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# **Sports participation in France and Spain: an international comparison of voraciousness for sport**

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**Abstract:** The societal comparative approach used in this article to assess voraciousness for sport is based on local surveys. The global was studied at a local level, based on a lengthy process of harmonization of quantitative local surveys. The research is carried out in two countries that are geographically close, but quite different to each other: France and Spain. In an increasingly globalized world, the objective is to examine differences in the social uses of physical activities and sports (PAS) between the two populations, by explaining them with respect to the differences between these two societies as a whole. The social differentiations identified in the portfolio sizes of PAS in France and Spain show more a dynamic of glocalization than globalization.

**Keywords:** sport voraciousness, social use, cross-national study, France, Spain

## **Sports participation in France and Spain: an international comparison of voraciousness for sport**

Since the 1980's, sport is seen as a major social phenomenon and an important component of people's lifestyles. More precisely, taste for sport and physical activities (PAS) is even described by Bourdieu (1984) as vehicle for distinctive cultural consumption patterns, that is as a metaphorical expression of the differences between different categories of population (mainly social ones). But recent works also assert that "trends towards globalization of the economy and, in part, of culture, have particularly affected sport, which seems to be at the forefront of globalization" (Ohl and Taks 2008: 28-29). Thus, one of the best illustrations of globalization would be the diffusion of cultural activities, and first and foremost participation in physical activities and sport (Van Bottenburg & al., 2005; Manzenreiter, 2013, Statistic Canada, 2013; Woods, 2008; Ohl & Taks, 2008), especially if we take into account what they represent in terms of consumption of goods and services, practice or entertainment. Sport, as an economic sector, has largely become a commodity. Thus, as demonstrated by Aubeil and Lefèvre (2015) in France and Llopis-Goig, Vilanova and Sanchez (2017) in Spain, this commodification of sport in the 1980s was probably a more important vector than public policies in the diffusion of PAS. For Dupriez (2001)<sup>1</sup>, globalisation must first and foremost be understood as a phenomenon of international convergences. For Maguire (2006), it is a strengthening of the networks of political, economic, cultural and social interdependence that bind individuals to each other. So the thesis of cultural globalization have to be comprehend first and foremost as a phenomenon of internationalisation of exchanges of cultural goods and services. Thus, the wide dissemination of PAS would transform practices by standardising them and "naturally" homogenising the daily life of a growing part of humanity (Dupriez, 2001). Thus, the scope and

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<sup>1</sup> Dupriez (2001) refers to a system of trade that goes beyond the sphere of material goods and therefore simple trade. Today they "concern capital, services, people, images, ideas, information and knowledge; they also go beyond geographical proximity and relationships are intercontinental" (p. 54).

extent of the globalization of sport has been confirmed by numerous studies (Guttman, 1994; Maguire, 1999; Maguire & al., 2002; Van Bottenburg, 2001, 2003). It is therefore as if socio-economic realities of the different countries had ceased to determine or influence participation in a variety of activities, like sport. This hypothesis of a single worldwide space of tastes for PAS means that differences between national or social groups activities are totally transformed or even wiped out. Consequently, it is easy to imagine that the social readability of tastes (notably in PAS) would become more difficult, or impossible; these tastes being “dissocialized”. To address this question of homogenization of taste for physical and sport activities, we have to build a work in two dimensions.

First, a societal comparative approach (Maurice 1989) seems to be a pertinent to address the question of standardization of taste for PAS. That why we propose a comparison of physical and sport participation in the cultural landscape of France and Spain, two European countries. Indeed, “research on globalisation highlights a number of contradictions that make sports-related products both highly globalised and strongly linked to local contexts” (Ohl and Taks, 2008: 29). In sport, as in other forms of cultural consumption, global and local are not mutually exclusive. In this sense, the comparative societal approach proposed by Maurice (1989) is interesting because it invites us to take more into account the specificities of the countries studied in order to better consider what the global does locally, and vice versa - i.e. how the two dimensions feed and transform each other. In other words, the societal approach seems to us to be consistent in studying PAS in a context of "glocalization" (Roberston, 1994). Indeed, in sport, as in other forms of cultural consumption, the global and the local are not mutually exclusive. It then becomes possible to take into account the two processes of "decreasing contrasts and increasing diversity" (Maguire, 2006: 45).

The second dimension is to observe sport participation with a sociological perspective. We have chosen to continue the work undertaken by various researchers as part of the renewal of Bourdieu's cultural approach. At a time when differences in age, gender, profession, level of

education or income would have lost a significant part of their explanatory power, it might be tempting to interpret these developments as an invalidation of Bourdieu's sociology of tastes, and to conclude that there is a massive standardisation of lifestyles and cultural consumption that put an end of any process of differentiation or social and cultural distinction (whether between nations or between the different categories of population of the nations). It seems to us that we must be more measured and consider, as others have done before us, discussing Bourdieu's proposals without seeking to invalidate them completely and systematically. Some academics show that the phenomenon of differentiation and distinction haven't completely disappeared but they "metamorphosed" (Coulangeon, 2011). More generally, many studies now support the idea that it is through the adoption of gustatory dissonances, the degree and nature of a form of omnivorousness (Peterson & Simkus, 1992) that individuals differentiate themselves and, consequently, position themselves socially. This perspective is particularly present with regard to musical tastes (Peterson & Simkus, 1992; Peterson & Kern, 1996; Bryson, 1997; Coulangeon & Lemel, 2007) or even on leisure activities (Lopez Sintas & Garcia Alvarez, 2002; Holbrook et al., 2002) and in eating habits (Warde et al. 1999). But in the end, there is little work on PAS (Gemar & al., 2018). Recent developments highlight that cultural engagement is a marker of the social status of individuals (Peterson and Simkus, 1992). They also note that the basis for differentiation between populations is nowadays less systematically. It is not so much a question of whether or not they participate in certain cultural activities, but rather whether they engage in a greater or lesser variety of activities. As early as 1988, Bourdieu noted a correlation between position in the social space and interest in vast and varied subjects. It is important to note, however, that more than the distinction (supported by an "epistemic of social and cultural inequalities"), it seems useful to broaden the approach and favour an entry through differentiation (Glévarec, 2013). Indeed, this makes it possible to switch to an "epistemic of cultural diversity" (Glévarec and Pinet, 2013) based on the acceptance of a heterogeneity of orders of legitimacy. According to Warde et al. (2007), the reference here to the

cultural omnivore would be an explanation of our contemporary cultural engagement. Deepening this path, Katz-Gero and Sullivan (2010) highlight that what characterizes these categories of population is their voraciousness, i.e. not only their ability to be omnivorous, but also to be so sometimes in a totally transitive way seeking to live a maximum of cultural experiences. There would therefore be several forms of omnivorousness, as Warde et al. (2007) had already pointed out.

This article therefore questions both the reality of the homogenization of sports tastes from one nation to another and from one social category to another, because the stakes of globalization and individualization seem inseparable. Our objective is to question the persistence of these cultural contrasts in a context of globalization that favours the spread of sport. The aim is to observe the differentiated forms of sports participation between two European countries that are a priori close, but also very distant because of their social, political and institutional history. A double question emerges: are we witnessing a homogenization of sporting tastes that would annihilate both national and socio-demographic differences in terms of sporting participation? Or, conversely, are there still differences between individuals and of what nature and degree are they? In other words, our project is to assess the differences that may exist between two nations (France and Spain) in terms of sports participation, but also what differences persist between these two nations despite a general context of cultural globalization? Beyond the common point and difference between these two nations, there is also the question of intra-national differences between nations. Indeed, a local culture can give meaning to a global trend. Thus, individuals are likely to reinterpret cultural productions and sporting experiences in a unique way - the local and the global interact (Howell, et al. 2006), and they do so in a potentially differentiated way between nations.

Thus, in the following section we will review the advantages and limitations of the comparative approach, particularly at international level, so as to better understand the engagement and

participation of populations in sport. This first section will also be an opportunity to explore, from a sociological perspective, the question of how to measure sports participation, together with the theoretical and analytical tools that allow it to be studied in an appropriate manner today. In a section focusing more on methodology, we will then explain how we chose to survey two countries such as France and Spain, with regard not only to the problem proposed but also to the technical constraints imposed by the latter. Finally, we will present the data on which our comparative analyses are based, as well as the raw results on the level of voraciousness and social characteristics of the populations. The final section will offer an interpretation that explain these results with regard to the problem of differentiation (Glévarec, 2013; Glévarec and Pinet, 2013), which is addressed here based on the differences between the populations of two countries in terms of the social uses of voraciousness for sport.

### **For a societal approach of the comparison between countries**

To gain a better understanding the participation in PAS, one method is to vary the contexts in which they are observed. When applying this logic, comparison, particularly on an international scale, is a privileged tool for the analysis of social phenomena. Indeed, as Durkheim points out (1894: 124), “comparative sociology is not a particular branch of sociology; it is sociology itself”. Consequently, “an observation made repeatedly [or in several places<sup>1</sup>] gives more credit than a single observation” (Peterson, 2005: 257).

To our knowledge, few comparative studies, particularly on an international scale, have adopted this type of approach in the field of sport. Rodgers (1977) was the first to attempt to compare sports participation rates in Europe, through an analysis of seven countries. Drawing on Rodgers’ work, a number of authors have attempted to compare other countries, including in Europe (Cushman et al., 2005; Kamphorst and Roberts, 1989). All these studies highlight the different theoretical and methodological problems that researchers have to deal with when attempting to make transnational comparisons, especially if the surveys available are not sufficiently similar. Several

attempts have since been made to harmonize the data collection process, in particular by the European Commission (2004, 2007, 2010, 2014, 2017) when gathering different sports participation statistics for the Eurobarometers<sup>2</sup>. This approach is geared specifically towards limiting incomparability, by relying on a single questionnaire that is common to all participating European countries. Numerous academic studies have followed this approach (e.g., Hartmann-Tews, 2006; Hoekman et al., 2011; Scheerder et al., 2011; Van Bottenburg et al., 2005; Van Tuyckom, 2011a; 2011b; Van Tuyckom, Scheerder and Bracke, 2010; Van Tuyckom and Scheerder, 2010a; 2010b). Maurice (1989) describes this type of comparative approach as “functionalist” because they tend to subject all nations to the same global measurement at a local scale. If this type of approach seems to be an ideal one, it leads to a gross homogenization of the local (national) social dimension. By proceeding in this way, analyses run the risk of constructing the topic of study in a manner that takes no account of history (Passeron, 2006), by neglecting to consider the meaning of terms used in different cultural and historical contexts (universalist trap and semantic equivalence) (Van Tuyckom, Bracke & Scheerder, 2011). Indeed, by definition, these transnational surveys do not take into account the local context. These global surveys use the same measures for disparate cultural realities. In other words, the “decryption codes” (Defrance, 1987) potentially differ from country to country. Moreover, we can even argue that globalization is becoming a reality because of (or because of) this type of global tools that level local differences. Thus, Eurobarometers on sport and physical activity, like all functionalist (or “cross-national”) approaches, inevitably lead to the application of an external and universalist model based on the principle of rationality. This makes it possible “to highlight differences in “scores” from one country to another on dimensions and indicators whose continuity is assumed” (Maurice, 1989, p.184).

