

Série des Documents de Travail

n° 2018-04

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homology: Structuring patterns of lifestyle
across 26 countries**

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Testing the universalism of Bourdieu's homology:
Structuring patterns of lifestyle across 26
countries.

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April 3, 2018

Abstract

The homology idea contends that a very close relationship takes place between social positions (economic and cultural capital) and cultural practices. This idea is at the center of Pierre Bourdieu's work *La Distinction* (1984[1979]) and the subsequent studies in the sociology of culture that considered this book a necessary landmark. In this paper, we use data from the *International Social Survey Programme* for comparing 26 countries from different geographical and cultural areas, in order to assess the homology thesis' applicability with a large set of very different countries. Using canonical correlation analysis, our results underline how structurally similar are the wide set of countries analysed. On the one hand, we found an analogous hierarchy of activities and social positions or capitals. On the other hand, the level of association between the factorial axis defined on cultural activities and those axis calculated using capitals are also very similar.

1 Introduction

The so-called homology thesis contends that a strong relationship exists between social position and lifestyles. This idea is at hearth of Pierre Bourdieu's work *La Distinction* (1984[1979]) and all of the studies in the sociology of culture that follow this seminal opus. In parallel with the development of other explanations of tastes or practices that also put emphasis on the role of social positions (Parker, 1976; Roberts, 1999, 2004), homology indicates a correspondence between socioeconomic positions and cultural behaviours and dispositions. Socioeconomic positions would be associated with individuals' and families' accumulation of resources or capitals, such as education and money. Strategies of differentiation or distinction rooted in the accumulation of capital would then regulate cultural practices or lifestyles. This thesis was developed more than 30 years ago in France (Bourdieu, 1984[1979]; Coulangeon and Duval, 2013), and it has been both supported (Bennett et al., 2009; Bennett et al. 2013; Gayo et al., 2009, 2013, 2016; Purhonen and Wright, 2013) and criticized (Peterson, 1992; Peterson and Kern, 1996).

However, the bulk of these contributions within the context of the sociology of culture have focused on particular national cases (Bennett et al., 2009; Gayo et al., 2009), or, at most, they have considered cases within Europe (Gerhards et al., 2012; Falk and Katz-Gerro, 2015) and/or cases which are similar in terms of the degree of human and economic development, such as the United States and Canada (Notten et al., 2015¹), Australia (Bennett

¹Notten et al. (2015) use data from countries mostly in Europe but also from Canada and the United States. In order to have what they probably consider relatively homogeneous cases, they state that "Chile was not considered in our analysis because it is the only non-Western country (p. 183).

et al., 2013), and Israel (Katz-Gerro, 2002). Bearing this in mind, this paper attempts to provide a more comprehensive view in terms of the number and type of cases included, due to there is no theoretical reason to limit the research on homology to Western developed countries.

Leaving aside the broader geographical area covered by our study, we also attempted to be methodologically innovative. Through the use of a sort of factorial analysis approach, including multiple correspondence analysis, contributions on the field generally define a social position space based upon capitals, on the one hand, and a lifestyles space that takes into account tastes and cultural practices, on the other. That way of proceeding means that they do not give the same weight to the information about these social and cultural spaces. One of the two sets of variables, most often the one describing lifestyles, is favoured, thus defining the positions of individuals on which social characteristics are projected (Bennett et al., 2009; Purhonen and Wright, 2013). From our perspective, in order to develop a methodological approach that matches Bourdieusian logic, there are advantages in considering the result of bringing together two independent spaces: social position and lifestyle, instead of making one of them dependent upon the other. This fits the idea of an interdependence of capitals, including the types of cultural capital (Bourdieu, 1997). Following such a theoretical understanding, our methodology treats symmetrically both sets of variables. Canonical correlation analysis (CCA) is a traditional statistical technique (Levine, 1977) that meets that purposes. Furthermore, this technique is available in the framework we use, the GIFI one, which offers an integrative tool for all multidimensional analysis, regardless of the level of measurement of the variables (Gifi, 1990). Therefore, we make use of a method that is not only able to deal with nominal or ordinal variables but also respect the symmetry between social and cultural spaces.

Through the use of CCA in the analysis of our cases, our paper tries to make connections with previous findings in comparative research on cultural capital. Similarly to previous findings using MCA techniques (Bennett et al., 2009; Gayo et al., 2009; Purhonen and Wright, 2013), we found a significant association between cultural practices and educational and economic capital. Differently from those above mentioned studies, dependent upon the use of cultural practices as the variables creating the social space, our work shows that countries are also similar in terms of the structural behaviour of capitals, that is, there are strong resemblances when we compare their respective spaces of social positions. In addition to that, these overall similarities amongst countries lead us to go beyond differences in terms of modernization (Gerhards et al., 2012) to suggest social dynamics that work through a whole variety of social structures. Finally, being this true, we also conclude that the ability of capitals and cultural practices to explain each other is strong but limited to particular aspects, in particular in terms of dimensionality while introducing the bourdieusian constraint of homology.

2 The homology hypothesis and its universalism Reviewing comparative lifestyle research.

We shall examine in this section the state of comparative research, with a particular emphasis on contributions regarding Bourdieu's idea of homology. Coming across the comparative literature reveals that comparisons so far have been in fact very limited in numbers and also in the area covered. This article tries to enrich the comparative approach analysing first Bourdieu's ideas, and then broadening the current geographical area of application of his approach in order to provide a systematic knowledge about how capitals and cultural practices interrelate with each other in a great variety of cases all over the world.

2.1 The universalism of homology's theory according Bourdieu.

Bourdieu wondered whether his analysis of French society could be generalized to other cases such as the United States or Germany (Bourdieu, 1994) or even countries as distant as Japan (Bourdieu, 1991). In general, he showed some will to test whether the homology thesis could be applied to other countries beyond France, although that attempt was never pursued by him. He openly acknowledged that his work was about the French society (1994). The way he spelled this out did not relate much to having been born in France but to his trajectory as a scholar who had dedicated long years to studying the French case. In this respect, Bourdieu mentioned his irritation about, among others, the ethnological analyses of his country written by American scholars (Bourdieu, 1994). Therefore, comparative analysis appears to his eyes to be a very difficult task because one cannot assume we know enough about other cases, in comparison with his own reference country. Nevertheless, he was plain to state that his theory of capitals had something to say about other developed societies. In other words, principles of social differentiation could be similar across countries, that is, economic and cultural capitals could be very likely structuring factors of cultural practices, at least in western societies.

2.2 Comparative research on cultural consumption.

Until very recently, comparative research on cultural capital was a sort of black box for Bourdieusian analysis. Comparisons today are still not abundant, and the studies recently following such a comparative perspective have been methodologically heterogeneous. We will mainly dedicate this section to dissecting how comparisons have contributed to developing knowledge in the area of lifestyle research within the sociology of culture. To do this, we look at recent contributions that adopt a comparative approach, which we

propose to develop a dialogue with.

