In doing so, they detected less participation rates in the Southern countries (Italy, Spain) than in the Northern countries (Ireland, Great Britain, Netherlands, Sweden, and Finland). However, in the last 10 years, physical activity practice seems to have reached a standstill in many European countries (Spain, Finland, Belgium, Portugal, and Austria) and has begun to decline in others, such as The Netherlands, Italy, and England (Van Bottenburg, 2005). A recent European Commission report (2010) found that 60% of the European population does not practice sports, or does it so rarely. In this sense, physical inactivity is now regarded as one of the biggest public health problems and as an important risk factor for a number of health problems, including osteoporosis, obesity, high blood pressure, and depression (Warburton, Nicol, & Bredin, 2006).

It is important to recognize that the set of factors that determine the level of sports participation in society consists mainly of socio-demographic variables (gender, age, degree of urbanization, country) (Burillo, Barajas, Gallardo, & García-Tascón, 2011), along with social (education, occupation, household size) (Lera-López & Rapún-Gárate, 2005) and economic (income, employment, facilities) variables (Gallardo, Burillo, García-Tascón, & Salinero, 2009).

Following Lera-López and Rapún-Gárate (2011), sports participation is mainly constrained by economic, sociological, and psychological variables. For these authors, positive factors are being female, age, number of sporting activities, and some motivational factors, while negative determinants include time availability. However, according to Ruseski, Humphreys, Hallmann and Breuer (2011), hours in the workplace does not affect participation, confirming that physical activity is leisure time activity, so that the time allocated to physical activity derives from non-work hours. Time is also included in the neoclassical approach in relation to sport as a major constraint in sport participation (Downward, 2007). In the family environment, Becker's theories suggest that distribution of activities among household members affects individual allocation of time (Downward, 2004).

From an economic perspective, several studies show that lower incomes are associated with lower levels of participation in sport (Breuer & Wicker, 2008; Lera-López & Rapún-Gárate,

2007). Moreover, other authors found a negative influence of income level on sport participation frequency (Downward & Riordan, 2007; Humphreys & Ruseski, 2006). Burillo *et al.* (2011) explain that this occurs because lower-income groups typically live in residential areas with more unemployment, less sports facilities, few green areas, and low investment in sports activities for the community.

According to the psychological framework Psychological Continuum/Connection Model (PCM) or Theory of Participation there are four different stages of motivation: awareness, attraction, attachment, and allegiance (Beaton & Funk, 2008; Beaton, Funk, & Alexandris, 2009; Funk & James, 2001, 2006). Based on this theory, the purpose of policies to promote physical activity should be to achieve the highest stage of motivation among regular participants.

Some of this information has allowed governments to design effective strategies such as European Sports Day to increase participation in sport and physical activity in different countries. It is important to understand the physical activity habits of participants in these sporting events and the influence of variables such as nationality, gender, and age in order to develop better policies to increase sports participation in all sectors of the population.

Determinants of sports participation: Gender, age, and nationality

Gender, age, and nationality are more fully investigated in European sports participation because of the significance of the comparison of results in longitudinal and cross-sectional studies. The first mention of a discussion of sports activity at a European level can be found in Rodgers (1977). This author concluded that men participate more in sports than women, and sports participation decreases with increasing age. Regarding the effect of gender on physical activity and sports participation, recent studies also show a greater predominance of male over female participation (Hovemann & Wicker, 2009) and increased interest from men when they participate in any physical activity or sport (Berger, O'Reilly, Parent, Séguin, & Hernández, 2008; Farrell & Shields, 2002; Humphreys & Ruseski, 2006, 2007; Lera-López & Rapún-Gárate, 2005; Seabra, Mendonca, Thomis, Malina, & Maia, 2007; Taks & Scheerder, 2006). However, longitudinal studies indicate an increase in female participation (Baker, Fraser-Thomas, Dionigi, & Horton, 2010), which in recent years has surpassed male participation in some activities in Canada (Humphreys & Ruseski, 2010) and in some Scandinavian countries (Denmark, Finland, and Sweden) (Fridberg, 2010). Humphreys and Ruseski (2010) said that men are more likely to engage in activities that involve more practice time, such as team sports and outdoor recreational activities, while women tend to engage in short-duration sport activities, which do not demand a large amount of time. In addition, a recreational orientation attracts mainly men and young people, whereas physical activities attract females and older individuals if the emphasis is on improving health and physical appearance (Lera-López & Rapún-Gárate, 2011).

On the other hand, other studies suggest that sport participation decreases as age increases (Downard, 2007; Downard & Riordan, 2007; Hovemann & Wicker, 2009). The probability that a person participates in physical and sports activities is reduced by 0.3% per year (Humphreys & Ruseski, 2006). However, at older ages there is increased participation in physical activities with a low fitness requirement, such as walking, swimming, and playing group sports (Humphreys & Ruseski, 2007). Other authors claim that the decline in physical and sport activity as a consequence of age happens only in men (Breuer & Wicker, 2009), whereas in women, increasing age is associated with an increase in physical and sport practice (until 50 years old) (Klein, 2009) as a means to improve one's health, fitness, and sense of wellbeing (Breuer & Wicker, 2009).

