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PERCEIVED CONSEQUENCES OF FEMALE LABOR-FORCE PARTICIPATION. A MULTILEVEL LATENT-CLASS ANALYSIS ACROSS 22 COUNTRIES

CONSECUENCIAS PERCIBIDAS DE LA PARTICIPACIÓN FEMENINA EN EL MERCADO DE TRABAJO. UN ANÁLISIS MULTINIVEL DE CLASES LATENTES EN 22 PAÍSES

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Abstract
This paper investigates whether there are different patterns of traditionality in different countries with regard to a perceived negative impact of labor-force participation of mothers on their children and family life. For this purpose, individual-level traditionality subgroups and segments of countries with different traditionality patterns of their nationals were identified simultaneously by means of multilevel latent-class (ML-LC) analysis of the answers to three items of the Changing Family and Gender Roles module of the International Social Survey Program (ISSP). This module was fielded in 22 countries in the years 1994 and 2002. Six individual-level subgroups and five country segments can be discerned. The structure of individual-level subgroups is almost identical in both years. Four individual-level subgroups differ only quantitatively in their level of traditionality. Two further subgroups are characterized by a unique tendency to defend working mothers against criticism. From 1994 to 2002 the sizes of traditional subgroups decrease, and there is also some change in the composition of country segments.

Keywords: multilevel analysis; latent-class analysis; gender roles; contemporanean societies; social change.

Resumen

Este trabajo analiza si existen diferentes patrones de tradicionalismo en los diferentes países sobre la percepción de un impacto negativo de la participación laboral de las madres en sus hijos y en su vida familiar. Para ello se identificaron, de forma simultánea, subgrupos de tradicionalismo a nivel individual y segmentos de países con diferentes patrones de tradicionalismo de sus ciudadanos, a través de un análisis multinivel de clases latentes (ML-LC) de las respuestas a tres preguntas del módulo Familia y Roles de Género del International Social Survey Program (ISSP), que se aplicó en 22 países en los años 1994 y 2002. Se identificaron seis subgrupos de nivel individual y cinco segmentos de países. La estructura de los subgrupos a nivel individual es casi idéntica en ambos años. Cuatro subgrupos a nivel individual difieren solamente de manera cuantitativa en su nivel de tradicionalismo. Dos subgrupos más se caracterizan por una tendencia a defender de la crítica a las madres que trabajan. De 1994 a 2002 el tamaño de los subgrupos tradicionales disminuye, y también se ha producido algún cambio en la composición de los segmentos de países.

Palabras clave: análisis multinivel, análisis de clases latentes, roles de género, sociedades contemporáneas, cambio social.

INTRODUCTION AND THEORETICAL APPROACH

In the field of gender roles, considerable attitudinal change has been observed in recent decades (Braun and Scott, 2009; Haller, Höllinger and Gomilschak, 2000). Among these attitudes, beliefs about the consequences of female labor-force participation for children are of special importance. They obviously influence general gender ideologies which legitimize distinctions between women and men with regard to their roles in family and society. In particular the traditional male breadwinner – female carer view draws much of its legitimacy from assumptions about the overall consequences which labor-force participation of mothers might have for their children and family life.

One of the major data sources on which cross-national comparisons of gender-role attitudes and their change over time has been based is the International Social Survey Program (ISSP) Family and Changing Gender Roles module. It has been fielded in 1988, 1994, and 2002, and included at each of these time points the following three items: 1. "A working mother can establish just as warm and secure a relationship with her children as a mother who does not work" (*warm relation*), 2. "A pre-school child is likely to suffer if his or her mother works" (*child suffers*), and 3. "All in all, family life suffers when the woman has a full-time job" (*family suffers*). In the following we will, however, ignore the 1988 survey, in which too few countries participated.

Braun (2006) analyzed the answers to these three items on the basis of the 1994 data. He grouped the traditionally capitalist countries according to the typology of welfare regimes proposed by Esping-Andersen (1990, 1999) and modified by Gornick and her collaborators (Gornick, 1999; Gornick, Meyers and Ross, 1997, 1998). The basis of this classification is the socio-political orientation and labor-market structure of the countries which should influence the position of women on the labor market. It distinguishes a social-democratic type, prototypically represented by the Scandinavian countries, a liberal type, mainly established by the Anglo-Saxon countries, and a conservative-corporatist type, mostly typical for the continental European countries. The former socialist societies were classified into an additional fourth category. Table 1 gives an overview of the means of the three items, both in 1994 and 2002 in all 22 countries for which there are data for both points in time. The Philippines, Israel, and Japan were not included in Braun's (2006) study.

