

# Testing the "Omnivore/Univore" Hypothesis in a Cross-National Perspective. On the Social Meaning of Eclectism in Musical Tastes

Philippe Coulangeon, Ionela Roharik

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**TESTING THE “OMNIVORE/UNIVORE” HYPOTHESIS IN A CROSS-NATIONAL PERSPECTIVE.  
ON THE SOCIAL MEANING OF ECLECTICISM IN MUSICAL TASTES IN EIGHT EUROPEAN  
COUNTRIES**

**Philippe COULANGEON**

e-mail: [philippe.coulangeon@sciences-po.fr](mailto:philippe.coulangeon@sciences-po.fr)

Observatoire Sociologique du Changement (OSC)  
Sciences-Po  
11, rue de Grenelle, 75007 PARIS

LSQ-CREST (INSEE)

Timbre : J.350

Bureau : E33(MK1),

3, avenue Pierre Larousse 92240 MALAKOFF

**Ionela ROHARIK**

e-mail: [roharik@ehess.fr](mailto:roharik@ehess.fr)

Centre de Sociologie du Travail et des Arts  
(CESTA)  
CNRS – EHESS,  
105, Bd Raspail 75006 PARIS

Are musical tastes still strongly and universally correlated with social class, as asserted by Pierre Bourdieu in a suggestive formulation (Bourdieu, 1984, p. 158)<sup>1</sup>. A lot of evidences, based on the sociological literature on tastes and cultural consumption, support the robustness of this correlation, while less straightforwardly defined than stated by Bourdieu. Indeed, this correlation appears to be slightly defined as a correspondence between social stratification and cultural legitimacy scale (i.e. highbrow arts and culture for the upper middle classes vs. lowbrow arts and culture for the lower classes. see Gans, 1974; Levine, 1988), and it tends to be more adequately described as a matter of scope of tastes and cultural habits, as stated by Richard Peterson, basically opposing the quite ‘omnivorous’ upper-middle classes, listening as much highbrow music as middlebrow or lowbrow music, to the more ‘univorous’ popular classes, narrowly restricted to a limited number of lowbrow musical genres (Peterson & Simkus, 1992; Peterson & Kern, 1996).

Although fairly attested in various contexts, at least in the United States (Bryson, 1996 & 1997), in the Netherlands (Van Eijck, 2001), in Israel (Katz-Gerro, 199; Katz-Gerro & Shavit, 1998), in Spain (Lopez-Sintas & Garci-Alvarez, 2002), in France (Coulangeon, 2003) and in Great Britain (Chan & Goldthorpe, 2004), this so-called ‘Omnivore-Univore’ hypothesis has not been yet fully investigated in a comparative design. In this paper, we specifically intend to investigate the ‘omnivore/univore’ hypothesis in such a comparative design, using recent data from the Eurobarometer 56.0. on cultural participation (Eurostat, 2001). Therefore, the aim of the paper is twofold. First, we evaluate both the robustness and uniformity of the ‘omnivore/univore’ pattern of musical consumption within a set of European countries, based on the musical genres listened to by the respondents. Second, we try to measure the cross-

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<sup>1</sup> “Mais pour revenir aux variations des goûts selon les conditions sociales, je n’apprendrai rien à personne en disant qu’on peut repérer aussi infailliblement la classe sociale d’appartenance ou si l’on veut la “classe” (il a de la “classe”) à partir des musiques préférées (ou, plus simplement, des chaînes de radio écoutées) qu’à partir des apéritifs consommés, Pernod, Martini ou whisky », Pierre Bourdieu, Questions de sociologie, Paris, 1984, p. 158.

national variations in the impact of a set of social variables, such as profession, education, income, age and gender, on the orientation of musical tastes.

### **Theoretical background: from cultural legitimacy to cultural eclecticism**

The strength of ties between aesthetic dispositions, on the one hand, social class, social origin and cultural capital, on the other, has been widely attested empirically (Bourdieu, 1979; DiMaggio and Mohr, 1985; Van Eijck, 1997). It is at the core of Pierre Bourdieu's sociology, with its conception of a space of preferences unified by a functionalist conception of the tie between the membership in the upper classes, the taste for the highbrow arts, and the symmetrical rejection of popular arts and culture. This conception was shaken in the early 1990s, however, by a series of empirical studies bringing to light increasing eclecticism in upper class tastes, particularly in the area of music (Peterson and Simkus, 1992; Peterson and Kern, 1996; Van Eijck, 2001).

#### *Habitus and distinction*

Bourdieu's sociology of tastes implies two fundamental concepts: *habitus* and distinction. The *habitus* concept associates orientation of artistic preferences with the deterministic idea of dispositions acquired during the primary socialization stage that then continue to frame all behaviors (Bourdieu, 1980). Since the effect of *habitus* is largely due to informal impregnation mechanisms, it does not involve a genuine learning process, and this characteristic of *habitus* becomes particularly salient in the sphere of musical tastes, ineffable par excellence, where production and transmission of dispositions involve largely implicit, unconscious processes (Bourdieu, 1979: 70-87). In this respect, *habitus* is not an avatar of human capital (Becker and Stigler, 1974). However, the space of social structure positions is linked to that of esthetic preferences by the structural homology principle at the core of Bourdieu's theoretical model: taste has as much to do with expressed distaste for the aesthetic preferences attributed to other social groups as with positive adherence to the preferences of one's own social group (Bourdieu 1979: 64-65). In the musical field, the 'dominant' taste (i.e. the taste of the dominant class) is in this way defined as an unambiguous penchant for highbrow genres (classical, opera, contemporary classical) and an equally pronounced rejection of lowbrow or commercial genres.

This view requires a unified, hierarchically arranged vision of the space of lifestyles, cultural habits and tastes precisely the view that informs cultural legitimacy theory. Namely, a functionalist vision of social distribution of tastes and practices based primarily on the idea that the hierarchy of cultural preferences represented by the 'highbrow'/'lowbrow' opposition (Gans, 1974, 1985; Levine, 1988) is internalized at all levels of the social structure and thus supports the cultural integration of society.

#### *The 'omnivore/univore' hypothesis: blurring the boundary between highbrow and lowbrow*

In a 1992 article on distribution of musical preferences by occupational status based on American data from the 1982 Survey on Public Participation in the Arts, Peterson and Simkus significantly inflect the cultural legitimacy model, showing that the highly educated upper classes are distinguished from the other categories not only by a penchant for highbrow music but also by the eclecticism of their tastes (Peterson and Simkus, 1992). In contrast, a greater number of exclusive-type music-lovers, the extreme case being 'fans', were to be found in the lower-status classes. Moreover, analysis of 1992 SPPA data showed that this phenomenon

was accentuated over time: ‘snobs’, characterized by their exclusive taste for highbrow music, were being overtaken by ‘omnivores’, who simultaneously preferred music genres situated inside and outside the field of highbrow music (Peterson and Kern, 1996).

Peterson’s observation of increasing eclecticism in upper-class musical tastes is part of wider-ranging thinking on the declining power of highbrow arts in symbolic identification of the lifestyles of social groups (Peterson, 1997). This decline is linked to the development of the cultural industries, which formally make a great variety of cultural products available to the greatest number, as an effect of nationally but also transnationally unified cultural production markets (Wilensky, 1964; DiMaggio, 1977; Peterson and Kern, 1996). This set of related change in the field of cultural production in turn works to break down the barrier between highbrow and lowbrow art, while in music the same effect was being produced by the fact that the scope of art subsidizing had been broadened, to noticeably include jazz.

### *Economic and cultural components of the class/occupation effect*

While the correlation between people occupation or class location and the characteristics of their cultural habits and tastes is supported by a lot of empirical evidences, the meaning of this class and/or occupation effect on cultural behavior and, more broadly, lifestyle, is not easily understandable. Although both Marxist and functionalist traditions accept the idea that one’s economic position or, said in more functionalist terms, one’s position in the division of labor, is by itself a huge determinant of a large part of his habits, interests, beliefs and life style characteristics this theoretical assumption is nothing less than easily attestable<sup>2</sup>. Indeed, if the impact of one’s economic position on political beliefs and behaviors is easily understandable and analytically comprehensible, the same relation does not work so clearly for cultural or simply moral concerns (Houtman, 2003). In that sense, the two-dimensional social space depicted by Bourdieu in *La distinction* (economic capital vs. cultural capital) provides a more analytically comprehensive view of the so-called class and/or occupation impact on lifestyles, cultural habits and tastes (Bourdieu, 1979). Therefore, a rational understanding of Bourdieu’s theoretical construction tends to credit cultural and symbolic resources of the individuals, although largely inherited and correlated to social and economic position, to have a greater impact on tastes and cultural habits construction than class location has by itself.

## **Data, methodology and hypothesis**

### *From musical habits to musical tastes*

The data used in this paper come from the Eurobarometer 56.0 of October 2001, which encompass three topics: information and communication technologies, financial services and cultural activities<sup>3</sup>. As to the latter, the questionnaire includes both questions on cultural participation and questions on cultural and artistic tastes. Concerning musical tastes, each respondent has been invited to indicate what kind of music does he listen to through a list containing twelve items: classical music, opera and operetta, rock and pop music, hard rock

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<sup>2</sup> C For a Marxist illustration see Collins and Makowski, 1972. For a more functionalist view, see Inkeles, 1960. Cited by Houtman, 2003, p. 10.

<sup>3</sup> Carried out between August 22 and September 27 on 16 162 individuals’ sample, it covers the population aged 15 years and over, resident in each of the 15 member states of the EU at the time of the survey. The basic sample design applied in all member states is a multistage, random one. For additional technical specifications, see: [http://www.gesis.org/en/data\\_service/eurobarometer/standard\\_eb\\_profiles/data/eb\\_56\\_0.htm](http://www.gesis.org/en/data_service/eurobarometer/standard_eb_profiles/data/eb_56_0.htm)

and heavy metal, easy listening music, dance and house, techno, rap, jazz and blues, folk and traditional music, world music and, finally, other types of music spontaneously declared. We have decided to include into the model only eleven of these items by excluding “other” category, due to its opacity and heterogeneity, and we have grouped some of them in order to obtain a set of seven manifest variables as follows: “classical music” (including classical music, opera and operetta), “pop” (former “rock and pop music” category grouped to the “easy listening music”), dance music (which includes dance, house, techno and rap music) and, respectively, “hard rock”, “jazz”, “folk” and “world music” as unchanged items<sup>4</sup>.

Regarding the formulation of the question focused on in the analysis (“what kind of music do you listen to”), it could be argued that this research design, coping with musical listening rather than with musical preferences, miss the very question of musical “tastes”. Nonetheless, this research design allows the test of the omnivore/univore hypothesis in a better way than questions on preferences, generally allowing a limited number of responses, could do. Additionally, it is quite coherent to consider that people like what they usually listen to. Moreover, if practices cannot be considered as unambiguous indicators of tastes when the former are submitted to exogenous constraints, for instance constraints on geographical location of cultural supply (Hugues and Peterson, 1983), like in the case of concerts attendance, this argument, cited by Peterson and Simkus (1992) to justify their choice of an approach of tastes rather than practices, seems less relevant for listening to recorded music, where this kind of constraints are weaker. Furthermore, Hugues and Peterson’s argument can be turned back on itself, as the sensitivity of the respondents to legitimacy effects (*ie.* their tendency to adjust their responses to what they perceived as the cultural legitimacy scale of the musical genres) can be assumed to be stronger in declaring tastes than in declaring practices.

Besides, this data set provides a unique occasion to compare the distribution of musical tastes across European countries, uniformly coded in a single taxonomy. Of course, there is no clear evidence that this taxonomy is equally relevant within all the countries covered by the survey. The gain in standardization of the registered information is indeed partially balanced by the loss in recording some national idiosyncrasies. In the definition of the research design, we choose to treat only 8 of the 15 countries initially included in the dataset: France, Germany (restricted to the former West Germany), Greece, The Netherlands, Portugal, Spain, Sweden and Great Britain (without Northern Ireland).