Establishing differences by country, inhabitants of the Scandinavian region (especially Sweden and Finland) have the highest rate of physical and sports activity across Europe, and the rate decreases in Southern Europe, being lower for the countries of the Mediterranean area, such as Greece, Italy, France, Spain, and Portugal (Martínez-González et al., 2001). Moreover, in countries like Sweden, Finland, and Denmark, the participation of women is higher than that of men in different age groups (Van Tuyckom, Scheerder, & Bracke, 2010).

Currently, there are many sporting events held in Europe, but only a few have the primary purpose of promoting the physical practice of sport among the population groups that have higher rates of inactivity (i.e., women and older people) or claim to know the characteristics and motivations of the participants in these events.

Thus, the objective of this study is twofold: First, it seeks to discover the level of sports participation and the physical activity habits of participants in a popular sporting event such as European Sports Day in five countries of the European Union: Spain, Italy, Cyprus, Ireland, and Hungary, which participated in the project Euro Sport Health promoted by The European Commission; Second, it aims to identify the effects of socio-demographic variables of participation and exercise habits in future development of policies and strategies to promote physical and sports activities in these countries.

Methods

Due to the absence of an adequate sampling framework, 856 questionnaires were collected through convenience sampling. Convenience sampling is consistent with previous studies in this type of research (Gursoy & Kendall, 2006; Kim *et al.*, 2006). To minimize selection bias, interviewers were instructed to conduct surveys with various population groups. Moreover, to sample all of the zones of the events, each surveyor was assigned to several zones. In summary, although convenience sampling is not representative of the larger population, the current sample captured a good mix of athletes attending the event.

The analyzed sample was stratified by gender, age, and nationality, included athletes aged between 12 and 81 years who participated voluntarily in European Sports Day, a popular event aimed at promoting physical activity and health held simultaneously in Spain, Italy, Cyprus, Ireland, and Hungary.

Table 1. Characteristics of the sample.

| Sample | N | % | M± SD (age) |
|--------------------|-----|------|-------------|
| Total | 856 | 100 | 27.04±20.89 |
| Gender | | | |
| Men | 426 | 49.8 | 25.99±21.36 |
| Women | 430 | 50.2 | 28.07±20.40 |
| Age (group) | | | |
| Children | 130 | 15.3 | 10.07±5.14 |
| Young | 192 | 22.6 | 14.93±11.85 |
| Adult | 462 | 54.5 | 36.32±17.25 |
| Elderly | 64 | 7.5 | 57.75±26.77 |
| Nationality | | | |
| Italy | 183 | 21.4 | 31.41±18.63 |
| Spain | 199 | 23.2 | 45.39±17.59 |
| Hungary | 190 | 22.2 | 26.32±13.44 |
| Cyprus | 91 | 10.6 | 30.61±11.22 |
| Ireland | 193 | 22.5 | 27.47±14.40 |

The main characteristics of the sample are shown in Table 1. Women accounted for 50.2% of the participants, while men represented 49.8%. The largest age group was between 30 and 64 years old (54.5%), followed by 18 to 29 years old (22.6%). Regarding nationality, the sample was fairly homogeneous by country except for Cyprus, which had fewer respondents (10.6%).

For the data collection, a self-administered instrument developed *ad hoc* was used. The design was carried out by recruitment and selection of questions from other studies of sports habits (European Commission, 2010; García-Ferrando, 2001, 2006; Rodríguez-Romo, Boned-Pascual, & Garrido-Muñoz, 2009).

Subsequently, each of the questions was revised to suit the specific needs of the research and then translated into the official language of each of the countries that participated in the project using the back translation procedure. Following the completion of the instrument, the content was subjected to expert assessment, which resulted in a series of modifications and useful comments for the final design of the instrument. The pilot questionnaire was applied experimentally to a small group of participants, which included representatives from each of the countries studied, to ensure the absence of ambiguity or confusion in the questions. The final version of the questionnaire was reviewed and approved by an institutional ethics committee (Albacete University Hospital Complex; CEIC 13/10; 02/12/2010).

The questionnaire was structured into two sections. The first, concerning socio-demographic data, included questions about age, gender, and nationality. The second section was related to the physical sporting practice of respondents. The first question framed the participants in one of the following categories based on their habitual physical activity or sport practice: 1) Never, 2) Only during the holidays, 3) Almost never, 4) 1 or 2 times a week, and 5) 3 or more times a week. Based on the responses, the places where people engaged in some type of activity, including private facilities (gym, fitness center), public facilities (municipi-

pal sports center), public places (parks, nature), or the home, and the reasons that encouraged the participants to perform exercise regularly were analyzed with a multiple choice alternative: 1) To maintain and/or improve health, 2) For the benefits of sport, 3) For fun and entertainment, 4) To meet friends, 5) For the values of sport, 6) For other reasons. In addition, the fitness level of the participants was examined using a closed question with the answer choices: Very bad, Bad, Good, Very Good, and Excellent. Finally, we asked about attendance as a participant at popular sporting events, offering as possible answers: 1) Yes, frequently, 2) Yes, once, and 3) No, never. All questionnaires were distributed during the celebration of the European sporting event in each of the participating countries; the relevant functions of monitoring and advising respondents were carried out, including obtaining statements of informed consent.