It is important to bear in mind that comparisons have considered a variety of cases, but extensive studies — that is, those including many national cases — have, above all, focused on European countries. One of the main reasons for this is the inclusion of questions about cultural participation in the Eurobarometer series (Eurobarometer 56.0, 67.1). This occurred in 2001 and 2007. Since then, broad comparisons across European Union countries have been conducted (Virtanen, 2007; Gerhards et al., 2013; van Hek and Kraaykamp, 2013). As an illustration, both works of Gerhards et al. (2013) and van Hek and Kraaykamp (2013) focused on high culture activities, and both found that the country level helps to account for differences in engagement with highbrow practices. One of the conclusion that is important for our work is that it was found that country characteristics (income, education, social mobility, amongst others) were relevant to take into account to understand the effect of individual level variables. In other terms, according to these findings, we should expect inter-country variations in the effect of capitals on cultural participation.

However, before going beyond in drawing conclusions, it is important to know that in comparative analysis on cultural capital and lifestyles in general, no agreement exists regarding statistical approaches. Various techniques are used, including multilevel regression (van Hek and Kraaykamp, 2013; Notten et al., 2015), simple two-variable contingency tables (Nivón and Sánchez, 2012), multiple correspondence analysis (Bennett et al., 2013; Purhonen and Wright, 2013), linear regression models (Katz-Gerro, 2002; Gerhards et al., 2012), ordered probit models (Falk and Katz-Gerro, 2015) and even qualitative methods such as in-depth interviews (Gayo et al., 2011; Wright et al., 2013). We will discuss later the importance of methodological choices on the results but we will first place ourselves in the tradition of dimensional analysis, introducing later explicitly the Bourdieusian constraint about homophily. On the one hand, because it allows us to explore the structure of cultural participation assuming that capitals and cultural practices are inter-dependent, above all economic and educational capital regarding embodied cultural capital, instead of making the former dependent on the latter (Bennett et al., 2009; Gayo et al., 2016), or the other way around (Rosenlund, 2015, 2017). On the other hand, this way of proceeding makes possible to develop a comparison of results for the different countries that come from the analysis of two independent social spaces, the one on social positions and the one on lifestyles, instead of drawing conclusions from the results produced by only one set of active variables. Besides that, canonical correlations provide information about the links between the common axes generated by the two previously mentioned spaces. This produces a more robust comparison than the one that would be produced by a traditionally used factorial or MCA approach already discussed.

Considering the nature of cultural activities covered by previous research,

comparative studies have treated different aspects, but focusing on high-culture activities has been a very common approach (Katz-Gerro, 2002; Gerhards et al., 2012; van Hek and Kraaykamp, 2013; Notten et al., 2015; Falk and Katz-Gerro, 2015). In addition, scholars have also shown an interest in exploring similarities and differences across countries regarding the lifestyle space, including its structural variables. This includes Bennett et al. (2013), who compare Australia and the United Kingdom, and Purhonen and Wright (2013), who do the same for Finland and the United Kingdom. To this extent, these latter studies consider not only highbrow forms of culture but also more popular practices. This is also the case with a study in Latin America that tries to compare Chile and México (Nivón and Sánchez, 2012) without any particular emphasis on being culturally snob. Our proposal goes beyond the attention on highbrowness to include a whole range of activities that mixed up interest in a sort of more exclusive undertakings such as attending cultural events and reading books, with popular activities as watching TV and doing handicrafts (see section 5.1 for a complete list). This broad perspective is more in line with the Bourdieusian contributions mentioned above.

Looking at findings, whether the interest is in high-culture or more popular practices, explanations of cultural activities and taste have generally taken into account well-known variables such as (occupational) social class, level of education, gender (women usually seem to participate more than men), and, in some cases, urban residency (very often, people in big cities participate more) (Katz-Gerro, 2002; Gerhards et al., 2012; Nivón and Sánchez, 2012; Bennett et al., 2013; Purhonen and Wright, 2013; Wright et al., 2013; van Hek and Kraaykamp, 2013; Notten et al., 2015; Falk and Katz-Gerro, 2015). Other variables, which are also mentioned, include for example race/ethnicity and religion (Katz-Gerro, 2002). What is important here for us is that the effects of these variables, according this literature, vary in intensity or even in nature according to the country. For instance, intensity variation can be observed between Australia and the United Kingdom: differences among social classes are weaker in the former country. This implies that in the former country the homology thesis should be a worse depiction of reality than in Britain. As regards the nature of the effect, Katz-Gerro (2002) mentions the importance of religion in understanding cultural participation in the five countries she analyses. However, in Italy, West Germany and Israel, religious participation is negatively associated with high cultural activism, and the opposite occurs in the United States and Sweden. Nevertheless, as a result of these studies, it has become clear that a strong relationship exists between economic and cultural capitals, on one side, and cultural participation and taste, on the other. That is, despite the frequent use of different lexicon and methodology, findings show that volume of capital (income, occupation, education, reading capabilities or proficiency) and cultural practices are strongly and positively related. These results reinforce

the homology thesis. Less clear is whether support can be found for the idea of the existence of a capital-composition dimension (Rosenlund, 2017). Our analysis opens both alternatives, that is, we explore whether the idea of homology is valid based upon one dimension or what can be termed “global capital”, or if it is also a function of a compositional effect which confronts economic and educational (cultural) capital (see hypothesis 1, 2 and 3 in section 3.1 below). There are cases in which more than two dimensions have been explored (Bennett et al., 2009), but this is less frequent, as researchers using MCA, or similar techniques, have mainly focused on the first two dimensions (including Bourdieu, 1979). The interpretation of an additional dimension to those two is in any case less clear: trajectory in Bourdieu (1979), gender in Bennett et al. (2009), for example.

Beyond the analysis of individuals’ behaviors or tastes, the country level is often not fully discussed, as in the studies of Nivón and Sánchez (2012), in which the authors compare Chile and México. In other cases, it is barely treated, which can be seen in Bennett et al. (2013) research on Australia and the United Kingdom and Purhonen and Wright (2013) comparison of Finland and the United Kingdom. Undoubtedly, these are nevertheless valuable studies that teach us about differences in the social space and its structure, and in some cases also refer to the experience of occupying particular positions in the space of a given country (Purhonen and Wright, 2013).

This all means that we know there are differences between countries, but most of the time, accounting for these differences is a difficult matter that only a limited number of studies have attempted to deal with until now. Our contribution provides empirical results to this discussion in order to help to develop a more comprehensive view of similarities and differences between 26 countries that are representative of variety of cultural and political regions, as well as socioeconomic circumstances.

3 Space of social positions, space of lifestyles and homology: which hypotheses?

The homology thesis is based upon the differentiation between two spaces, namely, the social-position space and the lifestyle one. Homology means that a fairly evident and significant match can be observed between positions occupied by individuals in one of these two spaces and those they occupy in the other. In line with Bourdieu’s thinking, we will examine the hypothesis that can be drawn for each two spaces separately, looking then at their links in a later stage.