The first step of the analysis presented in this paper consists in the investigation, based on a latent class analysis, of the distribution of musical genres and their combination within European listeners. In accordance with the data collection design, we do not consider the data set as a whole, but we perform a set of 8 separate analyses on each of the 8 countries covered by the comparison. In each country, the analysis is made on the whole population. In addition to the seven manifest variables mentioned earlier, each data set contains also various social indicators.

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<sup>4</sup> The choice of the seven manifest variables was decided after a series of univariate and bivariate analysis on distribution of variables of musical tastes through populations in study. This recoding procedure permitted to diminish the number of manifest variables and so the number of cells of the cross-classification table in the analysis.

### *On latent class analysis*

There are several statistical techniques that can be very helpful for discovering a suitable typology and for classifying cases in terms of this typology. Well-known and widely used techniques are factor analysis, discriminant analysis and cluster analysis.

Much less attention has been paid to latent class analysis. Although the basic ideas underlying latent class analysis were developed as early as 1950, it is only rather recently that serious statistical shortcomings of the older procedures for carrying out latent class analyses have been overcome.

Latent class analysis does not solve all the problems inherent in the three classification techniques mentioned above, but in many cases it is preferred to these three. Latent class analysis does not presuppose interval measurement, linear relationship or underlying normal distribution. These kinds of assumptions are common in alternative techniques like factor analysis, but are alien to the way most social scientists have been using ideal types. No assumptions are made concerning the form (linear or otherwise) of the relationships between the manifest and the latent variables. The nature of these relationships between the latent and manifest variables is not absolute, not deterministic, but probabilistic. In other words, the fact that one belongs to a particular latent class instead of to another enhances or diminishes the probability of obtaining a particular scoring pattern on the manifest variables but does not absolutely determine this pattern.

With latent class analysis we can examine whether the observed relationship among several dichotomous or polytomous *manifest* (observed) variables can be *explained* in terms of one (or more) *latent* (unobserved) variable(s). When it turns out that the observed relationships among the several manifest variables can be explained in terms of one (or more) latent variable(s), then the one (or more) latent variable(s) can be used to replace, in a certain sense, the several manifest variables (and the corresponding cross-classification of the several manifest variables). A chi-square test can be used to compare the actual frequencies found in the cross-classification of the manifest variables with the corresponding estimates of the frequencies expected under the latent class model. With this test, we can determine whether the model is congruent with the observed data. Various latent class models can be applied to a given cross-classification in order to compare the models with regard to their goodness of fit.

We present here a brief description of the latent class model expressed in mathematical terms. For expository purpose we shall focus our attention on the case where there are three manifest categorical variables and one latent categorical variable. Let  $A$ ,  $B$ ,  $C$  denote the manifest variables, and let  $X$  denote the latent variable. Let  $\prod_{ijk}^{ABC}$  denote the probability that an individual's response on variables  $A$ ,  $B$ , and  $C$  takes on the value  $i$ ,  $j$ , and  $k$ ; let  $\prod_t^X$  denote the probability that an individual on latent variable  $X$  is in latent class  $t$ ; let  $\prod_{ijk}^{ABCX}$  denote the probability that an individual's response on variables  $A$ ,  $B$  and  $C$  takes on the value  $i$ ,  $j$  and  $k$ , respectively, and the individual is in latent class  $t$  on latent variable  $X$ ; let  $\prod_{i/t}^{A/X}$  denote the conditional probability that an individual's response will take on the value  $i$  on variable  $A$ , given that the individual's latent class is  $t$  on the latent variable  $X$ ; and let  $\prod_{j/t}^{B/X}$  and  $\prod_{k/t}^{C/X}$  be similarly defined. The latent class model states that:

$$\prod_{ijk}^{ABCX} = \prod_t^X \prod_{i/t}^{A/X} \prod_{j/t}^{B/X} \prod_{k/t}^{C/X} \quad (1)$$

and

$$\Pi_{ijk}^{ABC} = \sum_t \Pi_{ijkt}^{ABCX} \quad (2)$$

Formula (1) states that, given that an individual is in latent class  $t$  on latent variable  $X$ , the individual's responses on the manifest variables ( $A, B, C$ ) will be mutually independent. In other words, when the latent class  $t$  on latent variable  $X$  is held constant, the relationships among the manifest variables [ $A, B, C$ ] disappear; i.e., the latent variable *explains* the relationship among manifest variables. Formula (2) describes the fact that each individual is in one (and only one) of the latent classes and represents the essential assumption of local independence. This so-called assumption of local independence is just another way of expressing that the scores on  $A$  through  $C$  only depend on  $X$ . Within a particular latent class, holding  $X$  constant, there is no association between the indicators. The manifest variables may have strong correlations with each other but these are only caused by the relationship each of them has with  $X$ .

The parameters in the latent class model (namely,  $\Pi_t^X, \Pi_{i/t}^{A/X}, \Pi_{j/t}^{B/X}, \Pi_{k/t}^{C/X}$ ) can be estimated using maximum likelihood estimates. By comparing the estimates  $\Pi_{ijk}^{ABC}$  with the observed proportion  $p_{ijk}^{ABC}$  or rather with the observed frequencies  $f_{ijk}^{ABC}$  through standard chi-square testing procedures, one can test whether the model is empirically valid – that is, whether the postulated typology corresponds with reality.

Nevertheless, one big problem remains, as with all forms of table analysis. If the number of manifest variables increases somewhat, the number of cells increases enormously, and may very well exceed the number of respondents. Under such circumstances the standard chi-square testing procedures are of no use. This came out clearly from the enormous differences between the values of the Pearson chi-square and the likelihood chi-squares. Although extremely small cell frequencies in principle affect the stability of the parameter estimates.

The general hypothesis to be tested in this first part of the analysis is that the kind of clusters defined by the LCA procedure advocates for the Omnivore/Univore pattern rather than for the Highbrow/Lowbrow one (**H1**).

### *Looking for the social parameters of the distribution within latent clusters*

Having done this first set of analysis in each country, we then consider the location of the respondents within the different clusters as a categorical variable, which can thus be considered as the dependent variable of a multinomial logistic regression. In each country, the first variable to be included in the logistic model is the occupation variable (OCC), that can be considered as an approximation of the class position, whereas the theoretical background of its definition in the Eurostat code is not patent. This occupation variable takes account of the current or last job of the respondents. Consequently, the retired are classified in their last active category, and the only respondents classified as non-active are the ones who never get any paid job, namely students and house persons. At last, this occupation variable has 5 modalities (Managers, Other white collars, Manual workers, Self-employed, Non active), and the manual workers are taken as the reference category in all the models to be tested further. Following the first hypothesis previously investigated by the LCA, we provisionally assume that what the Omnivore/Univore pattern challenges in the *Distinction* theory is only the

Highbrow/lowbrow scheme, but not the class/occupation impact on the orientation of musical tastes (**H2**). Put in other words, we assume that musical tastes and, more broadly, aesthetic dispositions do reflect class position, but not exactly as theorized by Bourdieu. We then test this hypothesis in each of the 8 countries in a model in which we additionally introduce age (AGE)<sup>5</sup> and gender (GENDER) as control variables. The model can be written as follows:

$$\text{Log} \frac{P_j}{P_1} = \beta_{j_0} + \beta_{j_1} \text{GENDER} + \beta_{j_2} \text{AGE} + \beta_{j_3} \text{OCC} \quad (\text{Model 1})$$

The third hypothesis to be tested by the logistic procedure deals with the really meaning of the so-called class/occupation effect. In order to test for both the meaning and the robustness of this effect, we therefore add, in a second set of logistic regressions, an income variable (INCOME), measured as the position of the respondent household in the quartiles distribution of their country, and a cultural or educational capital variable measured by the number of years completed at school - more precisely, the age of the end of full-time education (AGEDUC). These two variables are not free from technical difficulties. First, the non-respondents rate to the income question is particularly high, varying from 15 (Sweden) to 45 percent (Spain) from one country to another. As deleting each national sample of the non-respondents would introduce a highly non-controllable bias, the most acceptable solution is to consider the “don’t know” modality as a residual category in the responses distribution to the income question, though hardly interpretable. Concerning the education variable, it could equally be argued that the measure available in the data set is a very crude approximation of the educational or cultural capital of the respondents. As it is the only available information regarding cultural resources of the respondent, we finally opt for its introduction in the second model, which can be written as follows:

$$\text{Log} \frac{P_j}{P_1} = \beta_{j_0} + \beta_{j_1} \text{GENDER} + \beta_{j_2} \text{AGE} + \beta_{j_3} \text{OCC} + \beta_{j_4} \text{INCOME} + \beta_{j_5} \text{AGEDUC}$$

**(Model 2)**

Opening the “black-box” of this effect by adding these two additional control variables, we thus expect a reduction, even a vanishing of the class/occupation effect. The underlying hypothesis is actually that the apparent class-effect hides the effect of the individual resources that go along with the occupational position of the respondents, namely, cultural and economic capital (**H3**).

The last research question deals with the relative contribution of each of the variables introduced in the full model, including occupation, gender, age, income and age of the end of full-time education, to the general fitting of the model to the data. We hypothesize here that the most important underlying cleavages that shape the distribution of the individuals in the various patterns of musical listeners are neither interpretable in terms of class nor in terms of financial or cultural resources, but in terms of age and/or generation (**H4**).

## Results

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<sup>5</sup> Age is introduced as a continuous variable, centered on its country mean.



Starting on the various research questions pointed out in the previous section, we first investigate the relationship between the various musical genres listened to by the respondents, what leads to various typologies that in a second step serve as dependent variables of a set of multivariate analysis in which we investigate the social factors of the differentiation of musical tastes.

#### *Analysing the latent structure of musical tastes*

In each of the eight countries included in the comparison, the relationship among the seven manifest variables describing musical habits of the respondents can be explained by a simple latent class model that has several latent classes according to each country. The three-class model fits the data very well for Sweden with a likelihood-ratio chi-square value of 117.95 on 104 degrees of freedom and the same three-class model fits the data quite well for Greece and Great Britain (the likelihood-ratio chi-square is, respectively, 124.25 and 125.25 on 104 degrees of freedom). For France and Germany, p-value of 0.0035 and respectively 0.0062 indicates that the model does not fit to data if the usual statistical criteria are applied. Nevertheless, we shall accept the three-class model solution based on the dramatic reduction – 76% ( $137.59/565.71=0.24$ ), respectively, 81% – in the chi-square value obtained with the four-class model compared with the model of independence. The selection of the three-class model concerning the latent structure of musical tastes in Netherlands was carried out on the basis of the same criteria of the salient reduction in the chi-square value – 72 % – in spite of the fact that the model seems to be contradicted by the data in view of p-value of 0.00014. The four-class model is congruent with the data concerning Spanish and Portuguese samples considering a likelihood-ratio chi-square value of 111.62, respectively, 99.97 on 96 degrees of freedom.