Another way to compare identified by Maurice (1989) is the culturalist approach. However, as the proponents of a more culturalist (or “cross-cultural”) stance have long assumed, an analysis that takes into account national cultural specificities that ultimately limit the ability to generalize



makes comparison more difficult. Therefore, the pragmatic question of how to actually implement international comparisons still remains. Indeed, “how to safeguard the social identity of the actors (or objects of analysis) that the formal or general requirements of any theory always threaten to distort?” (Maurice, 1989). How can the international comparison process be applied while preserving the cultural nuances and specificities of the countries being compared?

Trying to overcome this problem, Maurice (1989) proposes a third way, that of a more "societal" (international) approach. As an intermediate method between the functionalist and culturalist approaches, the societal approach is both more modest and more ambitious than each of these two approaches taken separately. It is more modest because it proposes, first of all, that countries be compared two by two using a semi-inductive approach and a dedicated theoretical framework that is specific to the comparison (rather than a comparison on a continental or global scale), while also being more ambitious thanks to the construction of more current and refined indicators that take into account the nuances of the social aspects we want to compare.

This third way requires the sporting phenomenon to be understood in a less globalizing way, considering not only cultural specificities but also the existence of gaps between segments of the population that are very sporty and others that are particularly distant from PAS, i.e., those segments that are also the most discriminated against and disadvantaged (women, seniors, working classes, etc.). For this to be possible, it is necessary to have surveys that focus more closely on the PAS practiced by individuals, even episodically, as specified by Sullivan and Katz-Gerro (2007). Indeed, and we will come back to this point shortly, defining the social uses of culture (in our case of sport), requires us to first consider the gross volume of activity invested because there are both social and cultural barriers to not only practising, but also to practising several (or even more and more) PAS. Beyond the work carried out within the scope of the various Eurobarometers, there is apparent value in using certain surveys carried out on PAS by national authorities. For this particular contribution,

the comparison will be between two western countries: France and Spain (we will discuss this choice later).

### **Analyse sport participation as a cultural consumption**

As Lefèvre and Ohl (2007: 82) point out, in the field of sociology of sport, “the hypothesis of a stylistic coherence in the choice of cultural practices has guided many research works”. Asked as coherent elements of lifestyles (Bourdieu, 1984), the question of the social uses of sport and their link with specific social groups continues to be debated. Indeed, it continuously pose the challenge of the relevance of the intelligibility schemes (Berthelot, 2001) used to describe and attempt to explain reality. More specifically, in cultural approaches to sports participation, Pierre Bourdieu's work always serves as the cornerstone of many contemporary approaches.

Synthetically, Bourdieu (1984, 1987) suggests that lifestyle is an expression of a class position identifiable through the volume and combination of different types of capital (economic, cultural, social and symbolic). Thus, these capitals, and more specifically cultural one, are used by individuals to structurally (but also symbolically) strengthen their social position. In this configuration, cultural practices (objectified cultural capital) are for individuals from "privileged" social classes a way of making explicit the implicit, i.e. their cultural knowledge (incarnated cultural capital). Accordingly, “styles of consumption are means not just of deploying economic resources but also especially of exhibiting 'cultural capital'” (Warde et al., 1999: 105). For Bourdieu, lifestyles therefore play an essential role in legitimizing the social order. If social practices are hierarchized and these hierarchies reflect social hierarchies, lifestyles become powerful vectors of differentiation and legitimization. In this dynamic, individuals from different social classes use their cultural tastes and practices to distinguish themselves from each other (Bourdieu and De Saint Martin, 1976).

In the line with Bourdieu's pioneering work our contribution aims to bring to current thinking on what Friedman, Savage, Hanguinet and Miles (2015) simply calls "the new forms of distinction".

This renewal is built around the concept of omnivorousness initially proposed and defined by Peterson (1992). The concept of omnivorousness is theoretically based on how cultural capital tends to produce a potentially wide range of different tastes. Through this concept, Peterson (1992) propose to discuss and reformulate the link between cultural capital and the borders that build the social structure. In this perspective, many studies highlight that the dynamics of differentiation, even more the distinctive logics, that have so far been attributed to the upper social classes - and consisting of a kind of univocal cultural snobbery (preference for a rather limited range of highbrow cultural tastes) - have been transformed into more omnivores, i.e. consisting in developing preferences for a relatively wide range of cultural tastes and, moreover, tastes that can be highbrow, middlebrow, or lowbrow.

From this initial point of view, the omnivorousness thesis renews the initial formulations of Bourdieu's social stratification process. Indeed, in a more globalized world, consumption patterns tend to become more individualized (Giddens, 1991; Lahire, 2004). If people are compelled to use their consumption to signify who they are to other people, "identifying an appropriate and effective means to achieve this becomes increasingly difficult" (Warde et al., 1999: 106). Forms of cultural consumption have thus multiplied and some of them have tended to become more widespread, thus gradually diluting their distinctive potential. Under these conditions, the omnivore was once thought of as a worthy replacement for the snob and as the new legitimate holder of power. This would give him his position of dominance, even if it means sometimes having dissonant cultural consumptions (Lahire, 2004). Nevertheless, the omnivore/univore opposition has shown its limits, underlined by Peterson himself from 2005 onwards, since he has been able to observe a decline in the phenomenon since 1992. In other words, the omnivore, as a new representation of consumption in higher categories, would have to be questioned. There would therefore be no form of omnivorousness characteristic of the distinctive consumptions of the higher categories, but varied forms of omnivorities characteristic of consumption differentiated in different categories of population

(whether social class, age group or gender). Based on the idea of accepting a heterogeneity of orders of legitimacy (Glévarec and Pinet, 2013), we could come to believe that the distinction (in the sense of a model of differentiation and legitimization of consumption by the upper social classes) is disappearing in favour of a variety of differentiation models for a variety of population categories (whether they are social categories, age categories or gender...). Thus, social differentiation (and not only distinction) and cultural omnivorousness are two concepts that help to understand the distribution of cultural practices. Omnivorousness is itself a form of exclusion and therefore differentiation between individuals and/or population. It amounts to “cultural symbolism, perhaps exhibiting a qualified cultural tolerance but with a significant, if residual, class basis” (Warde et al., 2008: 107). In this context, omnivorousness becomes the tool that directly, but selectively, reinforces inequalities between population groups and thus the models of differentiation between them.

In addition, it should be noted that, in line with Bourdieu's original work (1984), research analysing the social foundations of omnivorousness (and the logic of distinction that could be associated to) demonstrates the strong correlation between social class and cultural consumption patterns. Recent research also argues that the links between individuals and cultural consumption have become more complex. They now go beyond class membership (see Bihagen and Katz-Gerro, 2000; Katz-Gerro, 2002, 2004, 2006). Thus, they highlight that the omnivore is generally younger and has a higher education diploma. These remarks are in line with the transformations identified elsewhere regarding the "permanence" of the model of Distinction. They also confirm the interest of apprehending the object in terms of the logic of differentiation; this makes it possible to accept *de facto* the heterogeneity of orders of legitimacy and therefore of cultural diversity without prejudging that there would be one culture that is more legitimate than another (Glévarec and Pinet, 2013).

More recently, Sullivan and Katz-Gerro (2007) propose to revisit the concept of omnivorousness around the notion of voraciousness. More precisely, they propose to supplement it with “a measure based on both the range and the frequency of cultural participation” (Sullivan and Katz-Gerro, 2007: 124). Focusing on the frequency of participation is one way to focus on how to consume beyond what is consume. Indeed, the concept of voraciousness “does not distinguish between highbrow and lowbrow cultural tastes, but rather reflects a quantitative dimension of leisure consumption” (Katz-Gerro and Sullivan, 2010: 194). In other words, Sullivan and Katz-Gerro (2007) focus on the way individuals consume (voracious) as well as the content of consumption (omnivorous). Finally, they embrace Holt's (1997) recommendations that it is necessary to analyse practices rather than their content. Indeed, as we have mentioned, in the context of globalization and individualization, content has a weaker distinctive power for omnivores. Moreover, as Sullivan and Katz-Gero (2007) point out, analysing practices without necessarily considering their content leads to think about culture in accordance with Bourdieu's proposal, i.e. as embodied in actions.

In a context of stronger individualisation of trajectories (Giddens, 1991; Lahire, 2004), the dynamics of consumption has taken on a more singular character: desires never seem to run out of; individuals become insatiable (Campbell, 1987). Moreover, consumption (notably sports consumption) is now turning towards more hedonic forms (Le Pogam, 1997). Even more so, individuals also tend to invest themselves by anticipating the experiential potential of their consumption (McCracken, 1990). Thus, it is becoming more and more understandable that to achieve satiety, the consumer must not only multiply experiences, but also develop in parallel a form of consumerist zapping. Thus, the voraciousness model of cultural participation proposed by Sullivan and Katz-Gerro (2007) implies not only a broader cultural consumption in terms of content (omnivorousness), but also and above all a higher volume of consumption, i.e. a higher size of cultural consumption portfolio (Coulangeon, 2011).

It should be recalled that when Sullivan and Katz-Gerro (2007) analyse the volumes of cultural consumption, they do so on the basis of frequencies, considered as an indicator of the seriousness with which individuals are involved in a large number of activities. If it seems particularly interesting to adopt this quantitative posture to question omnivorousness in one of these particular forms that is voraciousness, it also seems interesting to us to go and observe this voraciousness in these different possible expressions. Indeed, in the case of certain cultural consumptions, particularly sports, it would seem that voraciousness manifests itself through a different form of which the frequency of practice cannot be always a reflection.

In the field of PAS, this aspect appears all the more important as one PAS is not always equal to another. It is not possible to compare the frequencies of practice of all activities in relation to each other because of the different internal logics (Pociello, 1981) of these activities as well as the environments in which they take place. Thus, practicing mountaineering 5 times a year could be considered as an important investment in the activity whereas this will not be the case for football at the same frequency. To overcome this incomparability, it is necessary to use another indicator of investment in PAS that is both broader and still understandable in terms of what it means, socially and culturally speaking, to "play sport". The portfolio size of activities (Coulangeon, 2011), understood as the number of PAS affected during the year, regardless of the level of investment in each of them, can play this role. Indeed, and as Sullivan and Katz-Gero (2007: 134) the analysis of the practice portfolios highlights "a dimension of cultural consumption that is not necessarily about participating seriously in large numbers of activities for long periods of time but about cultural tasting and switching among, or differently combining, those activities". If omnivorousness is not "liking everything indiscriminately", but "an openness to appreciating everything" (Peterson and Kern, 1996: 904), voraciousness "may therefore not be about commitment to many activities" but about "commitment to not leaving many activities untouched or unpracticed" (Sullivan and Katz-Gerro, 2007 : 134).

Our hypothesis is therefore that the voracious type is not only because it consumes a wide range of activity on a regular basis, but also because it consumes a whole series of them in a transitive, almost anecdotal way, particularly at specific periods (for example during its holidays). Consequently, voraciousness can be assessed through the size of the portfolios. This is our definition of voraciousness.

It seems particularly relevant to adopt for this problem at the macrosocial level (objectivist phase of the comparison between two countries) to us to adopt this quantitative posture (Katz Gerro, 2011) which is to the advantage of generalization and even if it has the lack of precision. Indeed, it is a question of not making a judgment on the value of what is consumed. In a way, this is a way for the researcher to protect himself from his own conceptions (which he generally shares with the scientific community) as to the highbrow or lowbrow value of the activities consumed by individuals. We argued here that, beyond the intrinsically distinctive qualities of cultural consumption, some differentiations can be measure with consumption volumes, particularly when it comes to one-off or episodic consumption.