3.1 Hypothesis about the space of social positions.

The space of social positions is the preferred subject for social stratification specialists and the underlying dimensions are a principal matter of interest. Some approaches retain a one-dimensional model, as, for example, the case of the ISEI (Joye and Chevillard, 2013, Ganzeboom and Treiman, 1992), when class models have much more dimensions involved, this number being the limit the number of classes minus one. In fact, class models have very often hidden dimensions involved: for example, Wright (1985) is distinguishing three types of domination based on property, educational and organizational resources. In the same line, Goldthorpe uses two dimensions when discussing human capital and possibility to control (Erikson and Goldthorpe, 1993). This is the same again when Daniel Oesch (2006) is discussing work logic as a second dimension. The model proposed by Bourdieu is on a similar line. In *La Distinction*, Bourdieu explains that the French social space is built according to two types of capital: economic and cultural, which are, at least partly, independent of each other². Therefore, the main dimensionality of Pierre Bourdieu's model is twofold. In cultural capital literature, this is consistent with previous analysis of the social space across different countries, such as France in Donnat (1994), UK in Bennett et al. (2009), and Norway (Stavanger town) in Rosenlund (2017). Therefore, our first hypothesis concerning the space of social positions will be the following:

H1 In any country, two dimensions are enough in order to account for the organisation of the social position space.

Bourdieu presents these two dimensions by considering first a volume of capital, combining economic and cultural resources, and then go into the discussion of a capital composition dimension whose structure is defined by a confrontation between economic and cultural components. According to such a model, in all countries, the two types of capital will show a partial and positive correlation, leading to the validation of the idea of capital volume as a first structuring and hierarchical dimension. In fact, most of the stratification models agree on the importance of a first hierarchical dimension for social space. The challenge is in the second dimension, in which consensus is much more limited. In the case of Bourdieu, as mentioned, the second dimension would show some differentiation between economic capital on the one hand, and cultural capital on the other. This capital-composition dimension would thus be related to a differentiation between people with relatively more accumulation of economic capital (entrepreneurs or large employers, self-employed people, or liberal professionals) and those concentrated more

²We do not consider here the dimension of social capital, as Bourdieu is not using it in « *La distinction* » even if the recent contributions of Lin and Erikson (2008) and Savage et al. (2013) reintroduce this dimension in the research on stratification and classes.

on cultural capital (professors, professionals from the humanities and social sciences, and teachers).

In accordance with these ideas, we propose the following hypotheses:

H2 in any country, the social-position space will be firstly structured by a capital-volume dimension;

H3 in any country, there is a significant second dimension that confronts economic and cultural capital.

3.2 Hypothesis about the space of lifestyles.

Looking now at the space of lifestyles, there is no explicit proposition of dimensionality in *La Distinction*. As Bourdieu makes clear that the French social space is built according to two types of capital: economic and cultural, some scholars, following a principle of symmetry, thought that two dimensions structure the space of life-style as well: one about the aspects regulating access to economic or material lifestyle items and another referring to the cultural value of these items (Ganzeboom, De Graaf and Kalmijn 1987, Ganzeboom, 1990; Ganzeboom and Nagel 2007). This is not to say that Bourdieu suggested a culture without structure, as he made a plain statement about a threefold differentiation between legitimate, middlebrow and popular cultures, and he was also open to describe a dynamic of conflict within the dominant class between “money” and “culture”.

According to this, in the literature attention focuses very frequently on one dimension. This interpretation is based upon the presence of a hierarchy that has been conceived as opposing highbrow to lowbrow activities. This quote from Prieur & Savage in their comparison of the UK and Denmark is an illustration of this argument: “... *both in the Danish and the British study, [...] the fundamental division goes between those who appear culturally engaged (across a range of latex includegraphics cannot determine sizespecific tastes and practices) and those who appear to largely abstain*” (2013: p. 252) Interpretations such as those associated with the ideas of omnivorousness (Peterson, 1992; Peterson and Kern, 1996) or eclecticism (Donnat, 1994) indicate the basic fact that the main dimension distinguish between high and low, legitimate and popular, engaged and disengaged, being the high, legitimate and engaged an equivalent to an orientation towards a more diverse and intensive cultural activism. This idea is not totally inconsistent with the proposal to rely on two dimensions, economic and cultural, as mentioned before, as these two can be combined to obtain a global scale of cultural activism, homologous of what is done in the social-position space. Fierce debates exist between those who believe that the abandonment of the opposition highbrow/lowbrow implies that Bourdieu is wrong (Peterson, 1992; Peterson and Kern, 1996), and those, like Prieur and Savage, whom we quoted above, who think this is only a consequence of a change in the

content of the “cultural capital”. Taking the point about the stated relevance of the first dimension, also confirmed by the subject of previous comparisons (Gerhards et al., 2012; van Hek and Kraaykamp, 2013), we also consider the twofold dimensionality of the space of social positions in order to hypothesize the relevance of a second dimension, aiming at testing the symmetry between the two spaces. Such a perspective, lead us to try to confirm the following hypotheses:

H4 In any country, two dimensions are sufficient to account for the structure of the space of lifestyles,

Then

H5 A first dimension, ranking the activities from those reserved to a minority to those practiced by nearly anybody, can be observed in any country

The sociological interpretation that could be proposed for this dimension is open here. According to Bourdieu, we would expect this dimension of the lifestyle space to be a “distinction dimension”. To be able to propose this interpretation, rankings of activities should be ordered in a way that reflects a social hierarchy based upon cultural legitimacy. If that is the case, we would confirm the following hypothesis:

H6 In any country, the ranking of activities along the first dimension could be analysed as a local “prestige” scale of these activities. Finally, if the parallelism with the social space is in place, we will find a second dimension defined by an opposition between material and cultural activities (H7):

H7 In any country, a second dimension of the space of lifestyles will come out. Its structure will show a confrontation between economic or material lifestyles, on the one hand, and an orientation towards the appreciation of the cultural value of the activities people are involved, on the other.

3.3 Hypothesis about the links between the two spaces: the homology thesis.

Analysis of the potential relations between the two spaces, social positions and lifestyles ones, is not very frequent in the literature. Two reasons could give us an account for this lack of interest. Firstly, not many studies have looked at enough countries simultaneously to have to wonder about the variability of the links between countries. More importantly, the approaches based on multiple correspondence analysis - the tool usually applied – have led to researchers to to rely heavily on the visual comparison of solutions

rather than on numbers. This does not help in having similar measures in various countries, even if some methodological tricks could allow to do that. Thirdly, the exploration of the space of lifestyles has always been theoretically driven, and that has implied to put in place a sort of assumption about the way cultural activities and capitals should be interwoven with each other. Our discussion is also influenced by this stream of literature, but we also open the possibility of not finding any relationship, even if this is unlikely, and above all that structural relations between capitals and culture might have significant variations across the countries.