According to the answers obtained for the two items *child* and *family suffers*, the socialist countries apparently differ from each other in line with gender differences observed before the advent of socialism. Many of these countries were mainly agrarian (Panayotova and Brayfield, 1997). Among them, Bulgaria, Hungary, and Russia are the most traditional countries. The countries which were industrialized early and to a higher degree are markedly less traditional. Examples are the Czech Republic and, particularly, eastern Germany. The corporatist countries hardly differ from the former socialist countries with the exception of eastern Germany. Interestingly, in 1994, there is also hardly any difference in traditionality between the social-democratic and the liberal countries, despite entirely different societal conditions.

Taking into account also the data for the item *warm relation* gives a different impression. According to their answers to this item, respondents in Central European corporatist countries, and in many of the former socialist countries, seem to have markedly less traditional attitudes, although it seems to be slightly less difficult nearly everywhere. This item addresses the suffering of the child less directly. Braun (2006) argued that the item *warm relation* has two possible interpretations, one regarding the consequences for the child, and the other a judgment of the behavior of the mother. The second interpretation is more likely for respondents from countries in which working mothers have been criticized as "bad mothers" (Rueschemeyer and Schissler, 1990) who neglect their children (characterized as "latchkey children") out of egoistic motives. Unless they are extremely traditional, respondents confronted with this view might react with a tendency to defend working mothers, independently of the consequences they think labor-force participation of the mother has for their children.

TABLE N.º 1
Means (standard deviations) of items related to the consequences of female labor-force participation in 1994 and 2002

	1994			2002		
	Warm relation	Child suffers	Family suffers	Warm relation	Child suffers	Family suffers
Corporatist countries						
Western Germany	3.9 (1.2)	2.2 (1.1)	2.4 (1.2)	4.1 (1.1)	2.7 (1.2)	2.9 (1.3)
Austria	4.1 (1.3)	2.1 (1.2)	2.3 (1.3)	4.0 (1.2)	2.3 (1.2)	2.4 (1.3)
Spain	3.3 (1.2)	2.8 (1.1)	2.7 (1.1)	3.5 (1.2)	2.8 (1.1)	2.8 (1.1)
Former socialist countries						
Eastern Germany	4.5 (0.8)	3.3 (1.2)	3.4 (1.2)	4.6 (0.7)	3.4 (1.3)	3.5 (1.3)
Hungary	3.5 (1.4)	1.9 (1.1)	2.2 (1.2)	3.8 (1.2)	2.2 (1.1)	2.5 (1.2)
Czech Republic	3.1 (1.4)	2.8 (1.3)	2.7 (1.3)	3.9 (1.2)	2.8 (1.3)	2.9 (1.3)
Slovenia	3.4 (1.2)	2.6 (1.1)	2.4 (1.0)	3.7 (1.1)	2.9 (1.1)	2.7 (1.1)
Poland	3.2 (1.3)	2.4 (1.1)	2.7 (1.1)	3.4 (1.2)	2.7 (1.2)	2.9 (1.1)
Bulgaria	3.3 (1.6)	2.0 (1.3)	2.4 (1.5)	3.1 (1.3)	2.3 (1.1)	2.7 (1.1)
Russia	3.7 (1.2)	2.2 (1.0)	2.0 (1.0)	3.7 (1.2)	2.4 (1.1)	2.4 (1.1)
Liberal countries						
Australia	3.3 (1.3)	2.9 (1.2)	2.9 (1.2)	3.6 (1.2)	3.0 (1.1)	3.0 (1.2)
Great Britain	3.5 (1.1)	3.1 (1.1)	3.2 (1.2)	3.6 (1.2)	3.1 (1.1)	3.1 (1.2)
Northern Ireland	3.5 (1.2)	3.1 (1.2)	3.1 (1.2)	3.6 (1.2)	3.1 (1.2)	3.0 (1.2)
United States	3.7 (1.2)	3.1 (1.3)	3.2 (1.3)	3.8 (1.4)	3.2 (1.5)	3.2 (1.5)
Ireland	3.4 (1.3)	3.0 (1.3)	2.9 (1.3)	3.4 (1.2)	3.2 (1.2)	3.2 (1.2)
New Zealand	3.3 (1.2)	2.8 (1.2)	3.0 (1.2)	3.4 (1.2)	2.9 (1.1)	3.0 (1.2)
Social-democratic countries						
Norway	3.3 (1.1)	3.1 (1.1)	3.1 (1.2)	3.5 (1.1)	3.5 (1.1)	3.3 (1.2)
Sweden	3.7 (1.1)	3.3 (1.2)	3.3 (1.2)	3.8 (1.0)	3.5 (1.2)	3.5 (1.2)
Netherlands	3.7 (1.1)	2.9 (1.1)	3.0 (1.1)	3.7 (1.1)	3.0 (1.1)	2.9 (1.1)
Countries not classified						
Philippines	3.4 (0.9)	2.7 (1.0)	2.7 (1.0)	3.7 (1.1)	2.6 (1.1)	3.0 (1.2)
Israel	3.6 (1.2)	3.0 (1.2)	3.0 (1.2)	3.7 (1.1)	2.8 (1.1)	2.9 (1.2)
Japan	4.0 (1.3)	3.1 (1.5)	3.2 (1.4)	4.1 (1.3)	3.4 (1.4)	3.3 (1.4)