Another advantage of an approach in terms of portfolio size is that it considers all the activities mentioned during interviews (and, therefore, the switching between them). This synthetic indicator reflects a kind of social continuum (beyond classical opposition between non practice and practice, univorism and omnivorism). It maintains a relative approach (Pinto, 2013) which is an important point in the analysis of cultural commitment. It underlines the importance of including many cultural or lifestyle variables in research on socio-economic differentiation, with the quality of the measurement of voraciousness clearly depending on the number of activities considered in building it.

### **The issue of physical and sporting activities**

With respect to France in the 1990s, Pociello (1981), who collaborated with Bourdieu, showed the homology between the sphere of sporting disciplines and the sphere of social status, the

latter again being characterized by economic and social capitals. Muller (2005; 2006) highlighted the link between classical cultural activities, PAS and the high level of voraciousness of the upper classes in France; while in Spain, Ariño and Llopis-Goig (2017) and García-Ferrando and Llopis-Goig (2011) have showed the connection between highbrow tastes and PAS with voraciousness in upper classes, respectively. Thus, as mentioned earlier, the number of activities in people's portfolios may be of greater importance in measuring the social uses of participation in sport today: this is another mechanism for distinction through sport. The high number of activities in people's portfolios is, now more than ever, a major social trend and a source of legitimacy for them (Bennett et al., 2013; Purhonen et al., 2010). In fact, it is sometimes more important than whether particular social classes take part, or not, in a particular PAS. As Mauss (1929: 15) and Bourdieu (1984: 103) point out, individuals interpret and assign meaning to their involvement in activities, particularly when it comes to sport (Defrance, 1987). In this specific category of activities, a high voraciousness is often synonymous with specific lifestyles and holidays, which are the form of leisure time most conducive to discovering new PAS and/or switching between PAS. This particular point has already been highlighted several times in different studies on physical and sporting activities, such as in France (Augustini, Irlinger & Louveau, 1996; Lefèvre and Ohl, 2012) and in Spain (García-Ferrando and Llopis-Goig, 2011). In England, Widdop and Cutts (2013) conducted an interesting investigation on PAS portfolios and showed that PAS portfolios are strongly socially distinctive.

Thus, for a better understanding of the phenomenon of distinction that is at play in the area of PAS, it seems useful to describe not only the levels of voraciousness of individuals but also the social profiles associated with these levels. In order not to address only social stratification, it is necessary to broaden the approach using the notion of differentiation and take into account important factors (especially in the field of sport) such as gender, the forgotten variable of Distinction (De Saint-Martin, 2013). The aim here, therefore, is to determine how a social being can be defined and to investigate the relationships between the level of voraciousness and standard socio-economic,



educational and demographic variables. This means that the portfolio size depends on the standard socio-demographic factors that influence engagement in PAS (Scheerder and Vos, 2011, Hoekman, 2018). Nonetheless, many studies aimed at explaining engagement in sport neglect a potentially fundamental aspect of the phenomenon. Indeed, they offer no concrete measure of the effects of "primary" socialization and reproduction (Bourdieu et al., 1979) on the construction of sporting tastes. If we recognize that "culture includes many genres learned at different times of life" (Erickson 1996:223) and, therefore, that "family is not destiny" (Erickson, 1996: 223), we also feel that it is important to bear in mind that the process of secondary socialization and relationship networks are at least partially influenced by primary socialization. In short, while the effects of primary socialization are less strong today, it also seems to us that they are generally different: in the case of sports, they probably have less of a direct influence on the decision to specifically engage in activities closely related to those of the parents than the tendency to be omnivorous or even voracious. In other terms, and in line with Bourdieu's point of view, it has more of an influence on lifestyle in general. Ultimately, our hypothesis is that the sportiness of parents tends to influence the probability of being voracious. Thus, it seems important to take into account the primary sporting capital of individuals, i.e., family sporting culture (especially that of the father and mother).

Although it is rarely done in national or cross-national studies due to only a small number of activities being taken into account, we will attempt to compare the levels of sports participation of two European countries (France and Spain)<sup>3</sup>, while considering that the portfolio size depends on sociodemographic factors. In this study, the portfolio size therefore allows us to assess to the degree of engagement in PAS and thus to question the distinction models at play in two Western countries with respect to the concept of voraciousness developed by Sullivan and Katz-Gerro (2007). This appropriation is measured based on this voraciousness indicator and the classic explanatory model, with the addition of parental sportiness.

This contribution aims to add empirical evidence to the debate. Moreover, voraciousness being the “offspring” of globalization, it is also useful to question its level of homogeneity at a macrosocial level and thus observe to what extent it has spread and become globalized.

By analysing sports participation in two Western countries (France and Spain), this research seeks to clarify whether, despite the geographical proximity of the two nations, their cultural, economic, demographic, democratic and historical differences have led to the differentiated construction and dissemination of social distinction models through PAS. In other words, are activity portfolio size and level of voraciousness the same and correlated within the same categories of individuals? Insofar as differences exist, we will look at what factors (particularly socio-demographic) tend to explain them.

With regard to the points set out earlier, in the field of sport, it appears that globalisation is not uniform and the influence of social structures has not entirely disappeared. In other words, we are therefore more in a dynamic of glocalization (Robertson, 1994) than globalization, allowing the local to retain part of its influence on individual behaviours. This research examines the PAS participation (level of voraciousness) in the cultural landscape of two European countries: France and Spain. Using a “societal” comparative approach (Maurice, 1989), we assess the differences and similarities between these two countries in terms of differentiated consumption of PAS. More fundamentally, our objective is to re-examine the existence and form of social uses of PAS in both countries; uses that could be a vehicle for a differentiated cultural consumption patterns in a glocalized world.

## **Data and methods**

For our purposes, as mentioned above, it was necessary to have surveys that gathered more precise information on the PAS practiced by individuals (i.e., their portfolio), even if only episodically. As pointed out by Sullivan and Katz-Gerro (2007), cultural tasting and switching among or combining activities is an indicator of voraciousness. So, the portfolio, used as we mentioned is a way to gain

an understanding of their level of voraciousness. While Eurobarometers are of no use here, surveys of PAS participation have been conducted by national authorities in various European countries, notably France and Spain.

The Spanish and French surveys were selected according to their sociological relevance to the subject of study, their comparability and, finally, the significant differences in the countries' cultural contexts. Despite the geographical proximity of these nations, they display significant political (e.g. level of decentralisation), cultural, economic, demographic and historical differences, which contributes to the sociological relevance of the comparison. We used two reliable national surveys produced by the national statistics offices of the two countries (with samples that are both large and representative), both carried out in 2010 over the same period (January to April for France and March to April for Spain). They feature closed-ended questions, 40 common sports or sporting categories, a measure of the sportiness of the parents, as well as access to data, documentation and the researchers. As Van Tuyckom (2011a) rightly points out, sport and its definitions are socially constructed objects whose meaning may differ from one country to another. Having access to all the documentation from both surveys, but also to the researchers involved, enabled us to (re)construct our subject of study in an inductive way around 40 sporting activities or groups of sporting activities common to both countries. This inductive (re)construction of the subject of study, which involved establishing a list of common activities, then led us to question the sportiness of the French and Spanish in a more deductive way with less of a risk relating to equivalence of meaning<sup>4</sup>.

### *Data sources*

The study is based on an analysis of data from two cross-sectional surveys on PAS conducted in France and in Spain<sup>5</sup>. These surveys were carried out in 2010 by the National Institute of Statistics (INSEE & the Ministry of sport) in France and the Centre for Sociological Research (CIS & the High Council of Sports) in Spain on representative samples of the French and Spanish populations aged 14 and over. The French sample size was approximately 8,510 individuals, while the Spanish

sample contained approximately 8,925 individuals. The French survey was a random-digit-dial survey (telephone interviews), while the Spanish survey used face-to-face interviews. Both samples were multi-stage stratified random samples. In both cases, survey reliability was tested: there were no differences in exogenous statistics (such as largest federation membership), and the main results were not affected by the weighting adjustments. Ethics approval for the French survey was obtained (under ref. CNIL/n°1389 376) and the Spanish survey was included in the National Statistical Plan and then brought into compliance with Spanish regulations on statistical confidentiality and personal data protection.

### *Measures*

Given the international dimension of this study, we paid attention to the stability of the indicators used. One way to increase this stability was to aggregate categories where it made sense. After a comparison of the two questionnaires, the variables used and the questions common to the two questionnaires will be presented.

Participants in the two surveys were asked, using open-ended questions, whether they had practiced various sports even occasionally in the 12 months preceding the survey. A total of 40 common sports or sporting categories were identified (table 1). In this article, the level of sports participation is defined by the number of sports practiced out of the 40 sports or categories in the list. This point is fundamental because it constitutes the basis on which the portfolio size is selected. For instance, Widdop and Cutts (2013) use a limited number of activities to perform their latent class analysis (the Taking Part Survey in England). Thus, only 56% of the total volume of reported activities was considered. In addition, 10 activities or clusters were used in the calculations, even though the survey was more precise when 67 activities were taken into account. The approach based on distinction by composition (social colouring of PAS) does not seem to encompass all the activities declared, because PAS consumption follows the "Winner-Takes-All Society" rule (Frank and Cook, 1996), with the higher social categories being represented in most activities.

Various socio-demographic characteristics common to the two groups surveyed were also identified. Eleven socio-demographic variables were identified to describe the respondents' social profile. The first and most specific variable was the country of residence (France or Spain). The age, gender and nationality parameters were also included. Region of residence – the 22 regions of France and the 19 regions of Spain (17 autonomous communities and 2 autonomous cities) – and size of city were the geographical elements considered. Cultural capital was based on the highest diploma obtained (lower than upper secondary, upper secondary and university level). The intermediate classification used to represent both the French diploma classification and the Spanish diploma classification was the UNESCO ISCED classification (Schneider, 2010). Regarding social class, the occupation variable was divided into three hierarchical groups (“upper”, “middle”, “lower”). The Spanish occupation variable based on the CNO94 classification (INE, 1994) was translated into the French occupational classification of the INSEE (Desrosières and Thévenot, 1996) and recoded into the three hierarchical groups (upper, middle, lower). The intermediate classification used was the ISCO-88 (Hoffmann, 2003). More specifically, the “upper” social class included senior executives, highly qualified self-employed professionals and company managers. The “middle” social class included middle managers, small-business owners (less than 10 employees) and other self-employed individuals. Finally, the “lower” social class included blue-collar workers, service personnel, employees and farm workers. Sporting capital was based on the sporting history of the mother and father, which is a fundamental indicator in explaining the potential inheritance of family sporting culture.

This method allowed us to overcome the main pitfalls and difficulties encountered in comparative studies.

### ***Statistical methods***

Based on the answers received regarding the 40 common sports or categories of sports (table 1), a variable termed “portfolio size” (dependent variable) was created by summarizing the sports

declared. This portfolio size is obtained by performing a count. The aim is to explain the number of sports, based on a simple count, according to socio-demographic characteristics (independent variables). It is important to adapt the methods to the problem at hand (Leguina, 2015). That's why we don't use a traditional geometric approaches (Lebaron and Leroux 2015). Here, we use the bootstrap for bivariate analysis and hurdle regression for multivariate analysis.