**Table 1** – Latent class analysis pertaining to musical tastes

| Model                       | <i>df</i> | Likelihood-Ratio $\chi^2$ | <i>p</i> -value | Goodness of Fit $\chi^2$ | <i>p</i> -value |
|-----------------------------|-----------|---------------------------|-----------------|--------------------------|-----------------|
| <b>Netherlands</b>          |           |                           |                 |                          |                 |
| Independence model          | 120       | 587.86994                 | 8.5e-63         | 918.92525                | 2.8e-123        |
| Model with 2 latent classes | 112       | 283.40661                 | 7.8e-17         | 881.88465                | 7.9e-120        |
| Model with 3 latent classes | 104       | 164.83411                 | 0.00014         | 158.84060                | 0.00043         |
| <b>United Kingdom</b>       |           |                           |                 |                          |                 |
| Independence model          | 120       | 471.75016                 | 3.4e-43         | 3174.1904                | 2.8e-581        |
| Model with 2 latent classes | 112       | 254.74564                 | 4.0e-13         | 332.86294                | 9.0e-24         |
| Model with 3 latent classes | 104       | 125.18668                 | 0.077           | 126.96964                | 0.062           |
| <b>Spain</b>                |           |                           |                 |                          |                 |
| Independence model          | 120       | 497.34131                 | 2.1e-47         | 1216.3563                | 1.1e-180        |
| Model with 2 latent classes | 112       | 314.57324                 | 3.9e-21         | 303.71612                | 1.3e-19         |
| Model with 3 latent classes | 104       | 173.94709                 | 2.1e-5          | 170.96876                | 3.9e-5          |
| Model with 4 latent classes | 96        | 111.61796                 | 0.13            | 121.80188                | 0.039           |
| <b>Portugal</b>             |           |                           |                 |                          |                 |
| Independence model          | 120       | 664.78561                 | 2.3e-76         | 2873.4070                | 1.6e-518        |
| Model with 2 latent classes | 112       | 225.31606                 | 1.3e-9          | 295.76051                | 1.6e-18         |
| Model with 3 latent classes | 104       | 169.93524                 | 4.8e-5          | 201.79886                | 3.1e-8          |
| Model with 4 latent classes | 96        | 99.971893                 | 0.37            | 109.54770                | 0.16            |
| <b>Sweden</b>               |           |                           |                 |                          |                 |
| Independence model          | 120       | 469.80470                 | 7.1e-43         | 891.05359                | 5.2e-118        |
| Model with 2 latent classes | 112       | 258.85655                 | 1.2e-13         | 460.12987                | 1.0e-43         |
| Model with 3 latent classes | 104       | 117.95297                 | 0.17            | 113.27689                | 0.25            |
| <b>Greece</b>               |           |                           |                 |                          |                 |
| Independence model          | 120       | 653.68102                 | 2.2e-74         | 11997.653                | 3.2e-2463       |
| Model with 2 latent classes | 112       | 192.48562                 | 3.5e-6          | 408.93236                | 2.1e-35         |
| Model with 3 latent classes | 104       | 124.25572                 | 0.086           | 125.38157                | 0.075           |
| <b>France</b>               |           |                           |                 |                          |                 |
| Independence model          | 120       | 565.71194                 | 5.7e-59         | 1219.4334                | 2.7e-181        |
| Model with 2 latent classes | 112       | 345.71879                 | 1.2e-25         | 371.49892                | 1.5e-29         |
| Model with 3 latent classes | 104       | 230.18194                 | 1.5e-11         | 232.22403                | 8.7e-12         |
| Model with 4 latent classes | 96        | 137.58962                 | 0.0035          | 126.58872                | 0.020           |
| <b>Germany (w)</b>          |           |                           |                 |                          |                 |
| Independence model          | 120       | 716.06234                 | 1.3e-85         | 954.09169                | 5.9e-130        |
| Model with 2 latent classes | 112       | 222.75581                 | 2.4e-9          | 294.69738                | 2.3e-18         |
| Model with 3 latent classes | 104       | 159.80733                 | 0.00036         | 154.95064                | 0.00089         |
| Model with 4 latent classes | 96        | 134.12546                 | 0.0062          | 135.72767                | 0.0048          |

### *Exploring national patterns of musical tastes*

In applying the standard latent class model to the multidimensional table formed by the seven musical tastes indicators we bring to light different musical taste typologies according to country. A three latent class solution divides the respondents into three groups, which are of noticeably different size, in Netherlands, Great Britain, Sweden and Greece.

In Netherlands, the first latent class consists of people who are mainly keen on classical music (the conditional probability of listening classical music is the highest in this group: 0.69). They represent 46% of the Dutch sample. The second group (44% of the sample) gathers together especially the pop music lovers (the highest conditional probability in this cluster – 0.90 – is the probability of listening rock and pop music). Finally, the smallest latent class – 10% – appears to be the group of those one can describe as “eclectic tastes”. The conditional probabilities of listening classical music, rock and pop music, jazz and world music are higher than the same conditional probabilities in the two previous latent classes.

Concerning Great Britain, the solution of the latent class model splits individuals into three groups among which the third is noticeable less significant. The largest group – 53% – is composed of pop music fans (conditional probability of listening rock and pop music is 0.90). 41% of the British sample are classical and pop music listeners. This particular twin-configuration – classical music and pop music – identified in this cluster will be met within another national contexts (Netherlands, Spain and France). We also have to notice that the classical music attraction is never a prevailing attribute which permits a latent class depiction by itself. Nevertheless, we will consider these clusters as “highbrow” accepting here the idea that pop music represents more a general background than a typical characteristic. The last residual cluster – 6% of the sample – includes individuals who take pleasure in listening a diversity of music genres. We have to notice that this cluster of “eclectic tastes” is considerably less significant than in the Dutch sample.

It is also much less important than the comparable cluster in Swedish or Greek populations: near 11% of respondents are in a latent class being characterized as the eclectic musical listening. Attraction for the pop music sets up a distinctive latent class in both these countries (see Cluster1 for Sweden with a conditional probability of listening rock and pop music of 0.89, and Cluster2 for Greece with a conditional probability of listening rock and pop music of 0.72). It is worth noting that only 39% of Greeks compared to 55% of Swedish are in “univore” pop music latent class. The rest of 33% of the Swedish population goes to a bipolar tastes group matching interest for classical (conditional probability of 0.78) and traditional music (conditional probability of 0.68).

Moreover, the attraction for traditional and folk music determines the largest cluster in Greek musical tastes typology: half of the respondents are in the latent class derived from a particular appeal for this musical genre. The Greek case is quite outstanding: the corresponding “univore folk music” latent class identified in Spanish, Portuguese and German typologies never exceeds 40% (21% in Spain – see Cluster1, 28% in West Germany – see Cluster2, 37% in Portugal – see Cluster1).

One of the most recurrent type of univore latent class is “univore pop music”. As we have noticed earlier, 44% of Dutch and 53% of British respondents are in this latent class. This amount is comparable with the percentages of the analogous latent class in Spain and West Germany (56% and respectively 46%). Unlike these two countries, French and Portuguese members of this class are less numerous: only 28% respectively 18%.

However, we have to notice an equivalent participation on the “omnivore cluster” in France, Spain, Portugal and West Germany. Similar proportions are observed for this latent class in these four countries (9% in Spain – see Cluster 4, 10% in Portugal – see Cluster 4, 11% in France – see Cluster4, 8% In West Germany – see Cluster 4).

**Table 2** – Maximum-likelihood estimate of latent class probability and conditional probability in the latent class model

**NETHERLANDS**

|                        | Cluster1 | Cluster2 | Cluster3 |
|------------------------|----------|----------|----------|
| <i>Cluster Size</i>    | 0.4589   | 0.4424   | 0.0986   |
| <b>Classical music</b> | 0.6884   | 0.0678   | 0.6785   |
| <b>Pop</b>             | 0.5441   | 0.9046   | 0.9729   |
| <b>Dance</b>           | 0.0442   | 0.5308   | 0.5332   |
| <b>Hard rock</b>       | 0.0065   | 0.2050   | 0.3636   |
| <b>Jazz</b>            | 0.1891   | 0.1441   | 0.8038   |
| <b>Folk</b>            | 0.3704   | 0.0712   | 0.3463   |
| <b>World music</b>     | 0.2091   | 0.1181   | 0.5904   |

**GREAT BRITAIN**

|                        | Cluster1<br>“Pop” | Cluster2<br>“Highbrow” | Cluster3<br>“Omnivore” |
|------------------------|-------------------|------------------------|------------------------|
| <i>Cluster Size</i>    | 0.5289            | 0.4131                 | 0.0580                 |
| <b>Classical music</b> | 0.0531            | 0.7246                 | 0.7811                 |
| <b>Pop</b>             | 0.8975            | 0.7940                 | 0.9988                 |
| <b>Dance</b>           | 0.3825            | 0.1055                 | 0.5845                 |
| <b>Hard rock</b>       | 0.1283            | 0.0466                 | 0.5525                 |
| <b>Jazz</b>            | 0.0759            | 0.2259                 | 0.6943                 |
| <b>Folk</b>            | 0.0190            | 0.2590                 | 0.7860                 |
| <b>World music</b>     | 0.0394            | 0.0702                 | 0.7080                 |

## SWEDEN

|                     | Cluster1<br>"Pop" | Cluster2<br>"Highbrow<br>Folk" | Cluster3<br>"Omnivore" |
|---------------------|-------------------|--------------------------------|------------------------|
| <i>Cluster Size</i> | 0.5538            | 0.3344                         | 0.1118                 |
| Classical music     | 0.1774            | 0.7856                         | 0.8119                 |
| Pop                 | 0.8865            | 0.5541                         | 0.9973                 |
| Dance               | 0.3847            | 0.1834                         | 0.6056                 |
| Hard rock           | 0.2061            | 0.0007                         | 0.5066                 |
| Jazz                | 0.1244            | 0.4392                         | 0.7247                 |
| Folk                | 0.2342            | 0.6774                         | 0.6561                 |
| World music         | 0.1438            | 0.0798                         | 0.6327                 |

## GREECE

|                     | Cluster1<br>"Folk" | Cluster2<br>"Pop" | Cluster3<br>"Omnivore" |
|---------------------|--------------------|-------------------|------------------------|
| <i>Cluster Size</i> | 0.5015             | 0.3877            | 0.1107                 |
| Classical music     | 0.0665             | 0.2019            | 0.5190                 |
| Pop                 | 0.0409             | 0.7241            | 0.7798                 |
| Dance               | 0.0131             | 0.3469            | 0.4713                 |
| Hard rock           | 0.0000             | 0.0479            | 0.2781                 |
| Jazz                | 0.0129             | 0.0831            | 0.8745                 |
| Folk                | 0.7750             | 0.4353            | 0.5912                 |
| World music         | 0.0288             | 0.1388            | 0.4840                 |

## SPAIN

|                     | Cluster1<br>"Pop" | Cluster2<br>"Folk" | Cluster3<br>"Highbrow" | Cluster4<br>"Omnivore" |
|---------------------|-------------------|--------------------|------------------------|------------------------|
| <i>Cluster Size</i> | 0.5655            | 0.2076             | 0.1409                 | 0.0860                 |
| Classical music     | 0.0709            | 0.1233             | 0.9754                 | 0.4592                 |
| Pop                 | 0.8523            | 0.3634             | 0.6616                 | 0.8978                 |
| Dance               | 0.3075            | 0.0015             | 0.0011                 | 0.3872                 |
| Hard rock           | 0.0975            | 0.0002             | 0.0168                 | 0.2967                 |
| Jazz                | 0.0528            | 0.0003             | 0.1907                 | 0.8006                 |
| Folk                | 0.1486            | 0.9879             | 0.2607                 | 0.6338                 |
| World music         | 0.0436            | 0.0082             | 0.0839                 | 0.6231                 |

## PORTUGAL

|                     | Cluster1<br>"Folk" | Cluster2<br>"Highbrow<br>Folk" | Cluster3<br>"Pop" | Cluster4<br>"Omnivore" |
|---------------------|--------------------|--------------------------------|-------------------|------------------------|
| <i>Cluster Size</i> | 0.3698             | 0.3543                         | 0.1794            | 0.0964                 |
| Classical music     | 0.0219             | 0.4401                         | 0.0455            | 0.5935                 |
| Pop                 | 0.1112             | 0.5743                         | 0.7837            | 0.9966                 |
| Dance               | 0.0054             | 0.0548                         | 0.5802            | 0.6353                 |
| Hard rock           | 0.0001             | 0.0080                         | 0.2600            | 0.3388                 |
| Jazz                | 0.0001             | 0.0329                         | 0.0018            | 0.6722                 |
| Folk                | 0.9029             | 0.5866                         | 0.2313            | 0.5363                 |
| World music         | 0.1519             | 0.3739                         | 0.2816            | 0.4744                 |

## FRANCE

|                     | Cluster1<br>"Highbrow" | Cluster2<br>"Pop" | Cluster3<br>"Pop Dance" | Cluster4<br>"Omnivore" |
|---------------------|------------------------|-------------------|-------------------------|------------------------|
| <i>Cluster Size</i> | 0.3951                 | 0.2675            | 0.2299                  | 0.1076                 |
| Classical music     | 0.6020                 | 0.0241            | 0.0145                  | 0.6554                 |
| Pop                 | 0.6886                 | 0.9983            | 0.7395                  | 0.9991                 |
| Dance               | 0.1053                 | 0.0085            | 0.9063                  | 0.5437                 |
| Hard rock           | 0.0323                 | 0.0245            | 0.2106                  | 0.2182                 |
| Jazz                | 0.3177                 | 0.0061            | 0.1227                  | 0.8230                 |
| Folk                | 0.1933                 | 0.0896            | 0.0255                  | 0.5997                 |
| World music         | 0.2471                 | 0.0799            | 0.2202                  | 0.8582                 |