Statistical analysis

Statistical analysis of the data was performed using SPSS statistical software version 18.0. First, we proceeded to calculate the descriptive statistics for each variable. Nonparametric χ^2 tests were carried out to verify the possible relationship between the reasons for physical activity and sports practice, the frequency of this practice, the place of practice, and participation in popular sporting events. The cutoff values for significance were the z values corresponding to the probabilities of .05 (± 1.96) and .01 (± 2.57). To determine which combinations have statistically significant differences between proportions, we performed residuals analysis. The p -values were corrected for multiple comparisons using the Bonferroni method. The results are based on two-tailed tests with a significance level of .05. In the results tables for each significant pair, the category with

the lower proportion of columns is shown below the category with the higher proportion of columns.

Results

With respect to the frequency of physical activity and sports practice, 76.8% of the participants reported performing exercise more or less frequently during the week, 17.7% indicated doing so sporadically or only during holidays, and 5.5% said they never carry out physical activity. Table 2 shows the results of the χ^2 test used to assess the possible relationship between frequency of practice and socio-demographic variables, which indicate significant differences according to age group [χ^2 (12) = 52.118, $p < .001$, 95% CI] and nationality [χ^2 (16) = 49.271, $p < .001$, 95% CI]. However, we did not find differences based on gender [χ^2 (4) = 2.884, $p = .577$, 95% CI]. According to age, 63.08% of participants in the group aged 12–17 years old reported that they make exercise three or more times per week, which is significantly higher than the frequency obtained in the age groups of 18–29 years (46.60%) and 30–64 years (33.77%). Also, the older group (+65 years) showed a very high frequency of physical and sports activities per week (48.44%). Respect to nationality, Ireland appears to have an increased frequency of physical activities and sports (three or more times per week) with 54.40%, a result that is significantly higher than that found in Italy (35.16%) and Hungary (34.74%). In Spain, the percentage of participants who never perform any physical activity was 3.02%. Meanwhile, 8.24% of Italians reported being physically active only during the holidays, as opposed to 1.55% of the Irish.

With regard to the places in which physical activity and sports are practices, 31.43% of the respondents undertake physical activities in public parks or nature, 29.15% in public

Table 2. Frequency of physical and sport practice by age and nationality.

| Frequency of sport practice | Age group (years) | | | | Nationality | | | | |
|-----------------------------|---|---------------------------------------|---|------------------------|-------------------------------------|------------------------|---------------------------------------|------------------------|---|
| | Children ^(a) | Young ^(b) | Adult ^(c) | Elderly ^(d) | Italy ^(a) | Spain ^(b) | Hungary ^(c) | Cyprus ^(d) | Ireland ^(e) |
| | (n=130) | (n=191) | (n=462) | (n=64) | (n=183) | (n=199) | (n=190) | (n=91) | (n=193) |
| | % | % | % | % | % | % | % | % | % |
| | (IC=95%) | (IC=95%) | (IC=95%) | (IC=95%) | (IC=95%) | (IC=95%) | (IC=95%) | (IC=95%) | (IC=95%) |
| Never | 2.31 (-0.27-4.89) | 5.24 (2.08-8.40) | 5.84 (3.70-7.98) | 10.94 (3.29-18.59) | 6.59 (2.99-10.18) | 3.02 (0.64-5.40) | 4.74 (1.72-7.76) | 6.59 (1.49-11.69) | 7.25 (3.59-10.91) |
| Only on holidays | 3.08 (0.11-6.05) | 3.66 (0.99-6.32) | 5.41 (3.35-7.47) | 3.13 (-1.14-7.40) | 8.24 ^(e) (4.26-12.22) | 2.01 (0.06-3.96) | 6.84 (3.25-10.43) | 4.40 (0.18-8.61) | 1.55 (-0.19-3.29) |
| Rarely | 5.38 (1.50-9.26) | 8.38 (4.45-12.31) | 17.53 ^(a,b) (14.06-21.00) | 9.38 (2.24-16.52) | 13.74 (8.75-18.73) | 11.56 (7.12-16.00) | 21.05 ^(c) (15.25-26.85) | 13.19 (6.23-20.14) | 6.22 (2.81-9.63) |
| 1-2 times per week | 26.15 (18.60-33.70) | 36.13 (29.32-42.94) | 37.45 (33.04-41.86) | 28.13 (17.11-39.15) | 36.26 (29.29-43.23) | 37.69 (30.96-44.42) | 32.63 (25.96-39.30) | 37.36 (27.42-47.30) | 30.57 (24.07-37.07) |
| 3 times per week | 63.08 ^(b,c) (54.78-71.38) | 46.60 ^(c) (39.53-53.67) | 33.77 (29.46-38.08) | 48.44 (36.20-60.68) | 35.16 (28.24-42.08) | 45.73 (38.81-52.65) | 34.74 (27.97-41.51) | 38.46 (28.46-48.46) | 54.40 ^(a,c) (43.37-61.43) |
| | χ^2 (12)=52.118; $p < .001$ | | | | χ^2 (16)=49.271; $p < .001$ | | | | |