The bivariate analysis (table 5) is performed to describe links between portfolio sizes and socioeconomic characteristics, and then allow to compare the bivariate results of the two countries. First, the portfolio size mean of each socioeconomic characteristic is calculated. In a relative approach, a ratio on the portfolio size means of extreme categories of each variable is computed (table 6). Finally, to compare France and Spain, the Odds Ratio (French mean ratio divided by the Spanish mean ratio) is calculated for every categorical socio-demographic variable. Concerning the quantitative variable age, correlations are performed and correlation's difference between France and Spain is calculated. Each time, 95% confidence intervals are computed by a R code with bootstrap using the simpleboot package (Canty and Ripley, 2019) package of R software (R Core Team, 2018).

In a regression perspective, the distribution of the dependent variable portfolio size is a positive skewed distribution (overdispersion) with a big proportion of zero values (non practice). In this case, the family of generalized linear models (e.g. linear, poisson or negative binomial regression) are not the most appropriate techniques. The zero-inflated regression model and the negative binomial hurdle regression model are more suitable (Hofstetter et al., 2016 and Zeileis et al., 2008). These two classes model the dependent variable in two parts. The first part is a logistic regression for the zeros values and the second one is a count regression. In our case, the evaluation of goodness of fit - low values of the Akaike information criterion and the Bayesian information criterion are the best - between the different potential models (table 2) shows that the binomial negative hurdle model is suitable. Weighting adjustments were not used in the modelling process.

We used the French database (n=8,510) and the Spanish database (n=8,925), respectively. However, to assess departmental or regional<sup>6</sup> effects for this nested situation, we first performed a multilevel analysis (Finch et al., 2014) with the lme4 package (Bates et al., 2015). After fitting a null-model and calculating the intraclass correlation coefficient (with the QGglmm package) showing very low intraclass correlation coefficients (table 9), we fit classical negative binomial hurdle models (hurdle function of the pscl package, Jackman 2017).

The analysis of deviance table (table 10), which orders the importance of the explanatory variables, is carried out for the zero part and the count part of each binomial negative hurdle model. In each presentation of the deviance table, the Likelihood Ratio (*LR*) Chi-Square is divided by the degree of freedom (df) to have a better understanding of the level of importance of each explanatory variable (McCullagh and Nelder, 1989).

Finally, the Odds Ratios (O.R.) and 95% confidence intervals of the zero part, and Rate Ratios (R.R.) and 95% confidence intervals of the count part are presented (table 11) to reveal the size effect of each category of each explanatory variable.

## **Results**

### ***Spanish and French portfolios***

The Spanish and French datasets are weighted by the offices of national statistics of Spain and France, respectively, and the targets are age vs. gender, habitat size, diploma and region (table 4). The non-participation rate (table 3) of the Spanish population (62%) is significantly higher than the non-participation rate of the French population (27%). Furthermore, the French population is more of a multi-activity population than the Spanish population (table 3). Indeed, 35% of French people practice at least three PAS while only 8% of Spanish people do. Tables 7 and 8 present the top five sports in France and Spain. Due to the great differences in portfolio sizes, the top five activities are less present in the Spanish population aged 15 and over. The Spanish top five and the French one

are characterized by four common PAS: swimming (leisure), cycling (leisure), gym & wellness activities and running. Swimming (leisure) and cycling (leisure) are most often mentioned in France. Gym & wellness and football are most often mentioned in Spain. The Spanish top five is also characterized by the presence of football while the French top five is characterized by the presence of winter sports.

Table 5 shows the mean of the portfolio size with respect to each socioeconomic independent variable (age, sex, labour force status, habitat size, educational level, social level, sporty father, sporty mother and nationality). The mean of the portfolio size is systematically higher (without 0 in the 95%) for each category of each socioeconomic variable for the French population compared to the Spanish one. And for each country (table 6), all the calculated mean ratios are significant (without 1 in the 95% CI) except for the nationality. In both societies, there are systematic socioeconomic differences: being a young male in labour force, living in a big city, with a high level of education, from a high social class and with sporty parents tends to be linked with PAS investment.

In a relative approach, the bivariate results comparing France and Spain reveal that there are significant differences (without 1 in the 95% CI except for age) in terms of age (without 0 in the 95% CI), sex, educational level, labour force status, habitat size and mother and father 'sportiness.

Regarding the relationship between age and mean of the portfolio size, the difference between France and Spain is thin. In Spain, being a male is linked to a higher mean of the portfolio size: the difference between a male and a female on the mean of the portfolio size is higher than in France (O.R. = 0.64). A high level of education (university level) is linked to a higher mean of the portfolio size. The difference between the most educated (university level) and the least-educated (lower than upper secondary) on the mean of the portfolio size is greater in Spain than in France (O.R. = 0.73). Looking at the parents' sportiness, in Spain a mother or fathers' sportiness is linked to a higher mean of the portfolio size : the difference of mean of the portfolio size between people



with sporty parents and people with non-sporty parents is higher than in France (sporty father O.R. = 0.56 and sporty mother O.R. = 0.57). The differences concerning habitat size and labour force status are significant but nuanced by the 95% CI with bounds closed to 1.

These are univariate and bivariate results that need to be discussed from a multivariate perspective.

### ***Regional and departmental effects in Spain and France***

The results of the multilevel analysis using an empty model for each country (table 9) show that geographical effects are negligible in both France and Spain, (maximum explained variance: 1.3%). We don't use the regions variable and department variable in the modelling step.

### ***Socioeconomic effects ceteris paribus: similarities and differences***

The aim of this part is to identify the factors of importance explaining the degree of voraciousness for physical and sporting activities in France and Spain. For the comparison between France and Spain, we keep as explanatory variables age, sex, educational level, habitat size, labour force status, sporty father 'sportiness and mother 'sportiness. We don't take into account the social level variable because of a collinearity with the educational level (problem already highlighted by Bourdieu and Darbel in 1966 concerning regressions in sociology), and because educational level is more stable variable than social level in an international comparison context.

For each regressions, results on two levels are proposed: on the one hand, an analysis of the results of the two analyses deviance tables (zero part and hurdle part) of each negative binomial hurdle model, i.e. for each country the hierarchy of factors influencing the portfolio of practices (it is not possible here to compare France and Spain directly with the LR Chisq/Df of each factor) and, on the other hand, an analysis of the adjusted Odds Ratio (zero part) and adjusted Rate Ratio (hurdle part) for each category.

The zero part (binary logistic regression) shows the probability of observing a positive count, that is to say one PAS and more. Comparing France and Spain in terms of the results presented in the analyses of deviance tables (table 10), age, sex, educational level, nationality, father's sportiness and mother's sportiness have significant effects in the two populations. The first three factors of importance in both countries are age, sex and level of education. For Spain, as previous research has showed (García-Ferrando and Llopis-Goig, 2011), father's sportiness is important, but this is not the case for France. However, there are differences in the order of influence of these factors. While in France age is far more important than other factors, in Spain sex appears to be a major explanatory factor with age. This is not surprising at all since previous research has revealed that differences between men and women in terms of sports participation has ranged between 15 and 18 percentage points over the past thirty years (García-Ferrando and Llopis-Goig, 2011).

The hurdle part (nonzero count) shows the probability of observing an amount of practiced PAS. Comparing France and Spain in terms of the results presented in the analyses of deviance tables (table 10), the significant factors for the hurdle part are the same comparing to the zero part, except a significant effect in Spain for the employment situation. For France, the hierarchy of factors is mainly the same. Nevertheless, for Spain the addition of fathers' sportiness and mothers' sportiness shows an important effect and the nationality effect reaches the same level of importance. We can notice that age and sex have the same major effect in Spain in this part of the regression.

More precisely, we can compare the confidence intervals of the adjusted odds ratio and adjusted rate ratio (table 11) of the two negative binomial hurdle models.

For the zero part, the significant socioeconomic characteristics effects are the same and have the same meaning. Being young, male, with an exclusive nationality, with an upper secondary or university educational level, and with a positive parental sportiness have positive effects. But significant differences appear between the French and Spanish zero-part models. Being male has a higher positive effect in Spain (O.R.(95% CI) = 2.21 [ 2.01 ; 2.44 ] ) than in France (O.R.(95% CI)

= 1.72 [ 1.55 ; 1.92 ] ). Regarding father's sportiness, it has a higher positive effect in Spain (O.R.(95% CI) = 1.83 [ 1.62 ; 2.08 ] ) than in France (O.R.(95% CI) = 1.31 [ 1.17 ; 1.48 ] ). Concerning the hurdle part, the results are the same except a significant positive effect of being employed. And the only difference between France and Spain is being a male, with a higher effect in Spain (R.R. (95% CI) = 1.57 [ 1.44 ; 1.72 ] ) than in France (R.R. = 1.27 [ 1.21 ; 1.32 ] ). Globally, we can highlight that in the regression concerning France and the one concerning Spain, educational level effects are systematically high. In the zero part, in France the OR of the upper secondary level is at 1.61 and the OR of the university level OR is at 2.29. And in the zero part, in Spain the OR of the upper secondary level is at 1.59 and for the university level the OR is at 2.18.

In the hurdle part, in France the RR of the upper secondary level is at 1.22 and the RR of the university level is at 1.37. And in the hurdle part in Spain, the RR of the upper secondary level is at 1.32 and the RR of the university level is at 1.34.

The portfolio sizes are higher in the French population than in the Spanish one and this at each socioeconomic level. At a descriptive level, the social profiles of different portfolio sizes are the same in France and Spain. But social barriers are partly higher in Spain. However, we can state that the effects of the main individual (and not territorial) socioeconomic factors are similar in the two countries to explain portfolio sizes. Only few socioeconomic factors are more specific to a country and there is less continuity in the effects identified in the Spanish hurdle model.

### **Discussion and conclusion**

The purpose of this contribution is to develop a comparative societal approach (Maurice, 1989) of the social uses of sport and to contribute to the debates on the "new" forms of the distinction (understood as meaning differentiation). In two neighbouring but contrasting European countries (France and Spain), we compare the effects of socioeconomic characteristics on involvement in sport and more precisely on the size of the portfolio of activities (40 common PAS or groups of PAS

in each country). This kind of voraciousness attempts to overcome the often-presented opposition between univorism and omnivorism (Coulangeon, 2003; Robette and Roueff, 2014) and allows us to understand the accumulation of practices in the form of a social continuum which allows precise relative approach (Pinto, 2013). Cultural globalization, a consequence of the commodification of culture (particularly in the late 1970s and early 1980s for sport), would lead to a homogenisation of practices. This homogenisation would be the consequence of a decrease in the influence of social structures and an increase in individualism (Lahire, 2004). This affirmation of the lesser influence of social determinants is all the more interesting to discuss in the field of sport, since the dominant discourse is marked by a tendency to deny the social characteristic of the socio-sport field, which advocates egalitarianism (Elias and Dunning, 1994) and of which the Olympic Charter is a good example. Our hypothesis is that, at a macrosocial level, the social is strongly influential, despite the interpretations presented in some transnational surveys. As social contexts are different, the diffusion of PAS is different, social determinants are always at work, and their levels of influence vary according to the context.