## GERMANY (W)

|                     | Cluster1<br>"Pop" | Cluster2<br>"Folk" | Cluster3<br>"Highbrow" | Cluster4<br>"Omnivore" |
|---------------------|-------------------|--------------------|------------------------|------------------------|
| <i>Cluster Size</i> | 0.4633            | 0.2776             | 0.1778                 | 0.0812                 |
| Classical music     | 0.0880            | 0.2738             | 0.9771                 | 0.5353                 |
| Pop                 | 0.8924            | 0.3085             | 0.2785                 | 0.9185                 |
| Dance               | 0.4195            | 0.0020             | 0.0757                 | 0.5808                 |
| Hard rock           | 0.1719            | 0.0002             | 0.0003                 | 0.3094                 |
| Jazz                | 0.0737            | 0.0169             | 0.1700                 | 0.7670                 |
| Folk                | 0.0897            | 0.8084             | 0.5800                 | 0.1819                 |
| World music         | 0.1750            | 0.3987             | 0.1777                 | 0.5593                 |

These tables present the estimated probability that a respondent is in a specified latent class (*italic*) and the estimated conditional probability that a response is in a specified response category on a specified manifest variable, given that the respondent is in a specified latent class (normal). Since each manifest variable is dichotomous, the corresponding estimated conditional probability is presented in this table only for the affirmative response category. The corresponding estimate for the negative response category is simply one minus the estimate for the affirmative response category

Finally, the result of these 8 LCA can be briefly summarized as follows. On the one hand, the highbrow univore pattern is clearly not attested, while the main cluster in most of the countries under consideration can be depicted as a “Pop music” one. Concerning the omnivorous pattern, although present everywhere, it always represents a small minority of the respondents and can thus be mostly considered as an emergent pattern.

### *Opening up the class/occupation black-box*

The second step of the analysis consists in the computation of two subsequent set of logistic regressions. The first set of models brings out a significant association, in nearly all the countries covered by the comparison, between the occupation of the respondents and their location within the clusters defined by the LCA. Namely in France, in the UK, in Greece, in Spain and in Sweden. Significantly, but less obviously in Germany and in Portugal (see **tables a1 to a8** in the appendix). Not so clearly in the Netherlands, besides, in which the quality of fitting of the LC model to the data is questionable, however. In all the countries in which this association is clearly noticeable, it principally contrasts the location of the “Managers” to the location of the “Manual workers” within the clusters, mainly in the probability to belong to a Highbrow cluster, when such a cluster is unambiguously identified, rather than to the Pop music cluster. This pattern is clearly visible in Germany, Spain, Great Britain (see **tables a2, a6 & a8**), and in France, where self-employed, non-active and, to a lesser extent, other white collar, contrast also with Manual workers on this point (see **table a1**)

Most in line with Peterson’s findings, it however appears in some countries that when an “omnivorous” cluster is also clearly observable in the data, the relative advantage of the Managers towards it is often greater than their advantage towards the “highbrow” cluster. It is clearly the case in France, in Spain and, to a lesser extent, in Germany (see **tables a1, a2 & a6**). Not in Great Britain, however (see **table a8**).

Another suggestive result is that in some countries in which a popular folk pattern appears, like in Germany, in Greece or in Spain, there is a rather strong and significant negative association between this pattern and the Managers group. Keeping in mind that the “highbrow/lobrow” scheme is, in Bourdieu’s view, perhaps mostly interpretable in negative than in positive terms (tastes are also “distastes”), this result suggests stronger cultural rejection phenomenon where some specific popular tradition is still lively present. Conversely, the growing “omnivore” pattern may be partially interpreted as a paradoxical confirmation of Adorno and Horkheimer’s view ([Adorno et Horkheimer, 1944](#)). In a way, as the industrialization and massification of cultural production tends to erase the authentically popular genres and to promote some cultural standardization, upper classes members no longer need to reject lowbrow genres that are no longer socially emblematic of the popular classes in order to display their social status. Therefore, rising Omnivorousness doesn’t essentially mean an increasing aesthetic tolerance, but perhaps simply matches with some transformation in musical production.

Finally, all these observations tend to confirm the class dimension of the orientation of musical tastes, that is somewhat more complex than sketched out in the Highbrow/Lowbrow

scheme (**H2**). However, the computation of the second set of models shed a slightly different light on these results.

*Disentangling and ordering occupation, education and income effects*

As displayed in **table 3**, in 6 of the 8 countries under consideration, adding the INCOME and AGEDUC variables to the model significantly improves the quality of its fitting to the data.

**Table 3** – Comparison of goodness of fit  $\chi^2$  of Model 1 and Model 2

|             | -2 LOG L Model 1 | -2 LOG L Model 2 | ddf model 1 | ddf model 2 | L1 - L2 | ddf2 – ddf1 | p     |
|-------------|------------------|------------------|-------------|-------------|---------|-------------|-------|
| France      | 2058.572         | 1976.967         | 18          | 39          | 81.605  | 21          | <.001 |
| Germany     | 1916.751         | 1870.820         | 18          | 39          | 45.931  | 21          | <.001 |
| Greece      | 1462.879         | 1345.476         | 12          | 26          | 117.403 | 14          | <.001 |
| Netherlands | 1475.135         | 1458.300         | 12          | 26          | 16.835  | 14          | .255  |
| Portugal    | 1731.049         | 1656.195         | 18          | 39          | 74.854  | 21          | <.001 |
| Spain       | 1801.210         | 1749.014         | 18          | 39          | 52.196  | 21          | <.001 |
| Sweden      | 1522.884         | 1497.247         | 12          | 26          | 25.637  | 14          | .029  |
| UK          | 1374.521         | 1330.028         | 12          | 26          | 44.493  | 14          | <.001 |

Moreover, where the effect of occupation is significant in **model 1**, it generally tends to decrease or vanish in **model 2**, as reported in **table 4**. In France, the managers’ odds ratio for the highbrow and omnivorous clusters drops of about 40 percent from the first to the second model, while the other effects (other white collars, self-employed and non-active) related to the highbrow cluster simply disappear. In Germany, the negative association between the managers and the Folk cluster is substantially reduced, while their relative advantage towards Highbrow and Omnivorous clusters simply disappear. These tendencies are also confirmed in Spain, in Portugal, in Sweden and in the UK, even more clearly. In Spain, the managers and self-employed association with the Highbrow cluster totally disappear from model 1 to model 2, while the association with the Omnivorous cluster is simply reduced. The pattern is quite the same in Portugal with the Highbrow Folk cluster and the Omnivorous cluster, with the Highbrow Folk cluster only in Sweden. However, in the UK, it is the latter association that disappears, whereas the association with the Highbrow cluster is substantially reduced.

**Table 4 – Odds ratio of the OCC variable – Model 1 and 2**

|          |         |          | Managers | Manual workers | Other white collars | Self-employed | Non active |
|----------|---------|----------|----------|----------------|---------------------|---------------|------------|
| France   | model 1 | H vs. P  | 2.9      |                | 1.6                 | 1.7           | 1.9        |
|          |         | PD vs. P |          |                |                     |               |            |
|          |         | O vs. P  | 3.5      |                |                     |               |            |
|          | model 2 | H vs. P  | 1.7      |                |                     |               |            |
|          |         | PD vs. P |          |                |                     |               |            |
|          |         | O vs. P  | 2.0      |                |                     |               |            |
| Germany  | model 1 | F vs. P  | 0.5      |                | 0.3                 |               |            |
|          |         | H vs. P  | 1.8      |                |                     |               |            |
|          |         | O vs. P  | 2.1      |                |                     |               |            |
|          | model 2 | F vs. P  | 0.7      |                | 0.4                 |               |            |
|          |         | H vs. P  |          |                |                     |               |            |
|          |         | O vs. P  |          |                |                     |               |            |
| Greece   | model 1 | F vs. P  | 0.2      |                | 0.4                 |               | 0.6        |
|          | model 2 | F vs. P  | 0.5      |                | 0.6                 |               |            |
| Portugal | model 1 | F vs. P  |          |                |                     |               |            |
|          |         | FP vs. P | 2.8      |                |                     |               |            |
|          |         | O vs. P  | 6.0      |                | 2.6                 |               |            |
|          | model 2 | F vs. P  |          |                |                     |               |            |
|          |         | FP vs. P |          |                |                     |               |            |
|          |         | O vs. P  | 3.7      |                |                     |               |            |
| Spain    | model 1 | F vs. P  | 0.3      |                | 0.5                 |               |            |
|          |         | H vs. P  | 2.6      |                |                     | 1.8           |            |
|          |         | O vs. P  | 3.5      |                | 1.9                 | 2.4           |            |
|          | model 2 | F vs. P  |          |                |                     |               |            |
|          |         | H vs. P  |          |                |                     |               |            |
|          |         | O vs. P  | 2.7      |                |                     | 2.3           |            |
| Sweden   | model 1 | HF vs. P | 2.1      |                |                     |               | 2.0        |
|          |         | O vs. P  |          |                |                     |               |            |
|          | model 2 | HF vs. P | 1.6      |                |                     |               | 2.7        |
|          |         | O vs. P  |          |                |                     |               |            |
| GB       | model 1 | H vs. P  | 3.4      |                | 1.5                 | 4.7           |            |
|          |         | O vs. P  | 3.3      |                |                     |               |            |
|          | model 2 | H vs. P  | 1.7      |                |                     | 3.8           |            |
|          |         | O vs. P  |          |                |                     |               |            |

Considering these results, it could be nevertheless argued that, even when controlling for income and education, the occupation effect doesn't systematically and totally disappear. However, as suggested by the results reported in **table 5**, the contribution of the latter to the fitting of the model to data is far from being equivalent to the contribution of the two other variables. In this table, we compute the -2 Log L of the full model in column 1 and the -2 Log L of a restricted model, with deletion of the occupation variable OCC in the last column. The difference between the two (column 3) is submitted to a chi square test, with a number of degrees of freedom derived from the difference of the number of df in the full model and in the restricted model. The last column reports the p value that gives an indication of the significance of the deterioration of the goodness of fit associated to the deletion of OCC in

each country. The following sections of the table replicate the same process with the other variables included in the full model. Concerning the occupation variable, the test gives a clear indication that, except for Germany, the contribution of OCC to the goodness of fit of the model to data is very poorly significant, notably contrasting with the AGEDUC variable.