Source: ISSP 1994, 2002; response categories "strongly agree" (1), "agree" (2), "neither agree nor disagree" (3), "disagree" (4) and "strongly disagree" (5), item *warm relation* reverse-coded such that high values indicate non-traditional stances for all items.

Whether such a tendency to defend working mothers exists might be related to particular characteristics of societies, such as the general orientation of politics with regard to gender inequality, and the general ideological climate. As the following brief descriptions of the regime types suggest, such a tendency is most likely in conservative welfare regimes and former socialist transformation societies, and should be absent in social-democratic and liberal welfare regimes.

The **socialist countries** were characterized by the attempt to achieve gender equality from above. However, there was a consequential restriction to the area of work (Lapidus, 1988). Women were to be active in the labor market to a similar degree as men but this egalitarian attitude was not extended to the sharing of household chores and childcaring responsibilities. Due to the obligation to work under socialist rule, it comes as no surprise that – with the exception of eastern Germany – female labor-force participation is often regarded as an unwanted heritage of the old system (Panayotova and Brayfield, 1997; Zajda, 1994). However, because of this obligation to work, mothers cannot be made responsible for working outside of the home. The same applies to the economic necessity of a double income in post-socialist transformation societies. Thus, even many traditional respondents who assume that children suffer from labor-force participation of their mothers should display a marked tendency to defend them from criticism. Eastern Germany is a special case in so far, as the majority does not subscribe to the belief that children suffer from labor-force participation of their mother. However, eastern Germans are likely to react to the criticism of working mothers which had so much sway in western Germany (see below) and, thus, show nevertheless a tendency to defend working mothers.

In the **social-democratic welfare regimes** policy aims at leveling gender differences in the public domain and within the families (Hantrais and Letablier, 1996). In addition to economic reasons (Gauthier, 1996) the women's movement and wide support of the society had a considerable impact on the implementation of this policy (Pfau-Effinger, 2001). A high degree of female labor-force participation is facilitated by the provision of a comprehensive public childcare system. Both its quality and quantity is at least on the same level as in the socialist countries (Lohkamp-Himmighofen, 1993). The idea that working mothers are bad mothers does not easily come to mind in such a context.

In **liberal welfare states** market mechanisms are much less constrained, and the understanding of equality is confined to equality of opportunity. A reduction of gender differences has been rather a side effect of general anti-discriminatory laws (Schäfgen and Spellerberg, 1998) but has never been actively pursued by taking concrete life circumstances of women into account

and by fostering their change. Accordingly, the relative high female labor-force participation rate in such countries is not a consequence of active state interventions but, at least in part, a result of economic necessities (Gornick, 1999). Since the relationship between the state and the family is characterized by non-intervention, the provision of public childcare institutions is low (Friendly, Rothman and Olman, 1991). However, due to the deregulation of the market, the costs of private childcare are also relatively low (Esping-Andersen, 1999) which facilitates the combination of family and work. In most of these countries, the idea that working mothers are bad mothers should thus not be particularly prominent. However, a more pronounced tendency to criticize working mothers in the United States than in other countries of the liberal regime type can be expected as a consequence of the strength of religious fundamentalism.