Thus, as other comparisons shown – for instance between Spain and England, taking into account 16 to 74-year-olds (Kokolakakis et al., 2012) – and globally in Eurobarometer's PAS data, the proportion of the population that take part in sport is smaller in Spain than in France. Similarly, the size of the portfolio of activities is larger in France. But the Sport Eurobarometer tends to homogenise the situation. Indeed, in 2009, it shows only 8 points of differences in practice rates (66% in France and 58% in Spain), which is a small difference (each sample with only 1,000 units). Nevertheless, globalization is not uniform (Robertson, 1994). In contrast, the comparison of the two national surveys states that the size of the portfolio of activities is much larger in France. We expect this lower level of sports participation in Spain, given the country's relatively more late modernization in economic, political and cultural terms, due to historical reasons (Nadal, 1977; Alonso and Conde, 1994). Indeed, Spain only recently adopted a democratic system (after Franco's

dictatorship) and is now a less economically developed country (having been slowed down by the economic crisis, Bettio et al., 2012) with less of a tradition of sport (particularly in education, Ayme et al., 2009). In contrast, during the Franco dictatorship in France from the 1960s onwards, policies were put in place to develop sport for the population (Clastres and Dietschy, 2006). There seems to be a North/South divide between France and Spain to the extent that France is generally considered to be more social democratic and Spain more conservative (Saint-Arnaud and Bernard, 2003). This difference between France and Spain appears to be equally consistent with the hypothesis developed by Hartmann-Tews (2006), whereby the differences in the sports participation rates of European countries could also be explained by the length of time they have been in the EU. Indeed, in Spain, the most significant increase in the rate of sports participation can be observed between 1980 and 1985 (figure 2). This coincided with the second wave of accession to the EU, which the country joined in 1977, just after the death of Franco (its entry was completed in 1986). During this period, Spain embarked on important structural reforms, leading in particular to a broad liberalization of its economy, in line with the requirements set by Brussels. Thus, we could state that the democratization of the Spanish political system and the liberalization of its economy have led to an increase in spending power (De la Escorusa, 2017) and changed the population's living standards (and therefore lifestyles), thus promoting greater involvement in sport. However, since this process is more recent in Spain than in France, it can be assumed that its impact on the level of sports participation is less pronounced. It should also be noted that the cultural omnivorousness of the Spanish population has also historically suffered from socio-political obstacles (Fishman and Lizardo, 2013). Figures 1 and 2 show that the phenomenon of massive sports participation in the late 1970s and early 1980s is much higher in France. Moreover, Van Tuyckom (2011a) has shown the influence of the country's economic development on the sportiness of the population in Europe. This difference in development could mean that the development of the middle classes, which are more educated and sportier, has historically been less important in Spain, which mechanically

reduces the sport participation rate (Domínguez, 2011: 60). This also has an influence on the sportiness of their offspring, as will be described later with the influence of the parents' sportiness. School inequalities are particularly high in Spain than in France (especially for those who have not been to school or very few, ISCED level 0-2) and the socio-professional structure is not the same (Brousse, 2017).

Meanwhile, territorial effects (regions and departments) are small in both countries, and there are no significant differences between the countries. However, Spain is a more decentralized nation than France, with autonomous regions and contrasting cultures. The Spanish Constitution of 1978 divided the country into 17 regions (officially termed Autonomous Communities) and two autonomous cities (Ceuta and Melilla) as a way of resolving the territorial conflicts that the State had historically faced (Moreno, 2008). In the subsequent years, these regions developed legal authority enabling them to implement sports policies and promote sport in their respective territories. The sporting domain was therefore also decentralized in terms of its administration. In addition, the Spanish regions differ considerably with regard to their sporting culture, especially those that developed later (Llopis-Goig, 2016). Thus, we might have expected Spain to display more marked geographical differences in terms of sport participation than France, which is very centralized when it comes to its sports policies. However, this is not the case, which raises the question of the real effects of local sports policies. More broadly, it raises the question of the effects of European policies. Indeed, in line with its ideal of maintaining peace on the continent, the EU has continually worked to standardize the “way of life” of its citizens by postulating that economic development is a bulwark against conflicts. As mentioned above, by gradually levelling living standards and facilitating economic, educational and cultural mobility, has Europe not also contributed to a form of lifestyle standardization that has in turn led to the gradual massification of PAS? Thus, we can see that if the political and social history of Spain helps us to better understand

the different global levels of sports investment, it probably also and above all explains it in a diachronic way, in connection with different degrees of “Europeanisation of lifestyles”.

Nonetheless, in both populations, individual characteristics are the main factors in people’s sport voraciousness (for us portfolio size).

At a socioeconomic descriptive level (bivariate), age, sex, educational level, social level, employment situation, habitat size and parent ‘sportiness are linked in the two countries to different portfolio sizes. Moreover, the social profiles are the same in the two countries. For instance, the social profile for high portfolio sizes is a young men with a university diploma, with sporty parents... Nevertheless, differences are more important in Spain than in France for sex, educational level and parent’ sportiness. In these bivariate results, it should also be noted that the higher up the social hierarchy, the more activities there are in the portfolio.

On an explanatory level (multivariate analyses, regression's results and analysis of deviance tables), between France and Spain, there are important common points. When comparing the results for the two countries, the same important explanatory factors are present in the results. Social structures are not erased and work strongly and are broadly similar in France and Spain. It is not surprising in the field that the most important common social characteristics associated with a greater portfolio size are: a younger age, being male, a higher level of education, an exclusive nationality and having a sporty father (regression’s results). For all these factors, the effects act in the same direction and are considerable, indicating that social use of portfolio size is significant. It should be noted that adding parental sportiness to the model is relevant and it doesn’t not alter the effects of the standard socioeconomic variables. We should also stress the importance of measuring the sportiness of parents during people’s formative years (childhood and adolescence), which underlines the need for each survey to consider this indicator in the analysis models, partially so as to take into account the primary socialization of individuals through sport. The level of cultural capital of parents (measured by educational level) and their investment in sport are a major influence

on their children's PAS investment. Compared to France, historically, a lower level of education and sportsmanship of Spanish parents leads to a lower level of practice among children. Thus, these two combined effects can have a very large impact on the sport participation of the Spanish population considered. These results are not unusual in European comparisons on the topic of PAS. Considering the number of commonalities in terms of culture, Western democratic systems and historical anthropology, we expect the influential socioeconomic factors at play to be the same (see Eurobarometer Sport). Age, sex and education (very important effect of the university level for example) are the factors with the greatest influence on sports participation. For example, Benett and al. (2009) point out that age and gender are also strong discriminating in cultural practices (including sport). The idea that men are more involved in sport than women today is widely supported (Downward and Riordan, 2007; Gratton and Taylor, 2000; Humphreys and Sauer, 2007; Lera-López and Rapún-Gárate, 2007; Martín, 2015; Van Tuyckom et al., 2010b; Wilson, 2002). There is indeed a form of male domination in this field (Mennesson, 2004).

However, differences can be observed in the hierarchy of factors (analysis of deviance tables). In France, as in England (Kokolakakis et al., 2012), the age effect is the strongest, while sex comes second with education. Moreover, in France, several authors mention the increasing importance of age in cultural practices (Donnat, 2009; Merklé 2011). In Spain, the hierarchy of factors is a little different from France's, with sex having a major influence with age (similar to the hierarchy produced by the research of Lera-López, 2011), as is the case with parental sportiness, especially the father's. Specifically, the regression results show that the following social characteristics (OR and RR) have the most profound effect in Spain: being male and having a sporty father. In the French population, the age variable has a higher position in the hierarchy. If we compare England and Spain (Kokolakakis et al., 2012) the results are similar, but in our study there are more social explanatory variables (4 for England/Spain vs. 9 for France/Spain). These results



are reliable and differences remain even with a more complex and appropriate model, highlighting the robustness of the results of this comparison of sports participation in Spain and France.

In terms of the organization of domestic groups (Laslett, 1983), France is a mixture of both Western and Mediterranean cultures (a combination of the individual/collective values of northern countries and the community values of southern countries (Galland and Lemel, 2008)). By contrast, Spain is mainly Mediterranean (community built on family values) and characterized by a rather homogeneous domestic structure. There is a stronger family system in Spain (as in other southern countries), based on a traditional catholic model characterized by family solidarity and stronger parental authority, especially from the father (Saint-Arnaud and Bernard, 2003). The proportion of 18 to 29-year-olds living with their parents is, consequently, another differentiating factor between the two countries (Ward et al., 2012): 49% in Spain and 28% in France. Here, it is important to note that the emancipation of women depends on the speed of emancipation of young people (Galland and Lemel, 2008: 46). Moreover, there are differences between men and women in terms of job market participation rates, with women being more likely to work part-time than men in both countries (Eurostat, 2011).

One barrier may be the stereotype of the Catholic family unit and, more generally, the weight of cultural traditions in southern European countries. This corresponds to a less developed level of separation between the religious sphere and other spheres of social activity (Weber, 2001). This gives strength to the 'parental', to its cohesion and more specifically to the father's influence in primary socialization. In France, primary socialization remains important, but multiple secondary socializations are important too (Lahire, 2004). This is linked to gender stereotyping (the pressure to get married and have children) and stems from the parental model. The discrimination against women that has characterized Spain's recent history – especially during the Franco dictatorship – allows us to better understand the wide differences in sports participation that still exist between men and women. According to Garcia-Ferrando and Llopis-Goig (2011), the difference between

men and women in terms of sports participation has ranged between 15 and 18 percentage points over the past thirty years.

A less important difference is the sequence between the transition to practice (zero part) and the progression in terms of multipractice (count part). The case of Spain is more complex with two stages. The first one is the transition from nonpractice to practice and second one is the passage from mono practice to multi practice of PAS. In this rise in voraciousness, when the individual has a portfolio with at least one PAS, the social barriers are more complex with the combined intervention of factors such as exclusive nationality, the mothers' and fathers' sportiness in addition to age and sex. In France, there is a global continuum in terms of effects on the size of the practice portfolio. PAS are very present: nonpractice is in the minority and multipractice is developed. One would expect that social barriers would be of little importance, but bivariate and multivariate analysis shows that this is not the case, particularly in the area of social stratification. Setting aside the role of age in France, we can statistically state that social barriers are a little more complex in Spain than in France. Because PAS are less widely distributed in Spain, these activities are more highly differentiating in the country in the sense of implying mainly social filters, especially in the sporty sub-group (count part of the hurdle regression, at least one PAS and more).

Finally, despite the differences in the portfolio sizes between France and Spain, there are numerous similarities. Social filters are still strong and numerous. Individual social characteristics are at work to explain the portfolio size in the two countries and produce similar social profiles for the same portfolio sizes. The individual socio-demographic explanatory factors (not territorial) are identical and characteristic of modern sport in post-industrial countries. In terms of differences, some factors are stronger in Spain and more complex. It is understood that social structures are strong, corresponding to what social recruitment in modern sport is. But secondary there are local characteristics. There are differences in the level of globalization of the two countries; the two

countries are partially different. The diffusion of PAS is not at the same level, the social determinants are always very present but vary partly according to the context. This is in accordance with the glocalization process proposed by Robertson (1994). Globalization and its corollary, individualism, have not fully led to the restructuring of traditional sports institutions (Van Tuyckom, 2011a). In Spain there is a more complex social partitioning than in France in terms of voraciousness. The diffusion of PAS appears to have been hampered by combined economic, political and cultural factors that have contributed to the maintenance of stronger social barriers in Spain. PAS are more differentiating cultural products, in the sense of complexity, in Spain and the social use of high voraciousness is typical of a section of the population that it is even more accurate to describe as a social elite.