**Table 5 – Model fit test with successive deletions of one variable**

| Deleted variable |             | (1)<br>-2 Log L full model | (2)<br>-2 Log L restricted model | (3)<br>df full model | (4)<br>df restricted model | (2)-(1) | (3)-(4) | P     |
|------------------|-------------|----------------------------|----------------------------------|----------------------|----------------------------|---------|---------|-------|
| OCC              | France      | 1977,0                     | 1988,3                           | 39                   | 27                         | 11,3    | 12      | 0,505 |
|                  | Germany     | 1870,8                     | 1903,9                           | 39                   | 27                         | 33,1    | 12      | 0,001 |
|                  | Greece      | 1345,5                     | 1358,1                           | 26                   | 18                         | 12,6    | 8       | 0,126 |
|                  | Netherlands | 1458,3                     | 1465,4                           | 26                   | 18                         | 7,1     | 8       | 0,529 |
|                  | Portugal    | 1656,2                     | 1673,8                           | 39                   | 27                         | 17,6    | 12      | 0,128 |
|                  | Spain       | 1749,0                     | 1766,3                           | 39                   | 27                         | 17,3    | 12      | 0,139 |
|                  | Sweden      | 1497,2                     | 1508,1                           | 26                   | 18                         | 10,9    | 8       | 0,210 |
|                  | UK          | 1330,0                     | 1348,1                           | 26                   | 18                         | 18,1    | 8       | 0,021 |
| GENDER           | France      | 1977,0                     | 1982,6                           | 39                   | 36                         | 5,6     | 3       | 0,132 |
|                  | Germany     | 1870,8                     | 1880,5                           | 39                   | 36                         | 9,7     | 3       | 0,022 |
|                  | Greece      | 1345,5                     | 1346,0                           | 26                   | 24                         | 0,6     | 2       | 0,751 |
|                  | Netherlands | 1458,3                     | 1465,2                           | 26                   | 24                         | 6,9     | 2       | 0,031 |
|                  | Portugal    | 1656,2                     | 1662,3                           | 39                   | 36                         | 6,1     | 3       | 0,106 |
|                  | Spain       | 1749,0                     | 1750,6                           | 39                   | 36                         | 1,6     | 3       | 0,653 |
|                  | Sweden      | 1497,2                     | 1507,0                           | 26                   | 24                         | 9,7     | 2       | 0,008 |
|                  | UK          | 1330,0                     | 1342,0                           | 26                   | 24                         | 12,0    | 2       | 0,002 |
| AGE              | France      | 1977,0                     | 2230,7                           | 39                   | 36                         | 253,7   | 3       | 0,000 |
|                  | Germany     | 1870,8                     | 2233,8                           | 39                   | 36                         | 363,0   | 3       | 0,000 |
|                  | Greece      | 1345,5                     | 1419,8                           | 26                   | 24                         | 74,3    | 2       | 0,000 |
|                  | Netherlands | 1458,3                     | 1770,6                           | 26                   | 24                         | 312,3   | 2       | 0,000 |
|                  | Portugal    | 1656,2                     | 1875,2                           | 39                   | 36                         | 219,1   | 3       | 0,000 |
|                  | Spain       | 1749,0                     | 1872,6                           | 39                   | 36                         | 123,6   | 3       | 0,000 |
|                  | Sweden      | 1497,2                     | 1698,3                           | 26                   | 24                         | 201,1   | 2       | 0,000 |
|                  | UK          | 1330,0                     | 1521,9                           | 26                   | 24                         | 191,9   | 2       | 0,000 |
| AGEDUC           | France      | 1977,0                     | 2006,3                           | 39                   | 30                         | 29,3    | 9       | 0,001 |
|                  | Germany     | 1870,8                     | 1894,8                           | 39                   | 30                         | 24,0    | 9       | 0,004 |
|                  | Greece      | 1345,5                     | 1407,7                           | 26                   | 20                         | 62,2    | 6       | 0,000 |
|                  | Netherlands | 1458,3                     | 1464,2                           | 26                   | 20                         | 5,9     | 6       | 0,435 |
|                  | Portugal    | 1656,2                     | 1698,5                           | 39                   | 30                         | 42,3    | 9       | 0,000 |
|                  | Spain       | 1749,0                     | 1783,9                           | 39                   | 30                         | 34,9    | 9       | 0,000 |
|                  | Sweden      | 1497,2                     | 1511,0                           | 26                   | 20                         | 13,8    | 6       | 0,032 |
|                  | UK          | 1330,0                     | 1348,0                           | 26                   | 20                         | 18,0    | 6       | 0,006 |
| INCOME           | France      | 1977,0                     | 1993,0                           | 39                   | 27                         | 16,1    | 12      | 0,188 |
|                  | Germany     | 1870,8                     | 1890,4                           | 39                   | 27                         | 19,6    | 12      | 0,075 |
|                  | Greece      | 1345,5                     | 1384,7                           | 26                   | 18                         | 39,3    | 8       | 0,000 |
|                  | Netherlands | 1458,3                     | 1469,3                           | 26                   | 18                         | 11,0    | 8       | 0,199 |
|                  | Portugal    | 1656,2                     | 1675,4                           | 39                   | 27                         | 19,2    | 12      | 0,083 |
|                  | Spain       | 1749,0                     | 1764,2                           | 39                   | 27                         | 15,1    | 12      | 0,234 |
|                  | Sweden      | 1497,2                     | 1508,5                           | 26                   | 18                         | 11,3    | 8       | 0,186 |
|                  | UK          | 1330,0                     | 1352,2                           | 26                   | 18                         | 22,2    | 8       | 0,005 |



At a second level of the analysis, considering in deeper details the effects of the two variables added in **Model 2**, it appears that in all the countries where an unambiguous Highbrow cluster can be identified, this cluster is fairly significantly associated with the number of years of education. It is clearly the case in France and in Great Britain (see appendix, **table b1** and **table b8**), significantly but less obviously in Germany and in Spain (see **table b2** and **table b6**). Additionally, where an Omnivorous cluster emerges, it is sometimes associated to education too, but this association is much more uncertain than the previous one. Indeed, whereas each of the eight countries includes an Omnivorous cluster, this effect is significantly present in only two of them, namely France and Sweden (see **tables b1** and **b7**). Nonetheless, even in these three countries, the positive impact of the time completed at school is very weakly significant ( $p < .1$ ). Therefore, The comparative examination tends to emphasize the educational component of the highbrow rather than the omnivorous orientation of musical taste.

Concerning the impact of the income, it can be noticed first that it is globally weak and weakly significant ( $p < .1$  at most, except for one of the parameter of the Swedish and Greek regressions – see **tables b3 & b7**). Besides, as shown in **table 5**, except for Greece and UK, the deletion of income doesn't affect significantly the goodness of fit of the model to data, whereas in nearly all the countries, the deletion of the age of the end of full-time education does. Second, the meaning of the effect is rather unsteady from one country to another. Whereas in France and in Great Britain (see **tables b1 & b8**), high income seems to have a positive impact on the location of the respondents in the Highbrow cluster, a positive impact appears also in Greece for the omnivorous cluster (see **table b3**). The Swedish regression, however, which contrasts the medium incomes to both the higher and the lower ones, tends to blur the interpretation of the association between income and omnivorousness. Finally, as income is also in some cases negatively associated with the location in folk clusters (see Portugal and Greece), the impact of economic resources tends also to be more in line with the Highbrow/Lowbrow pattern than with the Omnivore/Univore one. One possible interpretation of the impact of income on the location in Highbrow clusters is that the various pattern of musical tastes also entail different ways of consuming music. If radio, television and, increasingly, internet are the principal media of popular music, classical music and opera listeners are probably bigger record buyers than pop fans, and this latter way of consuming music indeed implies more economic resources than the former.

### *The prevalence of age effect*

Few comments have been done, until that point of the paper, about the impact of the control variables both present in **model 1** and **model 2**, namely age and gender. As shown above in **Table 5**, whereas the deletion of gender seems to affect the goodness of it to the data only in Germany, Sweden, Great Britain and The Netherlands, the deletion of age affect the goodness of fit in all the countries, where the deterioration is always highly significant. Concerning gender, the four designated countries display a quite pronounced female advantage towards Highbrow music that sounds coherent with the well-established link between gendered differentiation of lifestyles and education on the one hand, with a female predominance in house activities, literary orientation at school rather than technical or scientific, etc., and a greater proximity of women to fine arts than men, on the other.

Nonetheless, as mentioned above, age appears as a more prevalent factor of taste orientation than gender. Moreover, it is the only variable included in the model which deletion significantly reduces the goodness of fit of the model to data in all the countries under consideration. Its impact can be interpreted both in terms of age and in terms of generation.

The first effect of age that appears in France, as well as in Germany, Spain and Great Britain, is that the older one is, the greater the opportunity to belong to the highbrow cluster (see **tables b1, b2, b6 & b8**). In the remaining countries, where unambiguous Highbrow clusters are not identified, the Highbrow Folk clusters, like in Portugal and Sweden, are subjected to quite the same effect (see **tables b5 and b7**). These effects can probably be better interpreted in terms of generation than in terms of age, strictly speaking. A lot of evidences have been founded in the literature on these topics, that, all thing being equals, the oldest generations tends to be more Highbrow-oriented than the youngest (Peterson & Simkus, 1992; Peterson & Kern, 1996; Van Eijck, 2001; Coulangeon, 2003). Additionally, as easily readable in Germany, Greece, Portugal and Spain, where a rather “pure” Folk cluster exists, the same generation effect might be inferred too(see **tables b2, b3, b5 & b6**). The second impact of age directly readable is not so clear than the former. It deals with the contrast between the Omnivorous cluster and the common Pop cluster. Indeed, while the sign of the age parameter is negative in France and in the Netherlands (see **tables b1 & b4**), suggesting that age reduces the probability to be an Omnivore, the same parameter has a positive sign in Germany and in Portugal (see **tables b2 & b5**).

Whereas this last situation is probably better interpretable than the former, as age can be found to be associated with an increase in the variety of cultural experiences and in the scope of social networks (Erickson, 1996; Lahire, 2004), the most interesting age effect is not easily identifiable with this model design. Changing the reference situation from Pop cluster to Highbrow cluster in all the countries in which Omnivorous and Highbrow clusters coexist, namely in France, Germany, Spain and Great Britain, as shown in the last part of **tables b1, b2, b6 & b8**, gives way to a better readability of the age effect. Whatever the country, it always appears that age decreases the relative probability to be an Omnivore rather than a Highbrow univore. This result, in line with the most common interpretation of the Omnivore/Univore pattern, is likely to be interpreted in terms of generation: controlling for all other effects in the model, the youngest cohorts tend to be more open to cultural diversity and crossing-over than their elders. Changing the reference situation as we did, it is also remarkable that in the four countries under consideration that age is nearly the only factor that differentiate the Omnivorous from the Highbrow univores<sup>6</sup>. It can be noticed, however, that in France, Germany and Great Britain, women tend to be relatively less Omnivorous than Highbrow univorous. Nonetheless, except for this gender effect, there is no other significant difference between Omnivorous and Highbrow univorous, be it in terms of occupation, education or income. As we will see in the last section, this result must not necessarily be taken as a radical invalidation of the so-called “cultural legitimacy theory” inspired by Bourdieu’s sociology, while omnivorosity might be a rising challenger of snobbish highbrow univorousness as a status marker.

## Discussion

The results displayed in the previous section raise at least two questions. First, there is a great deal of argument about the social interpretation of the emerging Omnivorous pattern of musical consumption that could apply to a vast array of cultural practices and consumption habits, however. Second, these results involved also a kind of reappraisal of the so-called class or occupation effect in the field of cultural attitudes.

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6

### *Eclecticism and legitimacy.*

The rising eclecticism of the cultural elites and the correlated decline of the role played by the familiarity with highbrow arts in constructing upper class identity in western world is commonly interpreted as a sign of the blurring and radical instability of social identities and social frontiers in post-industrial and cosmopolitan societies (Harvey, 1989; Slater, 1997; Giddens, 1991; Featherstone, 1991). The transformation of upper-class cultural attitudes, interpreted generally as a pulling back of the boundaries between social groups drawn by differentiation in aesthetic preferences and cultural practices, has indeed offered a foothold to the so-called 'postmodernity' theses holding that industrial production of symbolic commodities and the arrival of the leisure society was gradually undermining the cultural elites' monopoly over esthetic norm production and value scales, to the benefit of coexistence among plural judgment scales, i.e., a 'democratic invasion' of the art world (Michaud, 1997) that calls into question the unifying model of cultural legitimacy at the core of Bourdieu's notion of symbolic domination (Featherstone, 1995). But it is nothing less than evident that this blurring of the boundaries between highbrow and popular arts is enough to invalidate the cultural legitimacy model.

Two arguments may be made against this interpretation, however. To begin with, these trends are not strictly interpretable as transformation in individuals' behavior. The changes observed at the level of aggregated data primarily reveal fragmentation of a once uniform upper-class lifestyle, which in turn reflects the enlarged social base from which these classes are recruited, forefronting the new recruits, who adopt some of the behaviors characteristic of the group they now belong to while maintaining the trace of their original cultural environment (Van Eijck, 1997). The rise in taste eclecticism should therefore be interpreted primarily as a secondary effect of the structural component of social mobility.