In the **corporatist regime type**, gender differences are stabilized by measures which make a deviation from the breadwinner-husband-and-homemaker-wife ideal unattractive (Gauthier, 1996; Gornick, 1999). These measures are ultimately motivated by the assumption of biologically-caused differential abilities of women and men in the domains of work and family. In many of these countries, e.g. in West Germany through 1976, the law stipulated that a wife should only work if this was compatible with her role in the household and the family (Limbach, 1988). In addition, due to the inflexibility of institutionalized –public as well as private– childcare it is generally necessary that one parent stays at home. According to Treas and Widmer (2000: 1431), West Germany is "… the archetype of a conservative state promoting breadwinner-husband-and-homemaker-wife families ... a particularly extreme case in its aversion to maternal employment". In southern European corporatist countries, kinship ties can often be utilized for childcare (Höllinger and Haller, 1990; Lohkamp-Himmighofen, 1993). Thus, they can compensate for the insufficient formal childcare provision for small children (Flaquer, 2000; Oinonen, 2000). Yet this is not the case in Central European corporatist countries. A tendency to defend working mothers should therefore be particularly strong in these countries, in which criticism of working mothers was particularly pronounced in the past.

To sum up: A tendency to defend working mothers should largely be associated with more traditional attitudes in a country, because in such contexts criticism of working mothers has also been frequent. The only exception might be eastern Germany, where a tendency to defend working mothers is likely to be a reaction to criticism of working mothers characteristic of western Germany.

Which individual-level subgroups and country segments can reasonably be expected with regard to gender-role traditionality assessed by the three

ISSP items described above? First, we expect to identify subgroups with only quantitatively varying patterns of traditionality. Second, we expect at least one qualitatively distinct subgroup whose members defend working mothers. Thus, we expect that traditionality and a tendency to defend working mothers shape the structure of traditionality subgroups on the individual and the country level. We expect more subgroups, however, of the first type, i.e. which differ only in their level of traditionality, because "defending" subtypes require a society to be relatively traditional in the first place.

In almost all previous studies, means of the answers to ISSP items were used for the comparison of countries and the monitoring of observed cross-sectional social change. In contrast, we will conduct multilevel latent-class (ML-LC) analysis (Asparouhov and Muthén, 2008; Vermunt, 2003, 2008) which combines conventional LC model analysis with a ML approach. To the best of our knowledge, this method has never been applied to the ISSP gender-role items, and there is only one study using conventional LC analysis, yet only for a comparison of Japan and South Korea (Yun-Suk and Ki-Soo, 2005).

SAMPLES AND METHODS

Samples

The data analyzed stem from the two most recent waves of the International Social Survey Program (ISSP) module "Family and Changing Gender Roles". It was conducted in 1994 and 2002 in 22 countries (or regions): Australia, Austria, Bulgaria, the Czech Republic, western and eastern Germany, Great Britain and Northern Ireland, Hungary, Ireland, Israel, Japan, the Netherlands, New Zealand, Norway, the Philippines, Poland, Russia, Slovenia, Spain, Sweden, and the United States (Zentralarchiv, 1997, 2004). Sample sizes in 1994 range from 646 in Northern Ireland to 2.488 in Spain, and in 2002 from 429 in eastern Germany to 2.471 in Spain.

Measures

The three ISSP items about the consequences of female labor-force participation for children and family which will be used as indicators of different individual- and higher-level traditionality subtypes were described in detail already in the introduction. All three were administered with the following five categorical response options: 'strongly agree' (1), 'agree' (2), 'neither agree nor disagree' (3), 'disagree' (4), and 'strongly disagree' (5). Responses were reverse-coded for *warm relation* such that, for all items, low values denote traditional, and high values non-traditional opinions.