These results show that PAS portfolio size is a good way to understand how social groups express their differences in lifestyles. Indeed, it shows that the relationship to the body and the engagement of the body are not culturally neutral, as Bourdieu (1984) had already pointed out in the *Distinction*. Indeed, the size of the practice portfolio participate on both gender construction and positioning in the life cycle. In both countries, it should be noted that the use of a very broad definition of sport to identify practices, social stratification is nevertheless highly present.

The type of societal approach used allowed us to gain a deeper understanding of the differences in the social uses of sport observed between the Spanish and French populations, but also, semi-inductively, to propose interpretations suited to this specific comparison. We can conclude that the portfolio size is an important factor of differentiation and a sociologically relevant indicator of sporting engagement in France and Spain. Differences in levels of voraciousness and their social uses in France and Spain seem to depend on numerous national and individual specificities in accordance with Wacquant's (1997) proposals on international comparisons with specific effective forms of capital. The methodological difficulties and cultural specificities observed allow us to argue in a first stage for a bottom-up comparison (between national surveys,

so as to build an overall picture) rather than a top-down comparison that would subject countries to the same measurement tools.

From the perspective of domination and legitimacy analysis, after an objectivist step (quantitative explanatory step) it is necessary to move on to a subjective step to better understand people's representations with qualitative tools and see how the accumulation of practices strengthens group membership and differentiates it from other groups and how it is an instrument of social domination. It means that the portfolio size could work like a resource, that is to say that you could accumulate symbolic capital by having a higher portfolio size. Finally, it should be noted that identifying what is legitimate is complex with a quantitative approach (Glewarec, 2013), that's why it's in the next stage to study modalities with qualitative methods (Schütz, 1976). Peterson's work is criticized for the fact that a questionnaire survey is difficult to capture practice patterns, especially with the diffusion of cultural practices that has led to a greater diversification of practices (see Lebaron and Leroux, 2015). And the activity of categorization often used in scientific publications (example: ball sports, racket sports, outdoor sports...) seems to be the result of a rather simplistic construct that bears little relation to the social reality of participation in sports; the different modalities within a particular category can be even more socially distant, which can sometimes produce artificial significance. In terms of domination, Widdop et al. (2016) point out that the least active people are those with the least networks and therefore the least social capital. From a qualitative point of view, few sociologists show the interest of a significant sports capital in getting an executive position (Bodin and Heas, 2004). In social competition between social groups, the accumulation of SAPs seems to be an asset. For example, let us note the importance of the size of the practice portfolio offered by the grandes écoles to their students during multi-practice cohesion internships. This seems consistent with Erickson's (1996) work on the importance of the accumulation of cultural knowledge in industrial management networks. Moreover, in the field of sport, owning sports capital allows you to access prestigious positions as a leader of national and

international organizations according to Bayle and Clastres (2018) or Chimot (2005) on a more gendered aspect. These elements are in line with our statistical results which tend to identify a dominant one called: "The young dynamic and leaping executive" (Pociello, 1995) which have as a distinguished cultural marker the accumulation of a large number of PAS and zapping.

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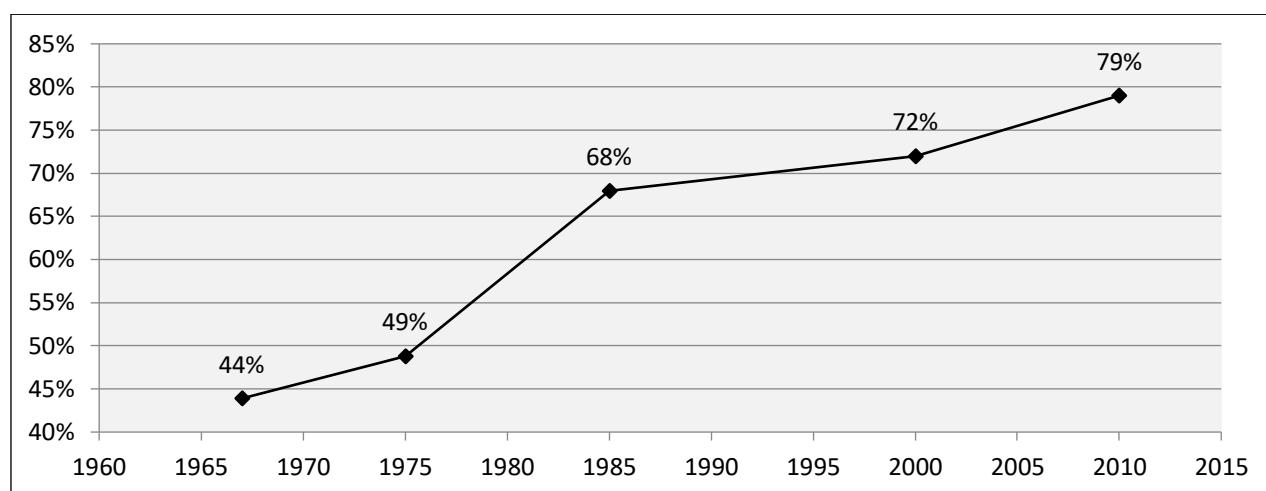
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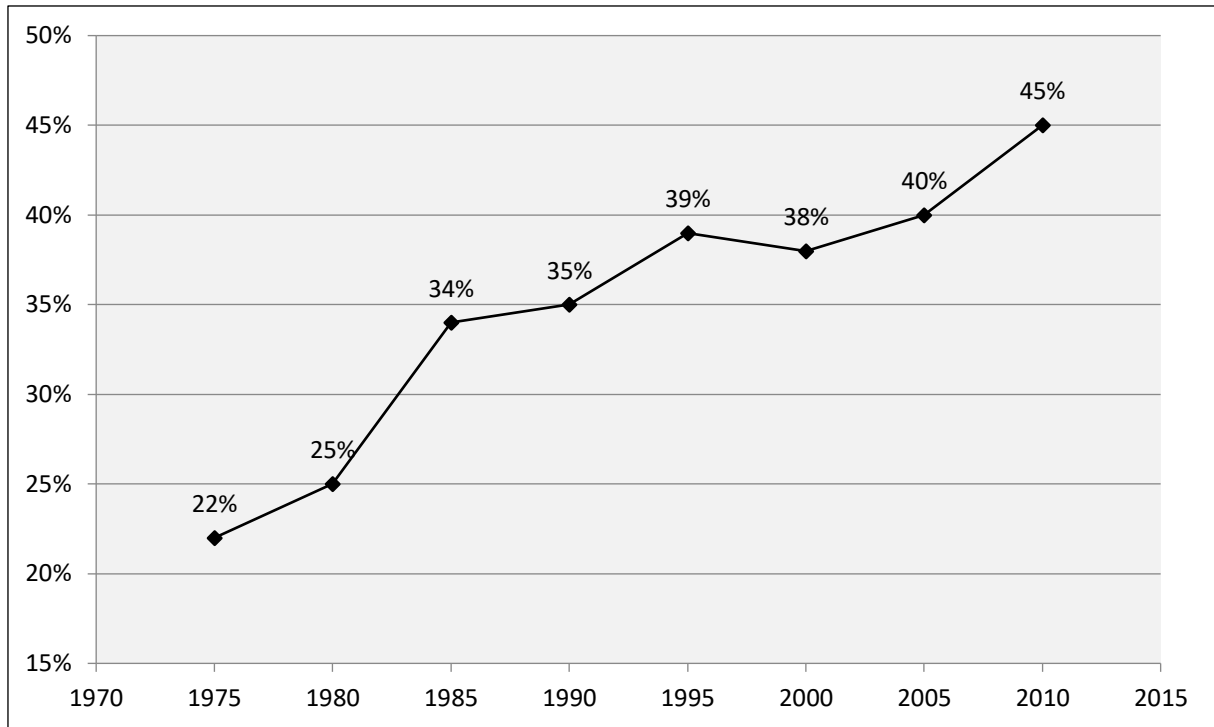
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## Figures and tables



**Figure 1.** Evolution of sports participation in France between 1967 and 2010 (yearly participation %s for population between 18 and 64 years of age, constant field)  
Source: INSEE / INSEP / Ministry of sports / Lefèvre B.



**Figure 2.** Evolution of sports participation in Spain (yearly participation %s population between 15 and 65 years of age, constant field)  
Source: Llopis-Goig (2016)

**Table 1.** Common sporting activities considered in both surveys

|    |                                  |    |                                     |
|----|----------------------------------|----|-------------------------------------|
| 1  | aeronautical sports              | 21 | martial arts                        |
| 2  | athletics                        | 22 | motorized water sports              |
| 3  | automobile sports                | 23 | motorcycling                        |
| 4  | badminton                        | 24 | paddle boarding                     |
| 5  | basketball                       | 25 | rock climbing                       |
| 6  | bodybuilding                     | 26 | rowing/canoeing/swimming activities |
| 7  | bowls                            | 27 | rugby                               |
| 8  | cycling (competition)            | 28 | running                             |
| 9  | cycling (leisure)                | 29 | sailing                             |
| 10 | dance                            | 30 | shooting/hunting                    |
| 11 | diving                           | 31 | skating                             |
| 12 | fencing                          | 32 | squash                              |
| 13 | fishing                          | 33 | swimming (competition)              |
| 14 | football                         | 34 | swimming (leisure)                  |
| 15 | golf                             | 35 | table tennis                        |
| 16 | gymnastics & wellness activities | 36 | tennis                              |
| 17 | handball                         | 37 | volleyball                          |
| 18 | hiking/mountaineering            | 38 | walking                             |
| 19 | hockey                           | 39 | winter sports                       |
| 20 | horse riding                     | 40 | wrestling/self-defence              |



**Table 2.** Evaluating goodness of fit of different models

| <b>Country</b> | <b>Models</b>                   | <b>AIC</b> | <b>BIC</b> |
|----------------|---------------------------------|------------|------------|
| <b>France</b>  | hurdle negative binomial        | 31528.42   | 31690.55   |
|                | zero-inflated negative binomial | 31548.72   | 31710.84   |
|                | hurdle Poisson                  | 32181.57   | 32336.65   |
|                | zero-inflated Poisson           | 32471.13   | 32640.31   |
| <b>Spain</b>   | hurdle negative binomial        | 18996.46   | 19159.68   |
|                | zero-inflated negative binomial | 19072.89   | 19236.11   |
|                | hurdle Poisson                  | 19183.69   | 19339.82   |
|                | zero-inflated Poisson           | 19315.29   | 19485.61   |

AIC = Akaike Information; BIC = Bayesian Information Criterium

**Table 3.** Spanish and French population portfolio sizes (yearly participation %s)

|                       | <b>France</b> | <b>Spain</b> |
|-----------------------|---------------|--------------|
| 0 activities          | 27            | 62           |
| 1 activity            | 21            | 18           |
| 2 activities          | 17            | 11           |
| 3 activities          | 12            | 5            |
| 4 activities          | 8             | 2            |
| 5 activities          | 6             | 1            |
| 6 activities          | 4             | 0            |
| 7 activities          | 2             | 0            |
| 8 activities          | 1             | 0            |
| 9 activities          | 1             | 0            |
| 10 or more activities | 1             | 0            |
| <b>TOTAL</b>          | <b>100</b>    | <b>100</b>   |