But to this morphological factor must be added the fact that diversified stated preferences do not necessarily imply indifference to distinctions and esthetic hierarchies, as is shown by empirical studies of both American and Dutch data done to assess Peterson and Simkus's hypotheses (Peterson and Kern, 1996; Bryson, 1996, 1997; Van Eijck, 2001). Peterson and Kern agree that distinction strategies do not pertain solely to objects consumed but also how they are consumed (Bourdieu, 1979). Music offers many examples of how social differences are expressed through various modes of appropriating works and styles. There is of course the case of jazz and the entire African-American musical tradition: since the 1920s African-American music, originally used by lower-status classes for entertainment and dance, has been the focus of estheticized listening in intellectual circles (Leonard, 1962). This leads to a reappraisal of social class behaviors in terms of their musical tastes. Said in 'Bourdieuian' terms, it then appears that there is no surer way for upper-status class members to affirm their symbolic domination than borrowing forms of expression from outside the perimeter of highbrow art, thereby manifesting a capacity to culturally empower or revitalize lowbrow arts that radically distinguishes them from lower-status class members. Conversely, the relative popularizing of certain works of highbrow culture by mass culture industries gave members of the upper classes an incentive to be eclectic, as manifested emblematically by the increase in cultivated taste for jazz, which can also be partially interpreted as a result of the post-WWII marginalization of avant-garde highbrow music (Menger, 1986; Donnat, 1994). Therefore, the rising omnivorous pattern does not constitute by itself a real challenge to the cultural legitimacy theory, whereas omnivorousness could also be interpreted as the modern quintessence of Distinction.

### *Deciphering the class effect*

The second range of questions raised by the comparison of music listening habits in the eight European countries under consideration in this paper deals with the permanence of a class and/or occupation effect in cultural habits and dispositions and with its interpretation. The coherence and the convergence of the results observed in these various countries advocates the prevalence of the impact of age, generation and educational resources in the orientation of musical and, in a broader sense, cultural habits, rather than the impact of class and/or occupation by itself. If some class cultures phenomenon still exists in cultural habits, namely in musical consumption, especially where some folk traditions are still lively, like in some of the countries under consideration in the paper (Portugal, Greece, Spain, even Germany), it also appears that culture massification tends to reshape the symbolic boundaries between social groups in a way that cannot be convincingly interpreted exclusively in terms of false consciousness, cultural alienation or death of authenticity. The blurring of cultural boundaries between social groups that manifests some cultural shift, such as the growing omnivorousness of the upper classes in the field of musical tastes, also goes along with some redistribution of resources that makes the so-called structural correspondences between social antagonisms and cultural cleavages questionable. The field of music, which is one of the most subjected to the industrial massification and globalization of cultural production, is particularly emblematic of these phenomena, as stated by the great convergence of the attitudes observed across countries. As a matter of fact, the social embedding of musical tastes becomes increasingly problematic, as the diversification of music media and the pervasive presence of music in everyday life tend to a standardization of its uses, from solitary listening to active playing by way of overtly decorative uses (background or mood music). Hence, the social meaning attached to musical consumption is decreasingly significant.

### **Conclusion**

Analyzing patterns of musical consumption across eight European leads to three concluding remarks. First, the data collected in all the countries partially supports the Omnivore/Univore scheme against the Highbrow/Lowbrow one. In particular, pure highbrow univore or snobbish pattern of musical consumption does not appear in any of the countries reviewed, while 'pure' omnivorous remains a slightly emergent one. Nonetheless, this rising Omnivore/Univore pattern need not to be misunderstood as a radical alternative to the so-called cultural legitimacy and Distinction model ([Bourdieu, 1979](#)). The symbolic boundaries that music preferences trace among social groups are becoming more complex without really growing fainter. The perimeter of highbrow music is being redesigned rather than diluted in the mass culture industry. Omnivorousness is not synonymous of cultural indifference and can more often be defined as a sort of enlightened eclecticism that combines a taste for classical music and opera with an attraction to music genres situated at the periphery of the highbrow music domain – jazz in particular.

The second concluding remark deals with the importance of educational resources in the social differentiation of musical tastes and behaviors. Musical consumption and, more generally, cultural habits and lifestyles are much more a matter of cultural capital and skills, be they informal or implicit, than a matter of social status communication or symbolic domination. Much more a matter of information-processing ability than a matter of status-seeking, to say it in other words ([Ganzeboom, 1982](#)).

The last remark relates to the instability and changing characteristic of the underlying cleavages at issue in the social differentiation of musical tastes and behaviors that reveals the impact of age on the location of respondents within the patterns of musical consumption brought out by the analysis. In that sense, the shift from the Highbrow/Lowbrow to the Omnivore/Univore pattern might be interpreted in terms of generational change, as rising omnivorousness of the upper classes goes along with both changing conditions of musical production in the last 25 years of the XX<sup>th</sup> century (namely, globalization and industrial massification) and some social changes, like the generalization of secondary education in the western world, that affect perhaps more the equalization of lifestyles and cultural habits than they reduces the social inequalities.

To end up, it must be underline that, while the data set used in the analysis made more or less possible the investigation of the impact of class position and cultural capital on musical tastes, it unfortunately lacks some indicator of class origin and inherited cultural capital of the respondents (namely occupation and educational level of their parents) that constitutes although a crucial information in the understanding of the social making and transmission of symbolic differentiation and cultural inequalities.

## **References**

## Appendix

**Table a1** : Parameter estimates of a multinomial logistic regression predicting the location within latent clusters (Model 1) - France

|          |                     | H vs. P |             |       | PD vs. P |             |        | O vs. P |             |       |
|----------|---------------------|---------|-------------|-------|----------|-------------|--------|---------|-------------|-------|
|          |                     | $\beta$ | <i>s.e.</i> | p     | $\beta$  | <i>s.e.</i> | p      | $\beta$ | <i>s.e.</i> | p     |
| Constant |                     | -0.620  | 0.154       | <.001 | -1.339   | 0.215       | <.0001 | -1.734  | 0.246       | <.001 |
| GENDER   | Female              | 0.270   | 0.170       |       | -0.004   | 0.208       |        | -0.370  | 0.264       |       |
|          | Male                | ref.    |             |       | ref.     |             |        | ref.    |             |       |
| AGE      |                     | 0.032   | 0.006       | <.001 | -0.122   | 0.012       | <.0001 | -0.039  | 0.011       | <.001 |
| OCC      | Managers            | 1.078   | 0.238       | <.001 | 0.476    | 0.319       |        | 1.240   | 0.360       | <.01  |
|          | Manual workers      | ref.    |             |       | ref.     |             |        | ref.    |             |       |
|          | Other white collars | 0.444   | 0.228       | <.1   | -0.141   | 0.292       |        | 0.558   | 0.371       |       |
|          | Self-employed       | 0.553   | 0.280       | <.05  | -0.261   | 0.466       |        | 0.699   | 0.464       |       |
|          | Non active          | 0.621   | 0.292       | <.05  | -0.082   | 0.305       |        | 0.639   | 0.413       |       |

**Table a2** : Parameter estimates of a multinomial logistic regression predicting the location within latent clusters (Model 1) – Germany

|          |                     | F vs. P |             |       | H vs. P |             |       | O vs. P |             |       |
|----------|---------------------|---------|-------------|-------|---------|-------------|-------|---------|-------------|-------|
|          |                     | $\beta$ | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     |
| Constant |                     | -0.223  | 0.165       |       | -1.063  | 0.197       | <.001 | -1.689  | 0.250       | <.001 |
| GENDER   | Female              | 0.279   | 0.203       |       | 0.594   | 0.211       | <.01  | -0.071  | 0.270       |       |
|          | Male                | ref.    |             |       | ref.    |             |       | ref.    |             |       |
| AGE      |                     | 0.112   | 0.008       | <.001 | 0.113   | 0.008       | <.001 | 0.029   | 0.011       | <.01  |
| OCC      | Managers            | -0.724  | 0.281       | <.05  | 0.590   | 0.266       | <.05  | 0.723   | 0.330       | <.05  |
|          | Manual workers      | ref.    |             |       | ref.    |             |       | ref.    |             |       |
|          | Other white collars | -1.083  | 0.285       | <.001 | 0.148   | 0.269       |       | -0.072  | 0.380       |       |
|          | Self-employed       | -0.061  | 0.347       |       | 0.516   | 0.365       |       | -0.121  | 0.574       |       |
|          | Non active          | 0.270   | 0.433       |       | 0.302   | 0.484       |       | 0.453   | 0.482       |       |

**Table a3** : Parameter estimates of a multinomial logistic regression predicting the location within latent clusters (Model 1) – Greece

|          |                     | F vs. P |             |       | O vs. P |             |       |
|----------|---------------------|---------|-------------|-------|---------|-------------|-------|
|          |                     | $\beta$ | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     |
| Constant |                     | 0.854   | 0.182       | <.001 | -1.025  | 0.275       | <.001 |
| GENDER   | Female              | 0.122   | 0.182       |       | -0.252  | 0.241       |       |
|          | Male                | ref.    |             |       | ref.    |             |       |
| AGE      |                     | 0.073   | 0.006       | <.001 | 0.004   | 0.009       |       |
| OCC      | Managers            | -1.670  | 0.392       | <.001 | -0.128  | 0.475       |       |
|          | Manual workers      | ref.    |             |       | ref.    |             |       |
|          | Other white collars | -0.885  | 0.263       | <.001 | 0.448   | 0.333       |       |
|          | Self-employed       | -0.331  | 0.236       |       | -0.394  | 0.383       |       |
|          | Non active          | -0.539  | 0.239       | <.05  | -0.328  | 0.349       |       |

**Table a4 :** Parameter estimates of a multinomial logistic regression predicting the location within latent clusters (Model 1) – The Netherlands

|          |                     | H vs. P |             |       | O vs P  |             |        |
|----------|---------------------|---------|-------------|-------|---------|-------------|--------|
|          |                     | $\beta$ | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p      |
| Constant |                     | -0.337  | 0.166       | <.05  | -1.639  | 0.244       | <.0001 |
| GENDER   | Female              | 0.357   | 0.170       | <.05  | -0.207  | 0.228       |        |
|          | Male                | ref.    |             |       | ref.    |             |        |
| AGE      |                     | 0.109   | 0.007       | <.001 | 0.018   | 0.010       | <.1    |
| OCC      | Managers            | 0.048   | 0.262       |       | 0.616   | 0.374       | <.1    |
|          | Manual workers      | ref.    |             |       | ref.    |             |        |
|          | Other white collars | -0.120  | 0.210       |       | 0.276   | 0.304       |        |
|          | Self-employed       | 0.035   | 0.307       |       | 0.830   | 0.405       | <.05   |
|          | Non active          | 0.191   | 0.316       |       | 0.255   | 0.364       |        |

**Table a5 :** Parameter estimates of a multinomial logistic regression predicting the location within latent clusters (Model 1) – Portugal

|          |                     | F vs. P |             |       | HF vs. P |             |       | O vs. P |             |       |
|----------|---------------------|---------|-------------|-------|----------|-------------|-------|---------|-------------|-------|
|          |                     | $\beta$ | <i>s.e.</i> | p     | $\beta$  | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     |
| Constant |                     | 2.045   | 0.342       | <.001 | 2.394    | 0.327       | <.001 | 0.325   | 0.395       |       |
| GENDER   | Female              | 0.779   | 0.272       | <.01  | 0.467    | 0.236       | <.05  | 0.181   | 0.290       |       |
|          | Male                | ref.    |             |       | ref.     |             |       | ref.    |             |       |
| AGE      |                     | 0.200   | 0.017       | <.001 | 0.132    | 0.016       | <.001 | 0.078   | 0.018       | <.001 |
| OCC      | Managers            | -0.348  | 0.661       |       | 1.013    | 0.577       | <.1   | 1.795   | 0.631       | <.01  |
|          | Manual workers      | ref.    |             |       | ref.     |             |       | ref.    |             |       |
|          | Other white collars | -0.758  | 0.465       |       | 0.123    | 0.397       |       | 0.969   | 0.459       | <.05  |
|          | Self-employed       | -0.247  | 0.420       |       | -0.069   | 0.386       |       | 0.446   | 0.475       |       |
|          | Non active          | 0.497   | 0.377       |       | 0.067    | 0.318       |       | 0.341   | 0.408       |       |