There are several problems associated with the data from some of the countries: By a mishap, the fourth and fifth of the response categories were collapsed when saving the 2002 data from the United States. Following the recommendation in the ISSP codebook, all answers of respondents who have selected the fourth or fifth response categories were treated as if they had 'strongly disagreed'. For *child suffers* and *family suffers*, this means that the traditionality of U.S. respondents might be somewhat underestimated. However, for *warm relation*, this means that traditionality might be somewhat overestimated by this item, as it is reverse-coded for our analysis. In the Czech Republic, all three items have been retranslated for the 2002 survey. Also the answer categories have been altered to some degree. It is particularly the first item, which might have a different item difficulty in both years in this country. In Bulgaria, the item contents were the same in 1994 and 2002, yet the response categories have been changed. As the first item is reversely formulated in comparison to the other two, this change might have affected the answers to the three items differently in this country.

We will focus exclusively on the individual-level variables gender, age (which is more likely to be related to cohort than life-cycle effects), and education, as these three variables have been shown repeatedly to be the most important ones related to differences in gender-role attitudes (e.g. Alwin, Braun and Scott, 1992). Gender is taken into account as a dummy variable with being male as baseline category. Age will be included as a continuous variable. Education will be entered as a nominal variable with the three categories: "lower secondary education or less", "upper secondary", and "university education".

Statistical analyses

The analysis method applied here has not only to take into account ordinality of the indicators but also the multilevel structure of the data, as respondents are nested in countries. Therefore, a multilevel (ML) extension of the conventional latent-class (LC) model will be used (Vermunt, 2003, 2008; Asparouhov and Muthén, 2008). In contrast to cluster analysis, the application of a ML-LC model prevents that results are biased as a consequence of erroneous normality and linearity assumptions (Vermunt and Magidson, 2005) which are not met by ordinal indicators as those obtained with the three ISPP items. Using ML-LC analysis instead of conventional LC models allows for the simultaneous estimation of latent classes of individual respondents and segments of countries. Countries are clustered based on the likelihood with which their respondents belong to different individual-level classes, i.e. subgroups of respondents with distinct gender-role traditionality answer profiles.

All analyses are conducted with Latent Gold 4.5 (Vermunt and Magidson, 2005). In order to determine the number of individual-level subgroups and country segments which are required to explain subgroup answer profile differences sufficiently, first ML-LC models with a simultaneously increasing number of gender-role traditionality subgroups and country segments will be computed. Their relative fit will be compared by means of the Bayes and the Consistent Akaike Information Criterion (BIC and CAIC). Lower values of these indices indicate better model fit. Yet there are no established guidelines about the size BIC differences should have to gauge different class solutions as substantively meaningful. Therefore, theoretical interpretability, appropriateness of class sizes, degree of certainty of subgroup allocations (classification error) as well as the parsimony of class solutions with only minimal BIC and CAIC differences will be taken into account as equally important criteria in the decision about which model solutions are the most reasonable.

RESULTS

Identification of the most reasonable ML-LC model

The BIC and CAIC values decrease continuously for models with one to six country segments and increase for models with seven in comparison to six country segments for the data from both time points (see Table 2). This suggests accepting a model with six higher-level classes. A decision about the optimal number of individual-level subgroups based merely on these information criteria, however, is less clear-cut: Decreasing BIC and CAIC values for one to seven individual-level subgroups combined each with up to four country segments speak in favor of seven subgroups. Solutions with eight individual subgroups do not converge already for models with one country segment, and thus indicate that the respective number of individual subgroups would be an over-specification. The same holds also for models with seven subgroups and five and more country segments. Thus, according to the two information criteria, a model with six country segments and six subgroups (M6C_6I) yielded the best fit for the data from both time points. Yet a comparison of this model and the model with the same number of subgroups but only five country segments (M5C_6I) led us to accept the latter: Judged on the basis of the bivariate residual correlations, it explains the answer covariance equally well as model M6C_6I. Furthermore, the sizes of and the answer profiles for the six subgroups as well as the classification errors according to both these models are almost identical. Finally, we could not derive a theoretically sound interpretation of two of the country segments proposed by model M6C_6I. Therefore we accepted model M5C_6I as the most theoretically meaningful and parsimonious solution for both time points.