**Table 4.** Sample sociodemographic characteristics (counts and percentages)

|                                | <b>France</b> |                   | <b>Spain</b> |                   |
|--------------------------------|---------------|-------------------|--------------|-------------------|
|                                | <b>Count</b>  | <b>Proportion</b> | <b>Count</b> | <b>Proportion</b> |
| <b>Sex</b>                     |               |                   |              |                   |
| <i>Male</i>                    | 3817          | 44.9              | 4409         | 49.4              |
| <i>Female</i>                  | 4693          | 55.1              | 4516         | 50.6              |
| <b>Age</b>                     |               |                   |              |                   |
| <i>15-29</i>                   | 1667          | 19.6              | 1959         | 21.9              |
| <i>30-49</i>                   | 3028          | 35.6              | 3436         | 38.5              |
| <i>50 or over</i>              | 3815          | 44.8              | 3530         | 39.6              |
| <b>Education</b>               |               |                   |              |                   |
| <i>Lower than upper</i>        | 4356          | 51.2              | 5467         | 61.3              |
| <i>Upper secondary</i>         | 1629          | 19.1              | 1165         | 13.1              |
| <i>University level</i>        | 2525          | 29.7              | 2293         | 25.7              |
| <b>Habitat size</b>            |               |                   |              |                   |
| <i>Less than 2,000</i>         | 3006          | 35.3              | 724          | 8.1               |
| <i>2,000 to 100,000</i>        | 2592          | 30.5              | 4839         | 54.2              |
| <i>More than 100,000</i>       | 2912          | 34.2              | 3362         | 37.7              |
| <b>Social class</b>            |               |                   |              |                   |
| <i>Lower</i>                   | 4039          | 47.5              | 5346         | 59.9              |
| <i>Middle</i>                  | 3183          | 37.4              | 2781         | 31.2              |
| <i>Upper</i>                   | 1288          | 15.1              | 798          | 8.9               |
| <b>Labour force status</b>     |               |                   |              |                   |
| <i>In the labour force</i>     | 4860          | 57.1              | 5288         | 59.2              |
| <i>Out of the labour force</i> | 3650          | 42.9              | 3637         | 40.8              |
| <b>Sporty mother</b>           |               |                   |              |                   |
| <i>No</i>                      | 7034          | 82.7              | 7632         | 85.5              |
| <i>Yes</i>                     | 1476          | 17.3              | 1293         | 14.5              |
| <b>Sporty father</b>           |               |                   |              |                   |
| <i>No</i>                      | 5306          | 62.4              | 6659         | 74.6              |
| <i>Yes</i>                     | 3204          | 37.6              | 2266         | 25.4              |
| <b>Nationality</b>             |               |                   |              |                   |
| <i>Exclusively Spanish /</i>   | 8178          | 96.1              | 8087         | 90.6              |
| <i>Not exclusively Spanish</i> | 332           | 3.9               | 838          | 9.4               |

**Table 5.** French and Spanish socioeconomic profiles and means of portfolio sizes (0.95 CI)

|                                      | Mean number of activities |                      | Difference of means  |   |
|--------------------------------------|---------------------------|----------------------|----------------------|---|
|                                      | France                    | Spain                | (Fr – Sp)            |   |
| <b>Sex</b>                           |                           |                      |                      |   |
| <i>Female (r)</i>                    | 1.89 [1.83 , 1.95 ]       | 0.48 [ 0.46 , 0.51 ] | 1.41 [ 1.34 , 1.47 ] | * |
| <i>Male</i>                          | 2.61 [ 2.54 , 2.69 ]      | 1.02 [0.97 , 1.1 ]   | 1.59 [ 1.51 , 1.68 ] | * |
| <b>Age</b>                           |                           |                      |                      |   |
| <i>15-29 (r)</i>                     | 3.3 [3.17 , 3.43 ]        | 1.31 [ 1.23 , 1.38 ] | 1.99 [ 1.84 , 2.15 ] | * |
| <i>30-49</i>                         | 2.57 [ 2.50 , 2.65 ]      | 0.84 [ 0.80 , 0.88 ] | 1.73 [ 1.64 , 1.82 ] | * |
| <i>50 or more</i>                    | 1.45 [1.40 , 1.51 ]       | 0.35 [ 0.32 , 0.37 ] | 1.11 [ 1.05 , 1.17 ] | * |
| <b>Education</b>                     |                           |                      |                      |   |
| <i>Lower than upper secondary</i>    | 1.71 [ 1.65 , 1.77 ]      | 0.51 [ 0.48 , 0.54 ] | 1.2 [ 1.13 , 1.26 ]  | * |
| <i>Upper secondary</i>               | 2.55 [ 2.44 , 2.67 ]      | 1.0 [ 0.93 , 1.11 ]  | 1.53 [ 1.38 , 1.67 ] | * |
| <i>University level</i>              | 2.86 [ 2.77 , 2.95 ]      | 1.16 [ 1.10 , 1.22 ] | 1.70 [ 1.59 , 1.81 ] | * |
| <b>Habitat size</b>                  |                           |                      |                      |   |
| <i>Less than 2,000 (r)</i>           | 2.13 [2.05 , 2.21 ]       | 0.59 [ 0.50 , 0.67 ] | 1.54 [ 1.43 , 1.66 ] | * |
| <i>2,000 to 100,000</i>              | 2.18 [ 2.09 , 2.26 ]      | 0.73 [ 0.69 , 0.76 ] | 1.45 [ 1.36 , 1.54 ] | * |
| <i>More than 100,000 inhabitants</i> | 2.33 [ 2.25 , 2.41 ]      | 0.81 [ 0.76 , 0.85 ] | 1.52 [ 1.43 , 1.61 ] | * |
| <b>Social Level</b>                  |                           |                      |                      |   |
| <i>Lower (r)</i>                     | 1.87 [1.80 , 1.93 ]       | 0.65 [ 0.62 , 0.68 ] | 1.22 [ 1.15 , 1.29 ] | * |
| <i>Middle</i>                        | 2.32 [ 2.24 , 2.40 ]      | 0.80 [ 0.75 , 0.85 ] | 1.52 [ 1.42 , 1.61 ] | * |
| <i>Upper</i>                         | 3.04 [ 2.91 , 3.17 ]      | 1.22 [ 1.11 , 1.33 ] | 1.82 [ 1.65 , 1.99 ] | * |
| <b>Labour force status</b>           |                           |                      |                      |   |
| <i>In the labour force</i>           | 2.55 [ 2.49 , 2.62 ]      | 0.91 [ 0.87 , 0.95 ] | 1.65 [ 1.57 , 1.72 ] | * |
| <i>Out of the labour force (r)</i>   | 1.76 [ 1.69 , 1.82 ]      | 0.51 [ 0.48 , 0.55 ] | 1.24 [ 1.17 , 1.32 ] | * |
| <b>Sporty mother</b>                 |                           |                      |                      |   |
| <i>No (r)</i>                        | 2.07 [ 2.02 , 2.12 ]      | 0.62 [ 0.59 , 0.64 ] | 1.45 [ 1.40 , 1.51 ] | * |
| <i>Yes</i>                           | 2.9 [ 2.77 , 3.03 ]       | 1.52 [ 1.42 , 1.62 ] | 1.38 [ 1.21 , 1.54 ] | * |
| <b>Sporty father</b>                 |                           |                      |                      |   |
| <i>No (r)</i>                        | 1.90 [ 1.85 , 1.95 ]      | 0.53 [ 0.51 , 0.56 ] | 1.37 [ 1.31 , 1.43 ] | * |
| <i>Yes</i>                           | 2.73 [ 2.64 , 2.81 ]      | 1.37 [ 1.30 , 1.44 ] | 1.36 [ 1.25 , 1.47 ] | * |
| <b>Nationality</b>                   |                           |                      |                      |   |
| <i>Exclusive (r)</i>                 | 2.22 [ 2.17 , 2.27 ]      | 0.75 [ 0.72 , 0.78 ] | 1.48 [ 1.42 , 1.53 ] | * |
| <i>Not exclusive</i>                 | 1.93 [ 1.73 , 2.14 ]      | 0.73 [ 0.66 , 0.81 ] | 1.20 [ 0.99 , 1.41 ] | * |

Significance : ‘\*’ 0 is not in the confidence interval

*(r): reference*

**Table 6.** Comparison between French and Spanish socioeconomic profiles (ratio of means and correlation 0.95 CI)

|   | Mean number of activities |                         | Odds Ratio                  | * |
|---|---------------------------|-------------------------|-----------------------------|---|
|   | France                    | Spain                   | (France / Spain)            |   |
| <b>Sex</b>  |                           |                         |                             |   |
| <i>Gender gap (male / female)</i>                 | 1.40 [ 1.33 , 1.46 ]      | 2.2 [ 1.33 , 1.45 ]     | 0.64 [ 0.58 , 0.69 ]        | * |
| <b>Education</b>                                  |                           |                         |                             |   |
| <i>Ratio ( University / lower than secondary)</i> | 1.67 [ 1.57 , 1.76 ]      | 2.27 [ 2.05 , 2.49 ]    | 0.73 [ 0.65 , 0.81 ]        | * |
| <b>Habitat size</b>                               |                           |                         |                             |   |
| <i>Ratio (more than 100000 / less than 2000)</i>  | 1.09 [ 1.03 , 1.14 ]      | 1.37 [ 1.10 , 1.64 ]    | 0.80 [ 0.62 , 0.97 ]        | * |
| <b>Social Level</b>                               |                           |                         |                             |   |
| <i>Ratio (upper / lower)</i>                      | 1.63 [ 1.51 , 1.75 ]      | 1.88 [ 1.58 , 2.18 ]    | 0.87 [ 0.71 , 1.02 ]        |   |
| <b>Labour force status</b>                        |                           |                         |                             |   |
| <i>Ratio (in labour frc. /out of labour frc.)</i> | 1.45 [ 1.38 , 1.52 ]      | 1.73 [ 1.58 , 1.88 ]    | 0.83 [ 0.75 , 0.91 ]        | * |
| <b>Sporty mother</b>                              |                           |                         |                             |   |
| <i>Ratio (yes / no )</i>                          | 1.41 [ 1.31 , 1.50 ]      | 2.45 [ 2.16 , 2.73 ]    | 0.57 [ 0.49 , 0.65 ]        | * |
| <b>Sporty father</b>                              |                           |                         |                             |   |
| <i>Ratio (yes / no )</i>                          | 1.44 [ 1.38 , 1.51 ]      | 2.58 [ 2.34 , 2.82 ]    | 0.56 [ 0.50 , 0.62 ]        | * |
| <b>Nationality</b>                                |                           |                         |                             |   |
| <i>Ratio (not excl. / excl.)</i>                  | 0.90 [ 0.76 , 1.03 ]      | 0.97 [ 0.82 , 1.13 ]    | 0.93 [ 0.66 , 1.19 ]        |   |
| <hr/>   |                           |                         |                             |   |
| <b>Age</b>  | <b>France</b>             | <b>Spain</b>            | <b>Difference (Fr – Sp)</b> |   |
| <i>Correlation coefficient</i>                    | -0.36 [ -0.38 , -0.34 ]   | -0.30 [ -0.32 , -0.28 ] | -0.057 [ -0.076 , - 0.037 ] | * |

Significance : ‘\*’ 1 is not in the confidence interval of OR or 0 is not in the confidence interval of correlation’s difference.