Table 3. Places of sport and physical activity practice by age and nationality.

| Places | Age groups | | | | Nationality | | | | | |
|----------------------|---|--------------------------------------|--------------------------------------|---|--------------------------------------|--------------------------------------|--|--------------------------------------|--|------------------------|
| | Children ^(a) (n=130) % | Young ^(b) (n=191) % | Adult ^(c) (n=462) % | Elderly ^(d) (n=64) % | Italy ^(a) (n=183) % | Spain ^(b) (n=199) % | Hungary ^(c) (n=190) % | Cyprus ^(d) (n=91) % | Ireland ^(e) (n=193) % | |
| | (IC=95%) | (IC=95%) | (IC=95%) | (IC=95%) | (IC=95%) | (IC=95%) | (IC=95%) | (IC=95%) | (IC=95%) | |
| Private Sport Center | NO | 61.54 (53.17-69.90) | 65.10 (58.34-71.86) | 70.35 (66.19-74.51) | 75 (64.39-85.61) | 57.92 (50.77-65.07) | 70.35 (64.00-76.70) | 71.05 (64.60-77.50) | 72.53 (63.36-81.70) | 70.98 (64.58-77-38) |
| | YES | 38.46 (30.10-46.82) | 34.90 (24.14-41.66) | 29.65 (25.49-33.81) | 25 (14.39-35.61) | 42.08 (34.93-49.23) | 29.65 (23.30-36.00) | 28.95 (22.50-35.40) | 27.47 (18.30-36.64) | 29.02 (22.62-35.42) |
| | Sig. | $\chi^2(3)=5.850; p=0.119$ | | | | $\chi^2(4)=11.529; p<0.05$ | | | | |
| | | 53.85 (45.28-62.42) | 54.17 (47.10-61.24) | 70.56 ^(a,b) (66.40-74.72) | 70.31 (59.12-81.50) | 73.77 (67.40-80.14) | 64.82 (58.19-71.45) | 57.89 (50.87-64.91) | 78.02 (69.51-86.53) | 53.89 (46.86-60.92) |
| Public Sport Center | NO | 46.15 (37.58-54.72) | 45.83 (38.76-52.90) | 29.44 (25.28-33.60) | 29.69 (18.50-40.88) | 26.23 (19.86-32.60) | 35.18 (28.55-41.81) | 42.11 (35.09-49.13) | 21.98 (13.47-30.49) | 46.11 (39.08-53.14) |
| | YES | 53.85 (45.28-62.42) | 54.17 (47.10-61.24) | 70.56 ^(a,b) (66.40-74.72) | 70.31 (59.12-81.50) | 73.77 (67.40-80.14) | 64.82 (58.19-71.45) | 57.89 (50.87-64.91) | 78.02 (69.51-86.53) | 53.89 (46.86-60.92) |
| | Sig. | $\chi^2(3)=23.670; p<0.05$ | | | | $\chi^2(4)=27.087; p<0.05$ | | | | |
| | | 74.62 (67.14-82.10) | 68.23 (61.27-74.83) | 55.41 (50.88-59.94) | 59.38 (47.35-71.41) | 57.38 (50.21-64.55) | 57.79 (50.93-64.65) | 73.16 (66.36-79.46) | 61.54 (51.54-71.54) | 56.99 (50.01-63.97) |
| Public places | NO | 25.38 (17.90-32.86) | 31.77 (25.17-38.37) | 44.59 (40.08-49.12) | 40.63 (28.60-52.66) | 42.62 (35.45-49.79) | 42.21 (35.35-49.07) | 26.84 (20.54-33.14) | 38.46 (28.46-48.46) | 43.01 (36.07-50.00) |
| | YES | 83.08 (76.63-89.53) | 81.77 (76.29-87.25) | 83.12 (79.70-86.54) | 90.63 (83.49-97.77) | 83.61 (78.25-88.97) | 93.97 (90.66-97.28) | 72.11 (65.73-78.49) | 83.52 (75.90-91.14) | 82.90 (77.59-88.21) |
| | Sig. | $\chi^2(3)=20.482; p<0.05$ | | | | $\chi^2(4)=14.997; p<0.05$ | | | | |
| | | 16.92 (10.47-23.37) | 18.23 (12.75-23.71) | 16.88 (13.46-20.30) | 9.38 (2.24-16.52) | 16.39 (11.03-21.75) | 6.03 (2.72-9.34) | 27.89 (21.51-34.27) | 16.48 (8.86-24.10) | 71.10 (64.70-77.50) |
| At home | NO | 83.08 (76.63-89.53) | 81.77 (76.29-87.25) | 83.12 (79.70-86.54) | 90.63 (83.49-97.77) | 83.61 (78.25-88.97) | 93.97 (90.66-97.28) | 72.11 (65.73-78.49) | 83.52 (75.90-91.14) | 82.90 (77.59-88.21) |
| | YES | 16.92 (10.47-23.37) | 18.23 (12.75-23.71) | 16.88 (13.46-20.30) | 9.38 (2.24-16.52) | 16.39 (11.03-21.75) | 6.03 (2.72-9.34) | 27.89 (21.51-34.27) | 16.48 (8.86-24.10) | 71.10 (64.70-77.50) |
| | Sig. | $\chi^2(3)=2.814; p<.421$ | | | | $\chi^2(4)=33.431; p<.05$ | | | | |
| | | 74.62 (67.14-82.10) | 68.23 (61.27-74.83) | 55.41 (50.88-59.94) | 59.38 (47.35-71.41) | 57.38 (50.21-64.55) | 57.79 (50.93-64.65) | 73.16 (66.36-79.46) | 61.54 (51.54-71.54) | 56.99 (50.01-63.97) |