If we hypothesize that two dimensions are structuring the space of social positions and the space of lifestyles, let us call them Dim1.soc and Dim2.soc and Dim1.cult and Dim2.cult respectively. Under this logic, we can propose 4 alternatives:

- Both links between Dim1.soc and Dim1.cult, as well as between Dim2.soc and Dim2.cult are strong.
- The link between Dim1.soc and Dim1.cult is strong, while the one between Dim2.soc and Dim2.cult is weak or non-existent;
- The link between Dim1.soc and Dim1.cult is weak or non-existent, while the one between Dim2.soc and Dim2.cult is strong.
- No links are strong or even significant.

Only the first two cases can be considered as a strict validation of the hypothesis of homology, even if the third one implies also some form of relation, but we need to bear in mind that this alternative means that the most important dimensions are not interrelated. We then test the following hypothesis:

H8 In any countries, at least there is a significant link between the first dimension of the space of social positions and the first dimension of the space of lifestyles.

This set of hypothesis rise also the question of comparison and comparability of dimensions in the methodological literature. We will come back on this in the next section, when discussing the methodology.

4 Data and statistical tools for testing homology.

In this section, we cover the data that analysed, providing information that help to understand relevant features of the dataset, the ISSP. Besides that, we offer details about the statistical technique that is proposed to deal with the comparison, canonical correlation analysis, making differentiations between this alternative and other possible methodologies very commonly used in the field, such multiple correspondence analysis.

4.1 The ISSP module as an opportunity for testing Bourdieu's model.

One of our concerns was to cover a range of countries as broad as possible. However, not many “world surveys” have both information on lifestyles and a good set of socio-demographic indicators. Most of the surveys that we are aware of are limited to a specific part of the world (e.g., the European Social Survey; the European Value Study; or European, Latin American or East Asian barometers), are specialized in a specific field (e.g., the PIAAC Survey and World Value Survey), or have not asked about this kind of information (e.g., the Gallup World Poll). The only exception is the International Social Survey Programme (ISSP), which incorporated a Sport and Leisure module in 2007, one that is freely available for the research community.³

The ISSP has a very interesting way of developing its questionnaire, one that could be understood as a procedure for solving the dilemma underlined by Bourdieu: How to get questions that are sociologically significant for each country, allowing nevertheless a full comparative approach? In the case of ISSP, once its General Assembly adopts a topic, such as “Leisure and Sport”, a Drafting Group, with delegates from at least six countries (representing in this case four continents), begins to work together in order to produce a questionnaire adapted to local realities and using the same wording. The General Assembly votes on the final version of the questionnaire, item by item, making sure that survey interviewees from the countries involved will understand the items. After the final vote, the questionnaire is translated into the various national languages⁴, leaving no more room for local adaptations. This procedure echoes the discussion that Bourdieu launched on comparability, when he asked for intimate knowledge of the local realities of the countries under analysis. In the ISSP, this is true, as each delegate participating in the elaboration of the questionnaire has very good knowledge of those local realities.

We used the 2007 module data from the ISSP⁵. The set of questions we are using covers the frequency of participation in 13 leisure activities which can be performed: 1. daily, 2. several times a week, 3. several times a month, 4. several times a year or less often, and 5. never. We consider this order in the subsequent analysis. Regarding the activities, the following list offers the whole set: a. watching TV, DVDs or videos; b. reading books; c. listening to music; d. taking part in physical activities; e. spending time on the Internet or a PC; f. going to the movies; g. attending cultural events (concerts, live theatre, exhibitions, etc.); h. getting together with relatives (who do not live in your household); i. getting together with friends; j.

³Downloaded from the zacat.gesis.org website, version 2.0, DOI: 10.4232/1.10079.

⁴Many countries use also advanced translation in order to be sure that the proposed items can effectively be surveyed in the local contexts.

⁵<http://www.gesis.org/en/issp/issp-home>

playing card or board games; k. attending sporting events (sports, gym, walk, etc.); l. doing handicrafts.

In relation to the indicators of social positions, we integrate all the indicators available in the ISSP, i.e. 5 variables. Two variables are measures of cultural capital: years of education (EDUC) and degree obtained (DEGREE); these two variables are correlated, but they tap on different aspects, the former providing information about the scholarship length and the latter referring to the educational levels overcome⁶. In addition, two variables are indicators of economic capital: a global subjective measure (TOPBOT), which is generated by asking people to position themselves on a scale from 1 (the lowest position in society) to 10 (the highest), and the value of household income divided by the square root of the number of persons in the household (INC). Finally, we use the international CAMSIS scale of social position based on occupation (see <http://www.camsis.stir.ac.uk/versions.html>)⁷ (ICAM).

In order to use the GIFI ordinal approach (see below), EDUC was recoded in a variable having 5 ordinal categories, DEGREE and TOPBOT were kept as they were with 6 and 10 categories, INC was divided in sextiles and ICAMS in quartiles. This was done for each country separately, except for ICAM where it was done for all the countries together, with the argument that this classification is international by nature, not requiring a specific treatment for each country.

This set of indicators allows us to track the distinction between economic and cultural capital. Even if the ISSP is a high-quality data set and even if we wanted to include as many countries as possible, we had to drop some countries because of inconsistencies in data. Out of the whole set of 34 countries (nearly fifty thousand respondents), we had to exclude 8 countries: Mexico, South Africa and the Dominican Republic did not have the final ISCO code that was detailed enough to provide a good match with the international CAMSIS scale; the Czech Republic, Hungary, Great Britain and the US had problems with subjective social position, what affects TOPBOT variable; and in New Zealand education was not measured in a fully comparative way. That left for the analysis 26 countries (see table 1) and more than 37,000 observations. In subsequent analysis, we used listwise deletion of missing values, reducing the size of the datasets accordingly. The main limitation on this regard was the need to have information on occupation, which implies that the analysis about the space of social position was done

⁶Furthermore, authors as Schröder and Ganzeboom (2013) have shown the advantages of multiples measurement also for socio-demographic variables like education. Moreover, valid measurements imply multiple indicators, in particular in a comparative perspective (Smith, 2005).

⁷Using a variable based on occupation is theoretically consistent with social stratification analysis but will reduce the size of the sample by considering only those having an occupation.

on professionally active respondents. These figures of the corresponding N in each country are reported in table 1.

It would have been possible to use a pooled data set, with all the countries together. However, without weighting, each country would have more or less the same importance, independently of its size, and, with weighting proportional to the size, the most populated countries would have completely determined the solution. Furthermore, such a strategy does not allow to discuss different structures in different countries, meaning that the test of our hypothesis would have been impossible. Therefore, according to our conceptual framework looking for homology in each country, we will present country-by-country analysis. This is in line with previous research on cultural capital, as most of it has focused on a separate analysis of one of our set of variables, describing them either social positions or lifestyles. We do the same in order to see if the structures found are similar in those countries analysed (using non-linear PCA) before introducing the “homology” or “Bourdieuian constraint”, that of a link between the two spaces.