**Table a6 :** Parameter estimates of a multinomial logistic regression predicting the location within latent clusters (Model 1) – Spain

|          |                     | F vs. P |             |       | H vs. P |             |       | O vs. P |             |       |
|----------|---------------------|---------|-------------|-------|---------|-------------|-------|---------|-------------|-------|
|          |                     | $\beta$ | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     |
| Constant |                     | -0.680  | 0.165       | <.001 | -1.506  | 0.203       | <.001 | -2.309  | 0.287       | <.001 |
| GENDER   | Female              | 0.101   | 0.201       |       | 0.332   | 0.213       |       | -0.039  | 0.276       |       |
|          | Male                | ref.    |             |       | ref.    |             |       | ref.    |             |       |
| AGE      |                     | 0.080   | 0.006       | <.001 | 0.065   | 0.007       | <.001 | -0.014  | 0.013       |       |
| OCC      | Managers            | -1.289  | 0.477       | <.01  | 0.939   | 0.330       | <.01  | 1.246   | 0.419       | <.01  |
|          | Manual workers      | ref.    |             |       | ref.    |             |       | ref.    |             |       |
|          | Other white collars | -0.715  | 0.313       | <.05  | 0.220   | 0.316       |       | 0.663   | 0.400       | <.1   |
|          | Self-employed       | -0.325  | 0.307       |       | 0.578   | 0.316       | <.1   | 0.896   | 0.434       | <.05  |
|          | Non active          | -0.214  | 0.251       |       | 0.103   | 0.281       |       | -0.659  | 0.425       |       |

**Table a7 :** Parameter estimates of a multinomial logistic regression predicting the location within latent clusters (Model 1) –Sweden

|          |                     | HF vs. P |             |       | O vs. P |             |       |
|----------|---------------------|----------|-------------|-------|---------|-------------|-------|
|          |                     | $\beta$  | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     |
| Constant |                     | -1.326   | 0.164       | <.001 | -1.941  | 0.213       | <.001 |
| GENDER   | Female              | 0.525    | 0.164       | <.01  | 0.114   | 0.231       |       |
|          | Male                | ref.     |             |       | ref.    |             |       |
| AGE      |                     | 0.069    | 0.005       | <.001 | -0.002  | 0.008       |       |
| OCC      | Managers            | 0.731    | 0.222       | <.01  | 0.448   | 0.327       |       |
|          | Manual workers      | ref.     |             |       | ref.    |             |       |
|          | Other white collars | 0.051    | 0.227       |       | -0.035  | 0.323       |       |
|          | Self-employed       | 0.142    | 0.285       |       | -0.209  | 0.472       |       |
|          | Non active          | 0.690    | 0.280       | <.05  | -0.207  | 0.354       |       |

**Table a8 :** Parameter estimates of a multinomial logistic regression predicting the location within latent clusters (Model 1) - Great Britain

|          |                     | H vs. P |             |       | O vs. P |             |       |
|----------|---------------------|---------|-------------|-------|---------|-------------|-------|
|          |                     | $\beta$ | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     |
| Constant |                     | -1.141  | 0.144       | <.001 | -2.532  | 0.264       | <.001 |
| GENDER   | Female              | 0.399   | 0.156       | <.05  | -0.482  | 0.311       |       |
|          | Male                | ref.    |             |       | ref.    |             |       |
| AGE      |                     | 0.061   | 0.005       | <.001 | 0.012   | 0.010       |       |
| OCC      | Managers            | 1.227   | 0.217       | <.001 | 1.195   | 0.388       | <.01  |
|          | Manual workers      | ref.    |             |       | ref.    |             |       |
|          | Other white collars | 0.376   | 0.225       | <.1   | 0.456   | 0.441       |       |
|          | Self-employed       | 1.556   | 0.339       | <.001 | 0.643   | 0.788       |       |
|          | Non active          | 0.206   | 0.247       |       | 0.242   | 0.469       |       |

**Table b1 :** Parameter estimates of a multinomial logistic regression predicting the location within latent clusters (Model 2) - France

|          |                     | H vs. P |             |       | PD vs. P |             |       | O vs. P |             |       | O vs. H |             |       |
|----------|---------------------|---------|-------------|-------|----------|-------------|-------|---------|-------------|-------|---------|-------------|-------|
|          |                     | $\beta$ | <i>s.e.</i> | p     | $\beta$  | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     |
| Constant |                     | -1.602  | 0.321       | <.001 | -1.820   | 0.496       | <.001 | -2.245  | 0.555       | <.001 | -0.643  | 0.584       |       |
| GENDER   | Female              | 0.232   | 0.177       |       | -0.014   | 0.213       |       | -0.386  | 0.268       |       | -0.618  | 0.271       | <.05  |
|          | Male                | ref.    |             |       | ref.     |             |       | ref.    |             |       | ref.    |             |       |
| AGE      |                     | 0.047   | 0.007       | <.001 | -0.115   | 0.013       | <.001 | -0.027  | 0.012       | <.05  | -0.075  | 0.013       | <.001 |
| OCC      | Managers            | 0.539   | 0.270       | <.05  | 0.589    | 0.361       |       | 0.699   | 0.412       | <.1   | 0.160   | 0.406       |       |
|          | Manual workers      | ref.    |             |       | ref.     |             |       | ref.    |             |       |         |             |       |
|          | Other white collars | 0.168   | 0.241       |       | -0.179   | 0.302       |       | 0.279   | 0.385       |       | 0.111   | 0.393       |       |
|          | Self-employed       | 0.342   | 0.292       |       | -0.317   | 0.483       |       | 0.412   | 0.482       |       | 0.070   | 0.481       |       |
|          | Non active          | 0.451   | 0.358       |       | -0.205   | 0.480       |       | -0.309  | 0.796       |       | -0.760  | 0.799       |       |
| AGEDUC   | Up to 15 years      | ref.    |             |       | ref.     |             |       | ref.    |             |       | ref.    |             |       |
|          | 16 - 19 years       | 0.816   | 0.265       | <.05  | 0.390    | 0.460       |       | 0.175   | 0.514       |       | -0.641  | 0.529       |       |
|          | 20 + years          | 1.460   | 0.333       | <.001 | 0.206    | 0.506       |       | 0.972   | 0.561       | <.1   | -0.487  | 0.576       |       |
|          | Still studying      | 1.407   | 0.609       | <.05  | 0.625    | 0.704       |       | 1.659   | 1.008       | <.1   | 0.252   | 1.034       |       |
| INCOME   | ++                  | 0.517   | 0.294       | <.1   | 0.055    | 0.380       |       | 0.537   | 0.445       |       | 0.021   | 0.446       |       |
|          | +                   | -0.075  | 0.288       |       | -0.319   | 0.350       |       | -0.173  | 0.475       |       | -0.098  | 0.496       |       |
|          | -                   | ref.    |             |       | ref.     |             |       | ref.    |             |       | ref.    |             |       |
|          | --                  | 0.403   | 0.273       |       | 0.596    | 0.321       | <.1   | 0.597   | 0.441       |       | 0.194   | 0.455       |       |
|          | DK                  | 0.271   | 0.254       |       | 0.480    | 0.300       |       | 0.414   | 0.404       |       | 0.144   | 0.417       |       |

**Table b2 :** Parameter estimates of a multinomial logistic regression predicting the location within latent clusters (Model 2) – Germany

|          |                     | F vs. P |             |       | H vs. P |             |       | O vs. P |             |       | O vs. H |             |       |
|----------|---------------------|---------|-------------|-------|---------|-------------|-------|---------|-------------|-------|---------|-------------|-------|
|          |                     | $\beta$ | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     |
| Constant |                     | -0.117  | 0.286       |       | -1.588  | 0.331       | <.001 | -1.936  | 0.456       | <.001 | -0.349  | 0.499       |       |
| GENDER   | Female              | 0.213   | 0.207       |       | 0.636   | 0.216       | <.01  | -0.013  | 0.276       |       | -0.649  | 0.308       | <.05  |
|          | Male                |         |             |       |         |             |       |         |             |       |         |             |       |
| AGE      |                     | 0.109   | 0.008       | <.001 | 0.120   | 0.009       | <.001 | 0.032   | 0.011       | <.01  | -0.088  | 0.012       | <.001 |
| OCC      | Managers            | -0.358  | 0.299       |       | 0.407   | 0.290       |       | 0.525   | 0.362       |       | 0.118   | 0.400       |       |
|          | Manual workers      |         |             |       |         |             |       |         |             |       |         |             |       |
|          | Other white collars | -1.043  | 0.286       | <.001 | 0.138   | 0.270       |       | -0.088  | 0.384       |       | -0.226  | 0.418       |       |
|          | Self-employed       | 0.140   | 0.360       |       | 0.477   | 0.375       |       | -0.246  | 0.592       |       | -0.722  | 0.628       |       |
|          | Non active          | 0.491   | 0.618       |       | 0.588   | 0.653       |       | 0.047   | 1.098       |       | -0.541  | 1.127       |       |
| AGEDUC   | Up to 15 years      |         |             |       |         |             |       |         |             |       |         |             |       |
|          | 16 - 19 years       | -0.027  | 0.240       |       | 0.432   | 0.261       | <.1   | 0.219   | 0.399       |       | -0.213  | 0.421       |       |
|          | 20 + years          | -0.881  | 0.341       | <.05  | 0.484   | 0.320       |       | 0.576   | 0.447       |       | 0.093   | 0.476       |       |
|          | Still studying      | -0.696  | 0.994       |       | -0.028  | 1.247       |       | 0.896   | 1.234       |       | 0.924   | 1.619       |       |
| INCOME   | ++                  | -0.548  | 0.345       |       | 0.404   | 0.322       |       | 0.327   | 0.404       |       | -0.076  | 0.449       |       |
|          | +                   | 0.235   | 0.279       |       | 0.350   | 0.300       |       | -0.098  | 0.403       |       | -0.447  | 0.446       |       |
|          | -                   |         |             |       |         |             |       |         |             |       |         |             |       |
|          | --                  | 0.011   | 0.331       |       | 0.249   | 0.352       |       | 0.216   | 0.456       |       | -0.033  | 0.505       |       |
|          | DK                  | 0.064   | 0.323       |       | -0.172  | 0.349       |       | -0.492  | 0.494       |       | -0.320  | 0.543       |       |



**Table b3** : Parameter estimates of a multinomial logistic regression predicting the location within latent clusters (Model 2) – Greece

|          |                     | F vs. P |             |       | O vs. P |             |       |
|----------|---------------------|---------|-------------|-------|---------|-------------|-------|
|          |                     | $\beta$ | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     |
| Constant |                     | 1.507   | 0.287       | <.001 | -2.235  | 0.596       | <.001 |
| GENDER   | Female              | -0.074  | 0.200       |       | -0.184  | 0.251       |       |
|          | Male                | ref.    |             |       | ref.    |             |       |
| AGE      |                     | 0.052   | 0.007       | <.001 | 0.008   | 0.010       |       |
| OCC      | Managers            | -0.709  | 0.415       | <.1   | -0.463  | 0.512       |       |
|          | Manual workers      |         |             |       |         |             |       |
|          | Other white collars | -0.482  | 0.269       | <.1   | 0.313   | 0.341       |       |
|          | Self-employed       | -0.359  | 0.248       |       | -0.368  | 0.395       |       |
|          | Non active          | -0.268  | 0.286       |       | -0.585  | 0.505       |       |
| AGEDUC   | Up to 15 years      | ref.    |             |       | ref.    |             |       |
|          | 16 - 19 years       | -0.681  | 0.214       | <.01  | 0.355   | 0.398       |       |
|          | 20 + years          | -1.149  | 0.255       | <.001 | 0.584   | 0.409       |       |
|          | Still studying      | -3.102  | 0.661       | <.001 | 0.986   | 0.623       |       |
| INCOME   | ++                  | -0.809  | 0.310       | <.01  | 1.058   | 0.529       | <.05  |
|          | +                   | -0.485  | 0.295       |       | 1.190   | 0.532       | <.05  |
|          | -                   | ref.    |             |       | ref.    |             |       |
|          | --                  | 1.026   | 0.558       | <.1   | 0.697   | 1.209       |       |
|          | DK                  | 0.109   | 0.264       |       | 0.657   | 0.518       |       |