TABLE N.º 2
Fit measures (BIC=Bayesian Information Criterion; CAIC= Consistent Akaike Information Criterion; CC=classification error) for selected models with different numbers of country (C) segments and individual-level (I) subgroups

	1994			2002		
Model	**BIC**	**CAIC**	**CC**	**BIC**	**CAIC**	**CC**
M1C-1I	264823	264735	0	243286	243199	0
M1C-5I	243546	243341	14	222481	222278	14
M1C-6I	241694	241459	14	221936	221704	14
M1C-7I	**241089**	**240825**	**15**	**221416**	**221155**	**15**
M1C-8I	no convergence					
M2C-1I	264834	264738	0	243296	243202	0
M2C-5I	239538	239295	14	221006	220767	14
M2C-6I	238194	237915	16	220152	219877	17
M2C-7I	**237435**	**237120**	**16**	**219612**	**219301**	**18**
M3C-1I	264844	264741	0	243307	243205	0
M3C-5I	238751	238472	15	220099	219824	14
M3C-6I	237021	236698	16	219292	218974	17
M3C-7I	**236296**	**235930**	**16**	**218648**	**218286**	**17**
M4C-1I	264854	264744	0	243317	243208	0
M4C-5I	238296	237981	15	219860	219549	18
M4C-6I	236368	236002	16	218670	218307	18
M4C-7I	**235645**	**235226**	**16**	**218036**	**217623**	**18**
M5C-1I	264865	264747	0	243227	243211	0
M5C-5I	238137	237784	16	219732	219384	16
M5C-6I	***236159***	***235748***	***16***	***218504***	***218098***	***17***
M5C-7I	no convergence from now on					
M6C-1I	264875	264750	0	243337	242314	0
M6C-5I	236043	235588	16	219603	219219	18
M6C-6I	**235339**	**234818**	**16**	**218335**	**217885**	**18**
M7C-1I	264885	264753	0	243348	243217	0
M7C-5C	237992	237566	16	219534	219114	14
M8C-6I	**235941**	**235442**	**16**	**211883**	**217690**	**18**
M5C6I_cov	**238257**	**237978**	**38**	**216976**	**216461**	**18**

Source: ISSP 1994, 2002.

Sizes and conditional answer profiles of the individual-level subgroups

Table 3 shows the sizes and the answer probabilities for the three items of the six traditionality subgroups in 1994 and 2002. Four subgroups have only quantitatively varying answer probabilities indicating different but similarly shaped traditionality levels of gender-role attitudes. The first is an *extreme traditional* subgroup. Its members, about 6% of the respondents in 1994 and 4% in 2002, have a high probability to express traditional answers to the three gender-role items. A second *traditional* subgroup is the largest one with 40% and 37% of the respondents in 1994 and 2002, respectively. It has the second highest probabilities for traditional answers. Thus, respondents of these two subgroups apparently represent traditional individuals for whom criticism and defence of working women is not an issue. In contrast, the probabilities to endorse the three items (after recoding of the third item) are only low and extremely low in a third and fourth subgroup. These *non-traditional* and *extremely non-traditional* subgroups comprise 33% and 7% of the respondents in 1994, and 38% and 8% in 2002.

TABLE N.º 3
Sizes and conditional answer probabilities (mean probabilities) for the individual-level latent traditionality classes

	Year	Extreme traditionals	Traditionals	Non-traditionals	Extreme non-traditionals	Traditional defenders	Moderate defenders
Size (%)	1994	5.7	39.6	33.0	6.5	5.9	9.2
	2002	4.1	36.6	33.7	8.0	4.4	13.2
Warm relation	1994	.85	.53	.27	.02	.09	.06
	2002	.83	.51	.26	.04	.06	.10
Child suffers	1994	.99	.71	.36	.05	.94	.59
	2002	.99	.70	.33	.03	.95	.56
Family suffers	1994	.98	.70	.35	.05	.95	.48
	2002	.98	.69	.35	.02	.94	.49

Source: ISSP 1994, 2002.

As expected, the distinguishing characteristics of two further subgroups are not only different traditionality levels but also a particular tendency to defend working mothers which can be inferred from opposite endorsement probabilities for the three items. The fifth subgroup, labeled *traditional defenders* in the following, endorses the items *child* and *family suffers* with a high probability

(comparable to the members of the *extreme traditional* subgroup) but the item *warm relation* with a low probability (comparable to the members of the *extreme non-traditional* subgroup). The same opposite answer patterns holds for the sixth subgroup, *moderate defenders*, although its answer probabilities for the items *child* and *family suffers* are less extreme, with values located between those of the members of the "pure" *traditional* and *non-traditional* subgroups. With regard to the low probability to endorse *warm relation* it does not differ from the fifth subgroup.