4.2 Searching for an adapted measurement level: the GIFI framework.

In surveys on culture and leisure, very often categories of the variables considered are quantifiers of frequency, allowing to rank respondents according to the intensity of their involvement. These variables must be considered as ordinal measures. Nevertheless, the analyses most often presented in the literature have followed methodological strategies that do not fully recognize the “ordinality” of this type of variables. The following two have been common routes of analysis:

- The tradition of PCA considers the variables as interval measures. This solution seems to us an oversimplification of the information available in this kind of questionnaire.⁸
- The correspondence analysis, which is generally used in Bourdieu’s tradition, considers the variables to be nominal and each category to be independent of the others. This solution has the merit of avoiding any assumption, but it is very costly in degrees of freedom and completely downplays important information provided by data, as it is the measurement level.

Bearing that in mind, we propose to use an alternative approach, one that acknowledges the nature of the data available, as it accepts that categories can be ordered but their actual values are not fixed a priori and instead must

⁸Some authors argue that this type of analysis is robust and such a violation of the statistical hypotheses has not significant consequences on results. Even if this is often the case, it does not mean that it is the most recommended statistical procedure.

be calculated. This is perfectly in line with the variables measuring cultural activism, or frequency of participation (attendance, performance). Besides that, that method is also meaningful for variables describing subjective social position; for example, questions asking for interviewees' self-positioning from the lowest to the highest stratum in a society.

Taking into account this ordinal property is an important characteristic of the GIFFI framework, one which generalizes the use of classical multivariate techniques.⁹ This framework integrates PCA or CCA with other multivariate methods and expands their use to include ordinal or even categorical data, correspondence analysis (MCA) being a special case in this family of models¹⁰. Within this framework, an "ordinal" solution is an attempt to maximize the explained variance not only by extracting the best dimensions but at the same time by estimating the best "scaling" of the response categories — as long as the original order is kept. Once the final rescaling is found, the rules of interpretation are similar to those of classical analysis of interval variables. Not using the original value of the categories but the ordering of relative positions is probably a better way to represent local realities in a comparative analysis.¹¹

4.3 The canonical correlation analysis: A statistical tool that respects symmetry between sets of variables.

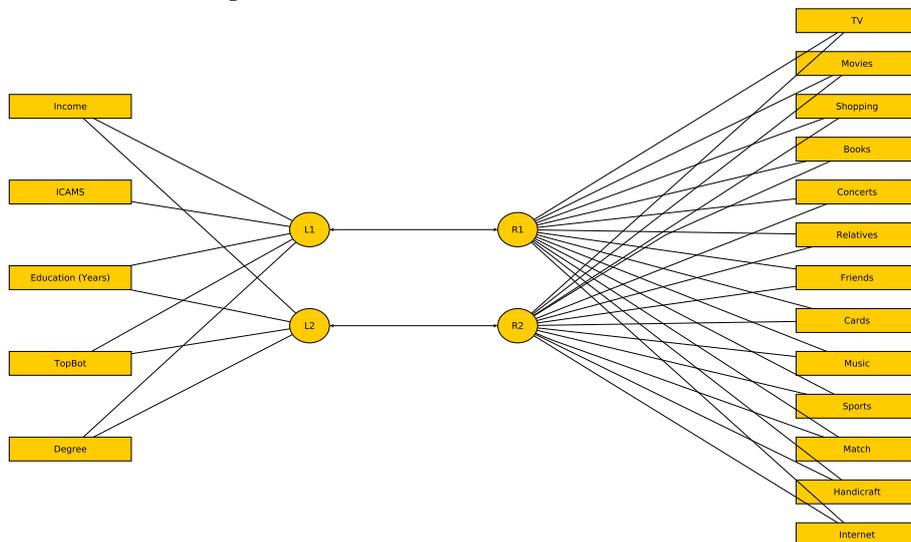
Even if the canonical correlation analysis is not commonly used, it has been known since the first half of the last century (Hotelling initiated this method as early as 1938!). The underlying idea is the following: suppose that two sets of variables are measured for the same observations, the maximum dimensionality of the first (left) and second (right) sets being l and r , respectively, corresponding to the number of variables in each of these two sets. Then, l and r latent variables can be calculated under the following constraints: the l latent variables are uncorrelated, the r latent variables are uncorrelated too, the first of the l latent variables has the maximum possible correlation with the first of the r latent variables, and it goes the same for the second latent variable and then for the third and so on until the smallest number of variables is attained either from the left or right set. In summary, the new constructed components are explanatory factorial dimensions of the

⁹GIFFI was the pen name of a group of social scientists and statisticians who worked in the 1980s at the University of Leiden. A synthesis of their research is published in Gifi (1990).

¹⁰The statistical software routines required has been available for many years in SPSS, in the "Categories" module. In our case, we have mostly used the HOMALS module in R, even if we have also used the stand-alone CANALS program for Canonical Correlation Analysis (CCA), allowing a more direct access to the value of the canonical correlation coefficients. The CANALS program was available on the website <http://gifi.stat.ucla.edu>, accessed April 2015.

¹¹Rescaled data can be provided on request.

Figure 1: Schema of canonical correlation



two respective original sets and have the strongest possible correlations between them. This is very useful for us as if we want to test the homology hypothesis, the two spaces (social positions and lifestyle) might be treated symmetrically, as equally significant. Technically, this is the idea behind the “canonical correlation” method, which can be expressed as the dimensional analysis of each of these two spaces under the constraint of maximal correlation between them.

Canonical Correlation Analysis will generate as many pairs of latent variables (canonical variates in the CCA terminology) as the minimum number of manifest variables in one of the two sets. In our case, the manifest variables on the left side measure social position, and the manifest variables on the right side measure cultural activities (see figure1). With 5 variables for social position and 13 variables for cultural participation, the method will generate 5 pairs of canonical variates, LD1 and RD1, LD2 and RD2, LD3 and RD3, and so on. Thus, LD1/LD2/.../LD5 refers to the latent dimensions for social positions and all together define the social-position space. RD1/RD2/.../RD5 refers to the latent dimensions for cultural participation, and all together define the lifestyle space. The latent variable (LDi+RD_i) is known as the *i*th canonical function.

The interpretation will rely mostly on: 1. the correlation between manifest variables and canonical variates, which can be interpreted exactly as loadings of axis in PCA, and 2.the “canonical correlations”, which are the correlations between the canonical variates . The square of the canonical correlation can be interpreted as a measure of explanatory power, similar to

R-squared in a regression¹².