sports centers, and 25.83% in private places. Only 13.58% of respondents perform activities in their own home. Depending on the age group, as shown in Table 3, younger participants (12–17 years and 18–29 years) prefer physical and sports activities in public and municipal sports centers (16.92% and 18.23%, respectively), while the minority option is physical activity at home. However, with an increase in age, participants begin to practice physical activities in public places, such as parks or nature (44.59% for 30–64 years and 40.63% in +65 years). With regard to nationality, there is a greater preference for private facilities (gyms and fitness centers) in Italy than in the rest of the countries studied. In other countries, such as Spain, there is a significantly low percentage of participants who perform physical and sports activities at home (6.03%), and nature parks are their favorite places for physical activity. In Hungary, public sport centers are mostly chosen, highlighting a similarly high percentage

of home practice and reduced physical activity in parks and nature compared with other countries. Similarly, the percentage of Cypriots and Italians who regularly perform exercise in public sport centers is significantly lower than in other countries, such as Hungary and Ireland. We did not find any statistically significant relationship between gender and place of practice. Finally, the main reason for the participants to practice physical and sport activities is health maintenance and/or improvement (34.63%), followed by fun and entertainment (26.52%), associated benefits (15.87%), to meet friends (15%), values provided by the sport (6.97%), and other reasons not related to the above (1%).

The χ^2 test used to analyze the relationships between the main reasons for performing exercise regularly and social variables (Table 4) shows significant differences in gender, age, and nationality. With respect to gender, although the main reason given by both males and females is to maintain and/or

Table 4. Reason for sport and physical activity practice by gender, age and nationality.