**Table 7.** Top 5 French sports (counts and percentages over the last twelve months)

|                           | <b>Count</b> | <b>Proportion</b> |
|---------------------------|--------------|-------------------|
| Swimming (leisure)        | 2,398        | 28.2              |
| Cycling (leisure)         | 1,942        | 22.8              |
| Gym & wellness activities | 1,603        | 18.8              |
| Running                   | 1,568        | 18.4              |
| Winter sports             | 1,291        | 15.2              |

**Table 8.** Top 5 Spanish sports (counts and percentages over the last twelve months)

|                           | <b>Count</b> | <b>Proportion</b> |
|---------------------------|--------------|-------------------|
| Gym & wellness activities | 1,162        | 13.0              |
| Football                  | 877          | 9.8               |
| Swimming (leisure)        | 799          | 9.0               |
| Cycling (leisure)         | 694          | 7.8               |
| Running                   | 461          | 5.2               |

**Table 9.** Proportion of variance attributable to the departments or regions of France and Spain

| <b>ICC</b>    | <b>Departments ICC</b> | <b>Regions ICC</b> |
|---------------|------------------------|--------------------|
| <i>Spain</i>  | 0.9%                   | 0.4%               |
| <i>France</i> | 1.3%                   | 0.4%               |

ICC: Intra Class Correlation



**Table 10.** Hierarchy of factors effects in France and in Spain (analysis of deviance tables of zero part and count part)

| ZERO PART     | France   |    |            |     |             | Spain         |          |    |            |     |             |
|---------------|----------|----|------------|-----|-------------|---------------|----------|----|------------|-----|-------------|
|               | LR Chisq | Df | Pr(>Chisq) |     | LR Chisq/Df |               | LR Chisq | Df | Pr(>Chisq) |     | LR Chisq/Df |
| Age           | 358.4    | 1  | <2.2e-16   | *** | 358.4       | Age           | 364.0    | 1  | <2.2e-16   | *** | 364.0       |
| Sex           | 99.5     | 1  | <2.2e-16   | *** | 99.5        | Sex           | 267.1    | 1  | <2.2e-16   | *** | 267.1       |
| Education     | 162.6    | 2  | <2.2e-16   | *** | 81.3        | Education     | 190.3    | 2  | <2.2e-16   | *** | 95.2        |
| Sporty father | 20.3     | 1  | 6.582E-06  | *** | 20.3        | Sporty father | 90.9     | 1  | <2.2e-16   | *** | 90.9        |
| Nationality   | 14.8     | 1  | 0.0001228  | *** | 14.8        | Sporty mother | 19.5     | 1  | 9.986E-06  | *** | 19.5        |
| Sporty mother | 8.0      | 1  | 0.0045814  | **  | 8.0         | Nationality   | 13.8     | 1  | 0.0001983  | *** | 13.8        |
| Labour        | 1.9      | 1  | 0.1695712  |     | 1.9         | Habitat size  | 3.2      | 2  | 0.1933431  |     | 1.6         |
| Habitat size  | 0.6      | 2  | 0.7343303  |     | 0.3         | Labour        | 0.1      | 1  | 0.7838939  |     | 0.1         |

| COUNT PART    | France   |    |            |     |             | Spain         |          |    |            |     |             |
|---------------|----------|----|------------|-----|-------------|---------------|----------|----|------------|-----|-------------|
|               | LR Chisq | Df | Pr(>Chisq) |     | LR Chisq/Df |               | LR Chisq | Df | Pr(>Chisq) |     | LR Chisq/Df |
| Age           | 422.6    | 1  | < 2,2e-16  | *** | 422.6       | Age           | 93.8     | 1  | < 2,2e-16  | *** | 93.8        |
| Sex           | 112.3    | 1  | < 2,2e-16  | *** | 112.3       | Sex           | 86.3     | 1  | < 2,2e-16  | *** | 86.3        |
| Education     | 149.2    | 2  | < 2,2e-16  | *** | 74.6        | Nationality   | 25.7     | 1  | 3.9062E-07 | *** | 25.7        |
| Sporty father | 37.8     | 1  | 8.00E-10   | *** | 37.8        | Education     | 41.0     | 2  | 1.214E-09  | *** | 20.5        |
| Nationality   | 10.0     | 1  | 0.001526   | **  | 10.0        | Sporty mother | 17.2     | 1  | 3.4519E-05 | *** | 17.2        |
| Sporty mother | 4.3      | 1  | 0.038915   | *   | 4.3         | Sporty father | 16.5     | 1  | 4.8067E-05 | *** | 16.5        |
| Labour        | 0.2      | 1  | 0.672529   |     | 0.2         | Labour        | 4.1      | 1  | 0.0423     | *   | 4.1         |
| Habitat size  | 0.2      | 2  | 0.877085   |     | 0.1         | Habitat size  | 1.4      | 2  | 0.5045     |     | 0.7         |

**Table 11.** Estimated coefficients, odds ratios, rate ratios and log likelihood value for the negative binomial hurdle model

| Zero part                            | France   |             | Spain            |             |                  |                  |
|--------------------------------------|----------|-------------|------------------|-------------|------------------|------------------|
|                                      | Estimate | OR (95% CI) | Estimate         | OR (95% CI) |                  |                  |
| (Intercept)                          | 1.99     | ***         | 7.34 (5.68-9.52) | -0.19       | 0.83 (0.64-1.07) |                  |
| <b>Sex</b>                           |          |             |                  |             |                  |                  |
| <i>Male</i>                          | 0.54     | ***         | 1.72 (1.55-1.92) | 0.79        | ***              | 2.21 (2.01-2.44) |
| <b>Age</b>                           | -0.03    | ***         | 0.97 (0.96-0.97) | -0.03       | ***              | 0.97 (0.97-0.97) |
| <b>Education</b>                     |          |             |                  |             |                  |                  |
| <i>Upper secondary</i>               | 0.48     | ***         | 1.61 (1.40-1.87) | 0.46        | ***              | 1.59 (1.38-1.83) |
| <i>University level</i>              | 0.83     | ***         | 2.29 (2.00-2.62) | 0.78        | ***              | 2.18 (1.95-2.44) |
| <b>Habitat size</b>                  |          |             |                  |             |                  |                  |
| <i>2,000 to 100,000</i>              | 0.01     |             | 1.01 (0.89-1.15) | 0.15        |                  | 1.16 (0.97-1.40) |
| <i>More than 100,000 inhabitants</i> | 0.05     |             | 1.05 (0.92-1.19) | 0.18        |                  | 1.19 (0.99-1.45) |
| <b>Labour force status</b>           |          |             |                  |             |                  |                  |
| <i>In the labour force</i>           | 0.09     |             | 1.09 (0.96-1.24) | -0.02       |                  | 0.98 (0.88-1.10) |
| <b>Sporty mother</b>                 |          |             |                  |             |                  |                  |
| <i>Yes</i>                           | 0.24     | **          | 1.27 (1.08-1.50) | 0.34        | ***              | 1.41 (1.21-1.64) |
| <b>Sporty father</b>                 |          |             |                  |             |                  |                  |
| <i>Yes</i>                           | 0.27     | ***         | 1.31 (1.17-1.48) | 0.61        | ***              | 1.83 (1.62-2.08) |
| <b>Nationality</b>                   |          |             |                  |             |                  |                  |
| <i>Not exclusive</i>                 | -0.52    | ***         | 0.59 (0.46-0.77) | -0.30       | ***              | 0.74 (0.63-0.87) |
| Count part                           | Estimate |             | RR (95% CI)      | Estimate    |                  | RR (95% CI)      |
| (Intercept)                          | 1.21     | ***         | 3.34 (3.04-3.66) | 0.17        |                  | 1.18 (0.93-1.50) |
| <b>Sex</b>                           |          |             |                  |             |                  |                  |
| <i>Male</i>                          | 0.24     | ***         | 1.27 (1.21-1.32) | 0.45        | ***              | 1.57 (1.44-1.72) |
| <b>Age</b>                           | -0.01    | ***         | 0.99 (0.98-0.99) | -0.02       | ***              | 0.98 (0.98-0.99) |
| <b>Education</b>                     |          |             |                  |             |                  |                  |
| <i>Upper secondary</i>               | 0.20     | ***         | 1.22 (1.15-1.29) | 0.27        | ***              | 1.32 (1.17-1.48) |
| <i>University level</i>              | 0.32     | ***         | 1.37 (1.30-1.45) | 0.29        | ***              | 1.34 (1.22-1.48) |
| <b>Habitat size</b>                  |          |             |                  |             |                  |                  |
| <i>2,000 to 100,000</i>              | -0.01    |             | 0.99 (0.94-1.05) | -0.09       |                  | 0.91 (0.77-1.09) |
| <i>More than 100,000 inhabitants</i> | -0.01    |             | 0.99 (0.94-1.04) | -0.05       |                  | 0.95 (0.79-1.13) |
| <b>Labour force status</b>           |          |             |                  |             |                  |                  |
| <i>In the labour force</i>           | 0.01     |             | 1.01 (0.96-1.06) | 0.10        | *                | 1.11 (1.00-1.22) |
| <b>Sporty mother</b>                 |          |             |                  |             |                  |                  |
| <i>Yes</i>                           | 0.06     | *           | 1.06 (1.00-1.12) | 0.22        | ***              | 1.25 (1.12-1.39) |
| <b>Sporty father</b>                 |          |             |                  |             |                  |                  |
| <i>Yes</i>                           | 0.14     | ***         | 1.15 (1.10-1.21) | 0.20        | ***              | 1.23 (1.11-1.35) |
| <b>Nationality</b>                   |          |             |                  |             |                  |                  |
| <i>Not exclusive</i>                 | -0.19    | **          | 0.83 (0.73-0.93) | -0.38       | ***              | 0.68 (0.59-0.79) |
| <b>Log theta</b>                     | 1.38     | ***         | 3.99 (3.50-4.54) | 0.98        | ***              | 2.67 (2.05-3.47) |

OR = odds ratio ; RR = rate ratio ; \* p < 0.05, \*\* p < 0.01 , \*\*\* p < 0.001

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<sup>1</sup> Add by authors

<sup>2</sup> We could also cite the Co-Ordinated Monitoring of Participation in Sports (COMPASS), the Harmonized European Time Use Survey (HETUS) and the International Physical Activity Questionnaire (IPAQ).

<sup>3</sup> In a constant field with the largest common denominator (Aubel and Lefèvre, 2013), figure 1 presents the evolution of sport participation in France between 1967 and 2010 and figure 2 presents the evolution of sport participation between 1975 and 2010.

<sup>4</sup> For example, we exclude walking due to the different meanings assigned to the term in the two countries. Due to the perceived importance for good health of physical and sporting activities in France, French people tend to consider walking, even for a purpose (e.g., walking to work), as a sporting activity, whereas the Spanish tend to exclude it from their definition of sport.

<sup>5</sup> Data obtained from the French data portal for Humanities and Social Sciences, the Centre Maurice Halbwachs' National Statistical Data Archives and the Spanish portal of the Sociological Research Centre (CIS).

<sup>6</sup> Spain is divided into 19 regions (52 departments) and France into 27 (22 metropolitan regions and 5 overseas regions before the territorial reform implemented in 2016 reducing the number of administrative regions to 13 in metropolitan France and 5 overseas, with 99 departments). Sample sizes are representative at regional scale in both countries.