Researchers may wonder why to use canonical correlation and not simply the principal component analysis of all variables taken together. In our case, one reason is that with 13 variables describing the lifestyle space and 5 describing the social positions one, the cultural set would weight more than the social position set in the outcome. In other words, a good way to balance the analysis is the separation between 2 independent sets of variables. Working in that direction, canonical correlation analysis offers a fairly direct way to test the validity of the idea of homology. However, this methodology has not been used extensively in the works inspired by *La Distinction*. In fact, we are aware of only one text referring to it (Frie & Janssen, 2009). If we look at previous contributions, most of them take one of the two spaces as a reference, usually that of lifestyles, and for that reason we will compare our findings with those which were obtained by all these previous analyses.

4.4 Looking at number of dimensions

Looking at number of dimensions One of the most comprehensive review of the question of selecting dimensions in PCA is perhaps Jolliffe (2002) where he discusses a list of “ad-hoc” rules: 1. A cut-off point based on the variance explained, typically requiring a relatively high proportion; 2. The “Kaiser’s rule” stating that it is important that a component has more information than a single variable, implying in the case of using a correlation coefficient matrix, an eigenvalue greater than 1; 3. The “Scree” test or the search of an elbow in the curve. If the Bartlett’s test for the equality of eigenvalues is often suggested, Jolliffe remarks “The procedure [...] has one further, more practical, disadvantage, namely that in nearly all real examples it tends to retain more components than are really necessary.” (p. 119). So, it overestimates frequently the number of dimensions required. Moreover, it needs distributional assumptions that are most often unrealistic (Dray, 2008)¹³.

Things are very similar in the case of canonical correlation analysis. The decomposition of the variance in common between both sets of variables is of course possible. The Scree-test is also a tool as the eigenvalues are related to the square of the canonical correlations. Parametric tests based on Wilk’s Lambda are possible as the Bartlett test in PCA. However, the remarks made before, that such a test is conservative in relation to the number of dimensions chosen, are also true in the case of CCA. In addition, it implies a hypothesis of multi-normality of the variables, not realistic with our data. With all this information in mind in order to run our CCA, we propose first

¹²If the right set contains one and only one manifest variable, the canonical correlation gives the same results as the R² in a regression.

¹³Cross-validation techniques have also been proposed, but this can be very heavy in terms of computations and do not seem to lead to very different conclusions.

a minimum value of the explanatory power by dimension, second performing a scree-test, and third, when necessary, adding up information from other indices. This is in line with the procedure proposed by Gittins (1985).

4.5 Comparing dimensions between countries.

This methodological discussion would not be completed without some discussion of the way to interpret equivalence between countries: some authors in comparative studies discussed as many as 52 ways to define equivalence (Johnson, 1998). The most interesting discussion in our context is probably between “structure oriented” equivalence and “level oriented” equivalence. In our work, based on correlations, we are clearly looking for comparable structures between countries and not if the scores can be directly compared in terms of measurement.¹⁴In other words, the search for a comparable matrix of loadings in different countries is clearly looking to establish a weak form of equivalence between countries. This is adapted at the level of precision we are working with in our research.

5 Findings

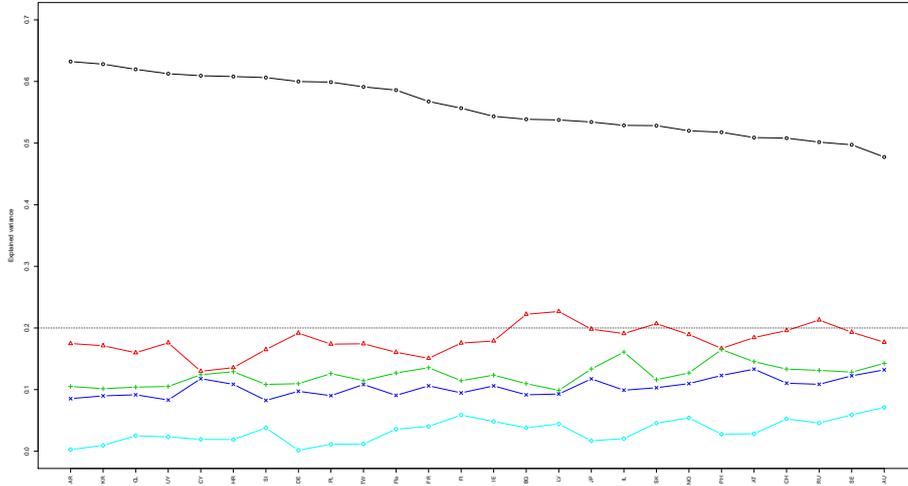
In this section, we first present the results using ordinal PCA for the two sets of variables –social position and lifestyles – separately, in order to evaluate the dimensionality of both sets. Then, we go into the consideration of the canonical correlation analysis as an opportunity to have a measure of the association between social positions and cultural practices when a Bourdieusian constraint of structural homology is applied. Therefore, we discuss both the dimensionality and the structure of the correlations, and this is done country by country. Finally, we develop a summary of the empirical conclusions before evaluating more strictly our hypotheses.

5.1 The social-position and life-style spaces, without homology constraint: Principal Component Analysis (PCA).

Regarding the dimensionality for the set of variables describing social positions, the scree test shows a very clear dominance of the first component (figure 2). However, the explained variance criteria suggest that two components are needed in a significant number of countries, and that the second component is not very far from being significant in the other countries. Therefore, whichever the country, to some extent the social space could be

¹⁴The technique to assess the different levels of equivalence, if looking for this, is well described in Ciecuch, Davidov, Schmid and Algesheim in a chapter entitled "Assesment of Cross-Cultural Comparability" in Wolf et al. (2016). On this see also Davidov et al. (2011).

Figure 2: Non-linear PCA: Explained variance by dimension and by country



considered as two-dimensional. In every case, the first component can be understood as a volume of capital, all variables having positive loadings, with a greater weight for the cultural variables than for the economic ones. Also in every country, the second component could be interpreted as a “capital composition”, opposing cultural variables and economic variables, the ICAM variable belonging rather to the cultural side. The variability between countries of the loadings of the economic variables seems to be greater than that of the cultural indicators; being Cyprus an outlier in terms of the behaviour of the economic variables.

Concerning the space of lifestyles, if we follow the criteria regarding the importance of eigenvalues, a very similar pattern across countries appears. In every case, four components are important, with a strong predominance of the first component, the others barely exceeding the value limit of $1/13$ of the explained variance. Some countries show a more diverse pattern, with up to 5 interesting components. Nevertheless, even in these countries, the dimensions beyond the first one have a much lower explanatory power. Without describing in details the patterns for each country, one point should be underlined: in every case, almost all life-style variables correlated positively with the first component. Only “TV watching” differs in that this variable is negatively correlated with the first component in most of the cases. The correlation between the first dimension and a calculated score of “volume of activity” is rather high in every country. In all of the country, six activities have strong loadings: shopping, sports, books, internet use, concert and movies. Even though the variability is greater for other variables, this does not change the conclusion of a high degree of similarity amongst the bulk of those variables. In the case of the other variables, it is hard to figure out a

It is important to consider the strength of this first canonical correlation. This correlation is greater than 0.5 in all the countries. In other words, the variance explained by the first dimension of the homology is between 30% and 50%, which is extremely high by comparison to many results published in social science: social position and lifestyles, as measured here, are strongly interrelated. The homology is strong everywhere.