| Reason (x ²) | Gender | | | Age group | | | Nationality | | | | | |
|--------------------------|------------------------------------|---------------------------------------|--|---|---|---|---|---|---|---|---|---|
| | Mac ^(a) (n=426) % | Female ^(b) (n=430) % | | Children ^(a) (n=130) % | Young ^(b) (n=191) % | Adult ^(c) (n=462) % | Elderly ^(d) (n=64) % | Italy ^(a) (n=183) % | Spain ^(b) (n=199) % | Hungary ^(c) (n=190) % | Cyprus ^(d) (n=91) % | Ireland ^(e) (n=193) % |
| No | 42.49 (37.80-47.18) | 36.74 (32.48-41.30) | | 50.00 ^(c) (41.40-58.50) | 39.58 (32.64-46.52) | 36.15 (31.77-40.53) | 39.06 (27.11-51.01) | 44.26 (37.06-51.46) | 35.18 (28.55-41.81) | 41.58 (34.57-48.59) | 31.87 (22.30-41.44) | 41.45 (34.50-48.40) |
| Yes | 57.51 (52.82-62.20) | 63.26 (58.70-67.82) | | 50.00 (41.40-58.50) | 60.42 (53.48-67.36) | 63.85 ^(a) (59.47-68.23) | 60.94 (48.99-72.89) | 55.74 (48.54-62.94) | 64.82 (58.19-71.45) | 58.42 (51.41-65.43) | 68.13 (58.56-77.70) | 58.55 (51.60-65.50) |
| Sig. | x ² (1)=2.952; p=.086 | | | x ² (3)=8.174; p=.043 | | | x ² (4)=6.153; p=.188 | | | | | |
| No | 76.76 (72.75-80.77) | 67.91 (63.50-72.32) | | 79.23 ^(d) (73.04-86.82) | 71.88 (63.50-78.26) | 72.94 ^(d) (68.89-76.99) | 56.25 (44.01-68.40) | 68.31 (61.57-75.05) | 59.30 (52.47-66.13) | 73.68 ^(b) (67.42-79.94) | 93.41 ^(a,b,c,e) (88.31-98.51) | 78.24 ^(b) (72.42-84.06) |
| Yes | 23.24 (19.23-27.25) | 32.09 ^(a) (27.68-36.50) | | 20.77 (13.80-27.74) | 28.13 (21.75-34.31) | 27.06 (23.01-31.11) | 43.75 ^(a,e) (31.60-55.90) | 31.69 ^(d) (24.95-38.43) | 40.70 ^(c,d,e) (33.87-47.53) | 26.32 ^(d) (20.06-32.58) | 6.59 (1.49-11.69) | 21.76 ^(d) (15.94-27.58) |
| Sig. | x ² (1)=8.378; p=.004 | | | x ² (3)=11.485; p=.009 | | | x ² (4)=42.094; p<.001 | | | | | |
| No | 51.88 (47.14-56.62) | 55.58 (50.88-60.28) | | 39.23 (30.84-47.62) | 48.96 (41.87-56.05) | 57.36 ^(a) (52.95-61.90) | 70.31 ^(a,b) (59.12-81.50) | 47.54 (40.30-54.78) | 60.3 ^(e) (53.50-67.10) | 58.95 ^(e) (51.96-65.94) | 65.93 ^(a,e) (56.19-75.67) | 41.97 (35.01-48.93) |
| Yes | 48.12 (43.38-52.86) | 44.42 (39.72-49.12) | | 60.77 ^(c,d) (52.38-69.16) | 51.04 ^(d) (43.95-58.13) | 42.64 (38.13-47.15) | 29.69 (18.50-40.88) | 52.46 ^(d) (45.22-59.70) | 39.70 (32.90-46.50) | 41.05 (34.05-48.04) | 34.07 (24.33-43.81) | 58.03 ^(b,c,d) (51.07-64.99) |
| Sig. | x ² (1)=1.181; p=.277 | | | x ² (3)=22.271; p<.001 | | | x ² (4)=24.547; p<.001 | | | | | |
| No | 73.47 (69.28-77.66) | 74.19 (70.05-78.33) | | 63.08 (54.78-71.38) | 61.98 (55.10-68.86) | 79.87 ^(a,b) (76.21-83.53) | 89.06 ^(a,b) (81.41-96.71) | 74.32 (67.99-80.65) | 80.90 ^(e) (75.44-86.36) | 68.95 ^(c,e) (62.37-75.53) | 87.91 ^(c,e) (81.21-94.61) | 83.42 (78.17-88.67) |
| Yes | 26.53 (22.34-30.72) | 25.81 (21.68-29.95) | | 36.92 ^(c,d) (28.62-45.22) | 38.02 ^(c,d) (31.14-44.90) | 20.13 (16.47-23.79) | 10.94 (3.29-18.59) | 25.68 (19.35-32.01) | 19.10 (13.64-24.56) | 31.05 ^(d) (24.47-37.63) | 12.09 (5.39-18.79) | 35.75 (28.99-42.51) |
| Sig. | x ² (1)=0.056; p=.813 | | | x ² (3)=38.243; p<.001 | | | x ² (4)=26.033; p<.001 | | | | | |
| No | 86.62 (83.39-89.85) | 89.07 (86.12-92.02) | | 85.38 (79.31-91.45) | 88.54 (84.02-93.06) | 87.01 (83.94-90.08) | 96.88 (92.62-101.14) | 76.50 (70.36-82.64) | 97.99 ^(a,d,e) (96.04-99.94) | 93.16 ^(a,e) (89.57-96.75) | 86.81 (79.86-93.76) | 83.42 (78.17-88.67) |
| Yes | 13.38 (10.14-16.61) | 10.93 (7.98-13.88) | | 14.62 (8.55-20.69) | 11.46 (6.94-15.98) | 12.99 (9.92-16.06) | 3.13 (-1.14-7.40) | 23.50 ^(b,e) (13.36-26.64) | 2.01 (0.06-3.96) | 6.84 (3.25-10.43) | 13.19 ^(b) (6.24-20.14) | 16.58 ^(b,e) (11.33-21.83) |
| Sig. | x ² (1)=1.204; p=.273 | | | x ² (3)=6.015; p=.111 | | | x ² (4)=49.902; p<.001 | | | | | |

improve health, there are significant differences in that women have greater preference for the benefits associated with physical activity. By age group, we can see that health maintenance and/or improvement and the benefits associated with physical activity account for significantly higher percentages among older participants (30–64 years and +65 years) compared to younger participants (12–17 years), whose main purpose is entertainment and leisure (60.77%). Regarding nationality, we found that maintaining and/or improving health is the most common reason in all countries, and there are no significant differences between them. On the other hand, the benefits of physical activity had a high value among the Spanish (40.70%), but not in Hungarian (26.32%), Cypriot (6.59%), and Irish (21.76%) participants. Fun and entertainment is the main reason in Ireland (58.03%) and Italy (52.46%). The Hungarian and Irish participants highlight the value of meeting friends during regular exercise. Finally, the values instilled by the practice of physical activity are not important for countries such as Spain (2.01%) and Hungary (6.84), but more value is given to this reason in Italy (23.50%).