**Table b4** : Parameter estimates of a multinomial logistic regression predicting the location within latent clusters (Model 2) – The Netherlands

|          |                     | H vs. P |             |       | O vs P  |             |       |
|----------|---------------------|---------|-------------|-------|---------|-------------|-------|
|          |                     | $\beta$ | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     |
| Constant |                     | -0.093  | 0.313       |       | -1.663  | 0.491       | <.001 |
| GENDER   | Female              | 0.363   | 0.173       | <.05  | -0.221  | 0.230       |       |
|          | Male                | ref.    |             |       | ref.    |             |       |
| AGE      |                     | 0.112   | 0.008       | <.001 | 0.016   | 0.011       |       |
| OCC      | Managers            | -0.069  | 0.286       |       | 0.613   | 0.404       |       |
|          | Manual workers      | ref.    |             |       | ref.    |             |       |
|          | Other white collars | -0.140  | 0.217       |       | 0.251   | 0.311       |       |
|          | Self-employed       | 0.001   | 0.324       |       | 0.946   | 0.427       | <.05  |
|          | Non active          | -0.298  | 0.539       |       | 0.579   | 0.693       |       |
| AGEDUC   | Up to 15 years      | ref.    |             |       | ref.    |             |       |
|          | 16 - 19 years       | -0.298  | 0.265       |       | -0.338  | 0.400       |       |
|          | 20 + years          | 0.032   | 0.294       |       | -0.177  | 0.428       |       |
|          | Still studying      | 0.610   | 0.671       |       | -0.722  | 0.797       |       |
| INCOME   | ++                  | 0.005   | 0.299       |       | 0.250   | 0.444       |       |
|          | +                   | -0.161  | 0.311       |       | 0.609   | 0.427       |       |
|          | -                   | ref.    |             |       | ref.    |             |       |
|          | --                  | 0.008   | 0.281       |       | 0.706   | 0.401       | <.1   |
|          | DK                  | -0.235  | 0.251       |       | -0.135  | 0.398       |       |

**Table b5** : Parameter estimates of a multinomial logistic regression predicting the location within latent clusters (Model 2) – Portugal

|          |                     | F vs. P |             |       | HF vs. P |             |       | O vs. P |             |       |
|----------|---------------------|---------|-------------|-------|----------|-------------|-------|---------|-------------|-------|
|          |                     | $\beta$ | <i>s.e.</i> | p     | $\beta$  | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     |
| Constant |                     | 2.603   | 0.436       | <.001 | 2.306    | 0.420       | <.001 | 0.112   | 0.534       |       |
| GENDER   | Female              | 0.677   | 0.281       | <.05  | 0.495    | 0.240       | <.05  | 0.293   | 0.296       |       |
|          | Male                | ref.    |             |       | ref.     |             |       | ref.    |             |       |
| AGE      |                     | 0.181   | 0.017       | <.001 | 0.136    | 0.017       | <.001 | 0.089   | 0.019       | <.001 |
| OCC      | Managers            | 0.702   | 0.789       |       | 1.102    | 0.675       |       | 1.314   | 0.743       | <.1   |
|          | Manual workers      | ref.    |             |       | ref.     |             |       | ref.    |             |       |
|          | Other white collars | -0.328  | 0.495       |       | 0.110    | 0.417       |       | 0.774   | 0.488       |       |
|          | Self-employed       | -0.067  | 0.425       |       | -0.071   | 0.391       |       | 0.381   | 0.485       |       |
|          | Non active          | 0.559   | 0.527       |       | -0.161   | 0.495       |       | -0.330  | 0.726       |       |
| AGEDUC   | Up to 15 years      | ref.    |             |       | ref.     |             |       | ref.    |             |       |
|          | 16 - 19 years       | -1.012  | 0.410       | <.05  | 0.098    | 0.325       |       | 0.508   | 0.421       |       |
|          | 20 + years          | -1.930  | 0.738       | <.01  | -0.057   | 0.509       |       | 0.907   | 0.583       |       |
|          | Still studying      | -2.473  | 1.142       | <.05  | 0.346    | 0.547       |       | 1.083   | 0.782       |       |
| INCOME   | ++                  | -1.260  | 0.658       | <.1   | 0.087    | 0.479       |       | -0.327  | 0.616       |       |
|          | +                   | -0.879  | 0.457       | <.1   | -0.179   | 0.410       |       | -0.218  | 0.534       |       |
|          | -                   | ref.    |             |       | ref.     |             |       | ref.    |             |       |
|          | --                  | -0.125  | 0.642       |       | -0.187   | 0.630       |       | -0.319  | 0.854       |       |
|          | DK                  | -0.134  | 0.404       |       | 0.348    | 0.373       |       | 0.353   | 0.480       |       |

**Table b6** : Parameter estimates of a multinomial logistic regression predicting the location within latent clusters (Model 2) – Spain

|          |                     | F vs. P |             |       | H vs. P |             |       | O vs. P |             |       | O vs. H |             |       |
|----------|---------------------|---------|-------------|-------|---------|-------------|-------|---------|-------------|-------|---------|-------------|-------|
|          |                     | $\beta$ | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     |
| Constant |                     | -0.066  | 0.311       |       | -2.001  | 0.422       | <.001 | -2.519  | 0.565       | <.001 | -0.518  | 0.659       |       |
| GENDER   | Female              | 0.022   | 0.213       |       | 0.271   | 0.222       |       | -0.006  | 0.281       |       | -0.277  | 0.325       |       |
|          | Male                | ref.    |             |       | ref.    |             |       | ref.    |             |       |         |             |       |
| AGE      |                     | 0.066   | 0.008       | <.001 | 0.064   | 0.008       | <.001 | -0.010  | 0.014       |       | -0.074  | 0.015       | <.001 |
| OCC      | Managers            | -0.611  | 0.523       |       | 0.485   | 0.377       |       | 1.011   | 0.481       | <.05  | 0.525   | 0.538       |       |
|          | Manual workers      |         |             |       |         |             |       |         |             |       |         |             |       |
|          | Other white collars | -0.371  | 0.334       |       | 0.059   | 0.328       |       | 0.517   | 0.421       |       | 0.458   | 0.488       |       |
|          | Self-employed       | -0.202  | 0.316       |       | 0.505   | 0.318       |       | 0.841   | 0.440       | <.1   | 0.336   | 0.486       |       |
|          | Non active          | 0.053   | 0.330       |       | 0.437   | 0.364       |       | -0.865  | 1.075       |       | -1.302  | 1.093       |       |
| AGEDUC   | Up to 15 years      | ref.    |             |       | ref.    |             |       | ref.    |             |       |         |             |       |
|          | 16 - 19 years       | -0.740  | 0.245       | <.01  | 0.018   | 0.281       |       | 0.368   | 0.436       |       | 0.350   | 0.480       |       |
|          | 20 + years          | -1.318  | 0.378       | <.01  | 0.632   | 0.325       | <.1   | 0.358   | 0.486       |       | -0.274  | 0.536       |       |
|          | Still studying      | -1.021  | 0.537       | <.1   | -0.699  | 0.600       |       | 0.500   | 1.190       |       | 1.199   | 1.278       |       |
| INCOME   | ++                  | 0.050   | 0.367       |       | 0.495   | 0.435       |       | 0.292   | 0.519       |       | -0.203  | 0.623       |       |
|          | +                   | -0.220  | 0.379       |       | 0.181   | 0.467       |       | -0.190  | 0.585       |       | -0.371  | 0.695       |       |
|          | -                   | ref.    |             |       | ref.    |             |       | ref.    |             |       |         |             |       |
|          | --                  | -0.142  | 0.368       |       | 0.022   | 0.484       |       | -0.481  | 0.750       |       | -0.503  | 0.844       |       |
|          | DK                  | -0.373  | 0.309       |       | 0.644   | 0.387       | <.1   | -0.012  | 0.494       |       | -0.655  | 0.582       |       |

**Table b7** : Parameter estimates of a multinomial logistic regression predicting the location within latent clusters (Model 2) –Sweden

|          |                     | HF vs. P |             |       | O vs. P |             |       |
|----------|---------------------|----------|-------------|-------|---------|-------------|-------|
|          |                     | $\beta$  | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     |
| Constant |                     | -1.494   | 0.266       | <.001 | -1.975  | 0.403       | <.001 |
| GENDER   | Female              | 0.519    | 0.168       | <.01  | 0.140   | 0.235       |       |
|          | Male                | ref.     |             |       | ref.    |             |       |
| AGE      |                     | 0.072    | 0.006       | <.001 | 0.000   | 0.009       |       |
| OCC      | Managers            | 0.458    | 0.245       | <.1   | 0.451   | 0.355       |       |
|          | Manual workers      | ref.     |             |       | ref.    |             |       |
|          | Other white collars | 0.009    | 0.231       |       | -0.097  | 0.327       |       |
|          | Self-employed       | 0.024    | 0.292       |       | -0.227  | 0.481       |       |
|          | Non active          | 0.984    | 0.445       | <.05  | -0.378  | 0.777       |       |
| AGEDUC   | Up to 15 years      | ref.     |             |       | ref.    |             |       |
|          | 16 - 19 years       | -0.016   | 0.243       |       | 0.671   | 0.392       | <.1   |
|          | 20 + years          | 0.558    | 0.238       | <.05  | 0.512   | 0.408       |       |
|          | Still studying      | -0.153   | 0.529       |       | 0.891   | 0.838       |       |
| INCOME   | ++                  | -0.043   | 0.243       |       | -0.605  | 0.332       | <.1   |
|          | +                   | -0.035   | 0.250       |       | -0.626  | 0.346       | <.1   |
|          | -                   | ref.     |             |       | ref.    |             |       |
|          | --                  | -0.274   | 0.257       |       | -0.733  | 0.360       | <.05  |
|          | DK                  | 0.356    | 0.280       |       | -0.639  | 0.392       |       |

**Table b8** : Parameter estimates of a multinomial logistic regression predicting the location within latent clusters (Model 2) - Great Britain

|          |                     | H vs. P |             |       | O vs. P |             |       | O vs. H |             |       |
|----------|---------------------|---------|-------------|-------|---------|-------------|-------|---------|-------------|-------|
|          |                     | $\beta$ | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     | $\beta$ | <i>s.e.</i> | p     |
| Constant |                     | -1.539  | 0.268       | <.001 | -2.483  | 0.498       | <.001 | -0,945  | 0,526       |       |
| GENDER   | Female              | 0.481   | 0.161       | <.01  | -0.433  | 0.315       |       | -0,914  | 0,326       | <,01  |
|          | Male                | ref.    |             |       | ref.    |             |       |         |             |       |
| AGE      |                     | 0.074   | 0.006       | <.001 | 0.017   | 0.012       |       | -0,057  | 0,012       | <,001 |
| OCC      | Managers            | 0.521   | 0.251       | <.05  | 0.712   | 0.463       |       | 0,192   | 0,473       |       |
|          | Manual workers      |         |             |       |         |             |       |         |             |       |
|          | Other white collars | 0.138   | 0.233       |       | 0.266   | 0.459       |       | 0,128   | 0,478       |       |
|          | Self-employed       | 1.331   | 0.360       | <.001 | 0.648   | 0.803       |       | -0,683  | 0,792       |       |
|          | Non active          | 0.043   | 0.297       |       | 0.120   | 0.657       |       | 0,077   | 0,671       |       |
| AGEDUC   | Up to 15 years      | ref.    |             |       | ref.    |             |       |         |             |       |
|          | 16 - 19 years       | 0.096   | 0.207       |       | 0.079   | 0.430       |       | -0,017  | 0,443       |       |
|          | 20 + years          | 1.079   | 0.301       | <.001 | 0.353   | 0.583       |       | -0,726  | 0,593       |       |
|          | Still studying      | 0.804   | 0.555       |       | 0.471   | 0.968       |       | -0,333  | 1,044       |       |
| INCOME   | ++                  | 0.823   | 0.287       | <.01  | 0.589   | 0.510       |       | -0,234  | 0,536       |       |
|          | +                   | 0.357   | 0.292       |       | -0.614  | 0.652       |       | -0,971  | 0,674       |       |
|          | -                   | ref.    |             |       | ref.    |             |       |         |             |       |
|          | --                  | -0.202  | 0.381       |       | 0.306   | 0.667       |       | 0,507   | 0,701       |       |
|          | DK                  | 0.031   | 0.251       |       | -0.451  | 0.494       |       | -0,483  | 0,518       |       |