In summary, in almost every country, except Cyprus and Israël, only one canonical function is needed for describing the association between the two sets of variables. The associated canonical correlation is high, that means that we can conclude to an important homology between social position and cultural activities. However, this is only true for the first dimension of these two spaces, implying that the Bourdieusian hypothesis of a structural homology working on two dimensions of the spaces of social position and life style, is not confirmed.

5.2.2 The content of the first canonical function.

We will examine now the content of the first variates, the only ones to be significant. Which interpretation could be found for the first dimension of the two spaces, the social position and the life style spaces, as described from the loadings?

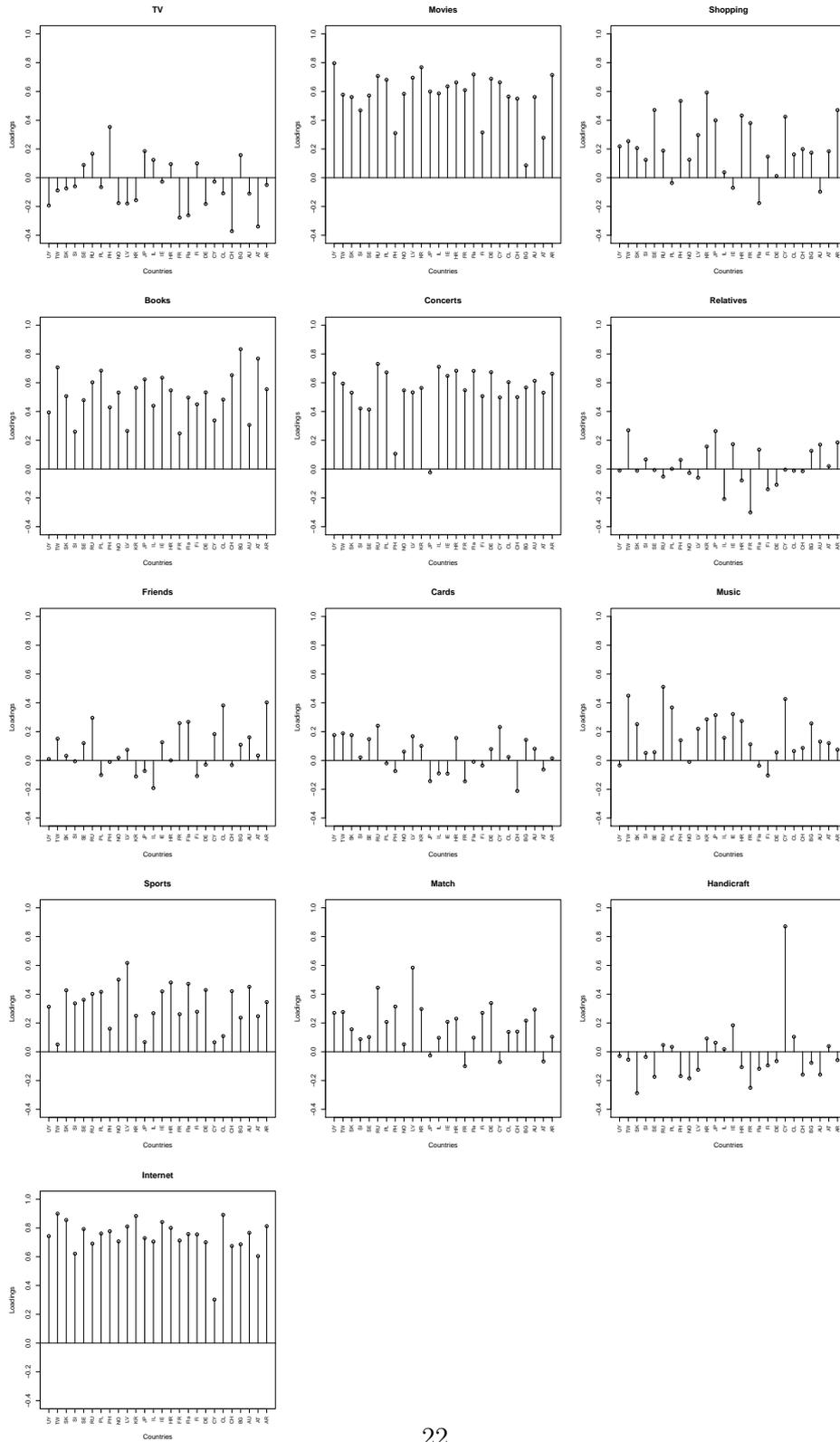
The canonical variate of the “left set”, describing the space of social position, is in all of the countries an indicator of capital volume. Loadings of variables related to education are very high, more than 0.8. When we look at those variables measuring economic capital, they show significantly lower loadings, nevertheless they all make a relevant contribution to this first and main dimension. Last but not least, the variable about occupational prestige (ICAMS) is in a in-between position¹⁶

There is also a strong similarity between countries regarding the lifestyle space (figure 4). This similarity between countries looks far greater than it could have been expected considering the large range of countries included in the analysis. In fact, the variability of loadings is related to differences in strength: the same variables have high loadings in all the countries, but in some of them loadings of some variables are higher or lower than in other cases. On whole, we have a same stable subset of variables structuring the results of all the countries. These are above all: movies, concerts, internet, and sports. Home based activities (TV, Handicraft or relations with friends) do not contribute significantly to the solution. The remaining variables are in between, with “books” nearer the most structuring activities.

It is important to make clear that introducing homology’s constraint has a selection effect, defining a smaller set of discriminating activities common to every country. The temptation of considering this canonical variate as an

¹⁶Israel seems to be a special case with a particularly low loading for the subjective position, TOPBOT variable.

Figure 4: Loadings of the right set, canonical correlation



indication of highbrow activism is strong, but a classical indicator of such a notion as reading books is not fully associated with it, while internet and, perhaps more significantly, practicing sport are not usually understood as part of a highbrow cultural orientation.

5.3 Discussing results and testing hypothesis.

The most remarkable result is the striking similarity of our findings all over the countries, whatever their geographical or geopolitical location, and their possible fragmentation along other dimensions than social classes. The variable loadings throughout the first canonical component as well as throughout the separate principal component analysis are ranked in the same way regardless of country, confirming particularly H2 and H5). Having said that, this result is somewhat clearer regarding the variables that define the social-position space, than regarding the activities defining the lifestyle space. All in all, this matches previous studies which provided significant evidence about the similarities between countries (Bennett et al., 2009; Purhonen and Wright, 2013; Bennett et al., 2013; Falk and Katz-Gerro, 2015; Gayo, 2016), even if these studies were limited to a far smaller set of cases.