The results shown in Table 5 indicate a significant relationship between the fitness level of participants in European Sports Day and their age [$\chi^2(12) = 71.672, p < .001, 95\% \text{ CI}$]. As the age of participants increases, the percentage of subjects who perceive their fitness level as excellent decreases. We found significant differences in the participants' perceived level of fitness by nationality [$\chi^2(16) = 49.240, p < .001, 95\% \text{ CI}$]. Perceived fitness level was higher, considered "very good" or "excellent," in Hungary and Cyprus (31% and 34%, respectively). In contrast, 23.08% of the participants in Italy reported having a "low fitness level," while a higher percentage of the Spanish participants perceived their physical fitness level as "good" (67.68%). On the other hand, there were no differences in physical fitness level by gender [$\chi^2(4) = 3.405, p = .500, 95\% \text{ CI}$].

Discussion and Conclusions

The analysis of the effects of socio-demographic variables (gender, age, and nationality), on the physical habits of these participants can help public authorities to promote strategies and policies that will increase the practice of physical activities and health-oriented sports in all sectors of the population.

Gender

After analyzing the results, we found no differences by gender among the participants. This finding contrasts with a number of different studies (Berger *et al.*, 2008; European Commission, 2010; Farrell & Shields, 2002; Humphreys & Ruseski, 2006, 2007; Lera-López & Rapún-Gárate, 2005; Seabra *et al.*, 2007; Taks & Scheerder, 2006), which pointed to increased interest among men engaged in any physical activity. Another remarkable finding relates to the lack of influence of gender on frequency of physical activity and sports practice, place of practice, and perceived level of fitness. This may be because the participants in these events have very similar profiles (94.5% usually performed physical activity regularly or occasionally) regardless of gender, unlike the samples in the above-mentioned studies. Furthermore, these results may strengthen the claim of other authors (Baker *et al.*, 2010) that the increase in female participation in physical activity in recent years has reached the same level as that of men.

With regard to the reasons for physical activity practice in men and women, health maintenance and/or improvement prevails, followed by fun and entertainment; there are no differences by gender in terms of the main motivations for physical activity practice, a finding that is inconsistent with other studies (Allender, Cowburn, & Foster, 2006; Rodríguez-Romo *et al.*,

Table 5. Relation between the fitness level and age and nationality.

| Fitness Level | Age groups | | | | Nationality | | | | |
|---------------|---|-------------------------------------|---------------------------------------|----------------------------------|---------------------------------------|---|---------------------------------------|--------------------------------------|------------------------------------|
| | Children ^(a) (n=130) | Young ^(b) (n=191) | Adult ^(c) (n=462) | Elderly ^(d) (n=64) | Italy ^(a) (n=183) | Spain ^(b) (n=199) | Hungary ^(c) (n=190) | Cyprus ^(d) (n=91) | Ireland ^(e) (n=193) |
| | % (IC=95%) | % (IC=95%) | % (IC=95%) | % (IC=95%) | % (IC=95%) | % (IC=95%) | % (IC=95%) | % (IC=95%) | % (IC=95%) |
| Very bad | 1.54 (-0.58-3.66) | 4.76 (1.74-7.78) | 2.85 (1.33-4.37) | 1.56 (-1.48-4.60) | 3.85 (1.06-6.64) | 0.51 (-0.48-1.50) | 1.09 (-0.39-2.57) | 4.4 (0.19-8.61) | 5.76 ^(b) (2.47-9.05) |
| Bad | 6.92 (2.56-11.28) | 11.64 (7.09-16.19) | 19.52 ^(a) (15.91-23.13) | 15.63 (6.73-24.53) | 23.08 ^(b) (16.97-29.18) | 9.6 (5.51-13.69) | 16.3 (11.05-21.55) | 12.09 (5.39-18.79) | 15.71 (10.58-20.84) |
| Good | 42.31 (33.82-50.80) | 56.61 (49.58-63.64) | 60.96 ^(a) (56.51-65.41) | 60.94 (48.99-72.89) | 54.95 (47.74-62.16) | 67.68 ^(c,d) (61.18-74.18) | 51.63 (44.52-58.74) | 49.45 (39.18-59.72) | 56.02 (49.02-63.02) |
| Very Good | 35.38 ^(b,c) (27.16-43.60) | 17.46 (12.08-22.84) | 12.5 (9.48-15.52) | 20.31 (10.45-30.17) | 12.09 (7.37-16.81) | 17.68 (12.38-22.98) | 25.00 ^(a) (18.84-31.16) | 19.78 (11.60-27.96) | 15.18 (10.12-20.24) |
| Excellent | 13.85 ^(c,d) (7.91-19.79) | 9.52 ^(c) (5.36-13.68) | 4.17 (2.35-5.99) | 1.56 (-1.47-4.60) | 6.04 (2.59-9.49) | 4.55 (1.65-7.45) | 5.98 (2.61-9.35) | 14.29 ^(b) (7.10-21.48) | 7.33 (3.65-11.01) |
| | $\chi^2(12)=71.672; p < .001$ | | | | $\chi^2(16)=49.240; p < .001$ | | | | |

2009). This may be due to the possibility offered to participants to choose more than one motivation for physical and sports practice; in previous studies of a similar nature, participants could only select one option (Rodríguez-Romo *et al.*, 2009), where fun and leisure emerged as the favorite reason among men and health maintenance among women.

Age

According to the relationship between age group and frequency of physical activity and sports practice, we found a decrease in frequency of physical activity related to age, in agreement with other investigations (Downward & Riordan, 2007; Hovemann & Wicker, 2009). However, this fact is true only up to the age of 64 years, since the older group (+65 years) presents physical activity levels similar to or even higher than that of younger age groups. This trend, which is similar to that in other studies, is mainly due to an increase in physical activities with a low fitness requirement (walking daily) to obtain health benefits and as a result of increased leisure time (European Commission, 2010).

On the other hand, with increasing age there is a greater preference for public parks and nature as places in which to perform regular exercise, due to the tranquility and comfort that they offer and the kind of activity that the older group prefers. By contrast, the younger group chooses public sports centers where there are facilities for the development of their activities, seeking greater socialization and personal contact. These observations are shared by other studies (European Commission, 2010). The motivation for performing exercise frequently allows a relation between these motivations and the places of practice, since the main reason expressed by the youngest participants (12–17 years) at this sporting event was ‘fun and entertainment’ which contrasts with health maintenance and/or improvement among older age groups.

In addition, younger people afford greater value to the opportunity to meet friends during physical activity, which supports the difference in the preferred place of practice. We observed similar trends in most of the studies reviewed (Allender *et al.*, 2006; Hardy & Grogan, 2009; Raviv & Netz, 2007; Rodríguez-Romo *et al.*, 2009). Finally, there is a decrease in perceived level of fitness with increasing age; nevertheless, the percentages of participants who reported a low or very low fitness level are lower in older age groups (30–64 years and +65 years), which reinforces the tendency toward having an active profile among the participants in these events.

Nationality

From the perspective of nationality, this study allows to obtain a specific profile of the participants at this European sport event from each country. However, the sample of European countries that participated in this study is limited to the five countries which participated in the project Euro Sport Health, promoted by The European Commission, and the test results

should be interpreted with caution. Irish participants had an increased frequency of weekly exercise performance, coinciding with other studies (European Commission, 2010; Fridberg, 2010; Martínez-González *et al.*, 2001), which considered North and Northwest Europe as the most active and South Europe as having a lower frequency of physical activity practice. However, the percentages of participants who reported that they “never” practice physical activity are very low in all the countries in this study, reaching the same level as the population of Scandinavian countries (Sweden, Norway, and Finland), which may indicate an active participant profile of people who attend these events.

A previous study by the European Commission (2010) revealed that parks and nature are the preferred place to play sports in most European Union countries. In the present study, we observed the same trend except for in Hungary, where public facilities (sports centers) are the most popular choice, as opposed to the European Commission Study, in which this option represents a minority.

With regard to perceived level of fitness, the results show that in all the countries analyzed, the majority of the sample acknowledged having a good level of fitness, which strengthens the profile of eminently active participants in these events. However, this assertion is contrary with the opinion of the general European population, as noted in other studies (European Commission, 2010; Martínez-González *et al.*, 2001).

Health maintenance and/or improvement are the main reasons for sports practice in all the countries analyzed, which is consistent with similar studies (Cavill *et al.*, 2006; European Commission, 2010). However, most of the participants in any of the countries studied do not consider the values that sport provides to be important. This leads us to identify in which aspects the European policies on sports should focus, besides the obvious improvement in health that they promote, due to sports are powerful vehicle to transmit positive values to society. Thus sports should be used as an instrument of socialization toward the vision of a more cohesive and supportive European society (European Commission, 2010).

Definitively, participants in sporting events popular in Europe generally have a good level of physical fitness. Gender is not a differentiating factor on the variables studied, unlike the age and nationality of the participants. Young people practice sports more often and prefer public and private centers as places of physical activity, with fun, entertainment, and meeting friends as their main motivations. With increasing age, the frequency of practice decreases, and people increasingly prefer to take regular exercise in parks and nature, with health maintenance and/or improvement as their main motivation. By country, the most remarkable difference is in the place of exercise, with the populations of Ireland and Hungary preferring public centers, and the populations of Spain, Italy, and Cyprus choosing parks and the countryside.

Research limitations

The main limitations of this study lie in the small number of independent variables analyzed. In future research, more studies

could assess the influence of other variables such as the economic status of participants or the type of culture according to the country examined. A second limitation was the relatively small number of countries that participated in the study. In the future, it would be interesting to extend the sample to all European countries and other continents to check the evolution of previous research results that have been cited in the present study.

Practical implications

This study will assist governments of the countries studied to know better the preferences of citizens with the aim of designing sporting events adapted to their characteristics. This information could increase participation in sports-oriented health activities which reduces the risk of being sedentary and increases the possibility of creating an active lifestyle in many countries. Moreover, the research provides the information sought by the authors who analyze the most important factors in sport according to participation. Comparisons between countries and the influence of gender and age on the physical habits of participants provide additional information to the theoretical framework of this problem. Finally, the information provided by this research as a part of the Euro Sport Health Project would be used in future documents and lifestyle guides produced by the European Commission.

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