In the analysis of the space of social positions, the dimension of capital volume clearly dominates. A second dimension related to capital composition could be also taken into account, as it was suggested in hypothesis H1, H2 and H3, when analysis are done without imposing any constraint of homology with the space of life-style. This is in line with many studies in the field of social stratification in general, as well as those of Bourdieu. On the other hand, in the separate analysis of the space of lifestyles, one dimension is also dominating, even if a complete description would benefit from an examination of the other dimensions, partly in line with H4. Nevertheless, when considering the two sets simultaneously, it is hard to justify considering more than one dimension in common, confirming H8. This dimension represents a social hierarchy, on one hand, and a correspondent gradient of volume of activism, on the other. This can be seen as a trivial result but also a provocative statement: trivial because the association between the top and bottom social positions and cultural activities is straightforward, and also provocative because, with the data at hand, no substantial benefit can be expected by introducing all the sophistication of the Bourdieusian model in the search for homology from a comparative perspective.

In relation to hypothesis 6 (H6), there is a confirmation that comes from the fact that we can see that activities such as movies or cinema attendance, going to concerts/theatre, access to the internet, and sports related practices show the higher loadings or association with the first dimension, as we would generally expect from the list of 13 activities included in the ISSP module. Perhaps surprisingly, reading behaviour is further behind, but still with some relevance. In other words, axis 1 represents an order of activism that could be

interpreted, within the limits of the information in the survey, as a hierarchy of involvement in legitimate or highly valued culture.

More difficult is drawing conclusions about H7, that is, whether or not there is a relevant second dimension to report. The predominance of the first axis is very clear all across the countries. However, if we look at the second dimension, above all when it seems to be relevant from the point of view of its explanatory power, a confrontation between economic and cultural variables emerges, being this fact quite homogeneous amongst the countries, even though its impact is pretty weak.

If we have stressed the striking similarity of the results between countries, there is still some differences that could be meaningful. For example, when looking at the strength of the first canonical correlation, we have seen a tendency to see some proximity between countries situated in the same geographical area. If a more systematic explanation with country level variables describing some forms of social fragmentation was clearly outside the scope of this paper, the line of research based among other on Fearon (2003) or Haller et al. (2015) can be interesting to scrutinize. In any case, once the broad similarity is established, there are still room for an explanation of the differences. And the link between these and the national structure has to be systematically investigated.

6 Conclusion

We did a systematic comparison of data that were collected with the same questionnaire (questions based on collective agreements by all participating countries) through similar sampling procedures. Such similarity allowed us to explore similarities and differences between national contexts, trying to find out whether Bourdieu's homology thesis could be generalized to other countries, first beyond France, and then later reaching cases from outside the most advanced industrial societies. Following that purpose, using the ISSP made feasible the inclusion of countries worldwide, attempting a broad and diverse comparative test of the homology thesis. Such comparative studies are scarce and our results wanted to be a contribution on this area. Besides that, the methodology is new in the field and we showed how to develop a statistical strategy which opens a line of analysis to make comparisons inspired by a theoretical proposal.

On the methodological side, it is tempting to emphasize the advantages of the technique used. We have already mentioned the two key points: the importance of being in line with the measurement, particularly in a comparative perspective, and the importance to consider simultaneously two sets of variables if we want to consider homology. The method used here (CCA) respects these two conditions but are the results so different from previous studies? Is there some additional value? The primary interest of canonical

analysis is to focus on the interactions that may exist between social positions and lifestyle-related activities. Our results show the importance of these links. The results are organized around a social hierarchy of capitals and a differentiating engagement in terms of the number of cultural activities. Identifying such a link in a broad set of very different countries is a very strong result but, as we mentioned above, the capital-composition dimension does not seem to be a key element when accounting for those structural links. When looking to the measurement, most analysis considering variables as interval rather than ordinal are in fact very often robust and the structure not so different.¹⁷ However, if some statistical properties are not respected, interpretation has to be very careful, diminishing the probability of strong results. In the case, we are much more confident on the validity of our results as the methodology, in terms of measurement, was adapted. By contrast, to consider the variables as nominal, as it is the case by using MCA, could potentially multiply the number of dimensions seen as necessary, complexifying without necessity the interpretation and multiplying without reasons the dimensions to be considered.¹⁸

On the more substantive side, in a similar vein to previous contributions - even if they were based on a much smaller subset of countries - (Bennett et al., 2009; Purhonen and Wright, 2013; Gayo et al., 2016; Rosenlund, 2017), all across the countries we found similar results. This is not to contend that all those cases are identical, but we have to acknowledge that they all share very significant structural features. Our findings show all their spaces of social positions are divided according to the accumulation of capitals, above all educational ones. In other words, being well educated seems to be a common and often necessary route to the top positions in society in very different contexts. On the other hand, the dimensional structure of the space of lifestyles makes clear how involvement in cultural activities creates a distinction effect, being those like cinema attendance, theatre and concert going, access to internet, and engagement in sports practices significant examples of practices particularly valued by people transnationally. This homogeneity is a slightly different from analysis that consider specific activities that might be popular in one case (for instance, country music in UK), and not so much in other (the same music in Finland) (Purhonen and Wright, 2013). Besides that, we do not have elements to develop much in nuances or details associated to the different social histories of some cultural activities, as Gayo (2016) shows for the histories of some musical genres in Chile and UK. In synthesis, structural homogeneity more than difference would be our main finding. At the same

¹⁷In a companion paper, we have replicated the analysis using traditional PCA and CCA. The structure was not so different even if inferences has to be much more careful as statistical properties are clearly not assessed.

¹⁸In fact, it is even possible to test the relation between increase of complexity and gain in validity using interval, ordinal or nominal methods in the GIFI framework. For a more in depth discussion of this see Joye, Birkelund and Lemel, 2016.

time, we have not been able to find differences amongst countries that can generally be attributed to their relative level of prosperity (Gerhards et al., 2012), or wealth and social mobility (ven Hek and Kraaykamp, 2013).

That inter-country resemblances go beyond the examination of the spaces of social positions and lifestyles considered separately. They both are strongly associated all over the countries, showing a pattern that gives a very significant support to the idea of homology, or the interrelation or interdependence that is in place between accumulation of capitals (cultural and economic) and forms of cultural engagement, the well-known Bourdieusian and traditional link between class and culture. We found far less evidence to sustain the presence of a strong confrontation between economic and cultural capital, in the way Bourdieu presented in his classic book *La distinction* (1979) and some followers have tried to give support to until these days (Rosenlund, 2017).

Finally, quite surprisingly, structural homogeneity seems to go across levels of modernization and industrialism, religion and cultural diversity, navigating through radically different social realities, making homology an endurance part of our contemporary reality.

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