While both the number of traditionality subgroups and their conditional answer profiles are virtually identical in 1994 and 2002, there is a shift in their sizes. Sizes decreased for all traditional subgroups (including *traditional defenders*), while those for all non-traditional subgroups (including *moderate defenders*) increased, although only moderately. Since the structure of these subgroups did not change between the two time points, we can interpret the change in their sizes in a straightforward way.

Predictors of the structure of individual-level traditionality subgroups

Separate analyses of model M5C_6I involving age, gender or education as covariates reveal that all three variables influence individual-level subgroup membership significantly at both time points. Table 4 depicts the unstandardized regres-

TABLE N.º 4
Impact (unstandardized logistic regression coefficients) of demographic variables on individual-level subgroup composition

	Year	Extreme traditionals	Traditionals	Non-traditionals	Extreme non-traditionals	Traditional defenders	Moderate defenders
Age	1994	.02**	.01**	-.02**	-.02**	.02**	-.01*
	2002	.02**	.01**	-.02**	-.02**	.01*	-.01*
Education:							
1 low	1994	.24**	.15*	-.09	-.50**	.27	-.06
	2002	.15*	.20**	-.04	-.61**	.29**	-.09
2 medium	1994	.12	.01	-.07	-.07	-.06	.06
	2002	.03	.04	-.03	-.09	.06	-.01
3 high	1994	-.36**	-.16**	.16**	.58	-.21**	.00
	2002	-.19**	-.24**	.08	.60**	-.35**	.10
Female	1994	-.11**	-.18**	-.05	.24**	-.01	.10
	2002	-.13**	-.17**	-.02	.28**	-.02	-.06

Source: ISSP 1994, 2002.

sion coefficients reflecting their impact on response probability patterns and subgroup sizes, when their influence is simultaneously accounted for by Model M5C_6I computed both for 1994 and 2002.

To summarize the most interesting results of these analyses: As could be expected, membership in all traditional subgroups is positively associated with age, while the probability to be a member of a non-traditional subgroup (including a moderate tendency to defend working mothers) is negatively related to age. Low education as well as being male enhances the probability to belong to one of the traditional subgroups but reduces the likelihood to be a member of the extremely non-traditional subgroup. For high education significant associations in the opposite directions are observable, and being female makes a membership in the extremely non-traditional subgroup more likely. These observations are in line with previous findings about the influence of these demographic variables on gender-role attitudes, and thus corroborate also the formal validity of our individual-level class solution.

Composition and meaning of the five higher-level country segments

The five higher-level country segments can be interpreted by the probabilities with which their populations belong to the six individual-level traditionality subgroups. For the countries of the first and largest higher-order segment (with ten and six countries in 1994 and 2002, respectively) it is most probable that its respondents are *non-traditionals* (Table 5). *Traditionals* form the second largest group. Both *extreme traditionals* and *extreme non-traditionals* are of minor importance. While the likelihood of belonging to the *non-traditionals* is slightly increasing between both points in time, for the *extreme non-traditionals* it is decreasing. The mixed individual-level subgroups, *traditional* and *moderate defenders*, do not play any role. This country segment can be labeled as *non-traditional dominance*.

Respondents of the second largest country segment (comprising five and six countries in 1994 and 2002, respectively) most likely belong to the *traditionals*, though with some decrease from 1994 to 2002. *Non-traditionals* are the second most probable subgroup for this country segment, while all other individual-level traditionality subgroups can be neglected for all practical purposes. Thus, this country segment is characterized by *traditional dominance*.

Among the respondents of the three countries allocated to the third segment in 1994 and 2002, again *traditionals* dominate, although again with some decrease in numbers between both points in time. However, it is very unlikely that their nationals are *non-traditionals* or *extreme non-traditionals*. On the contrary, being either *moderate* or *traditional defenders* is quite likely for these respondents. While the number of *moderate defenders* considerably increases

TABLE N.º 5
Distribution of the individual-level traditionality subgroups in the country segments

Country segments	Year	Extreme traditionals	Traditionals	Non-traditionals	Extreme non-traditionals	Traditional defenders	Moderate defenders	No. of countries
Non-Traditional dominance	1994	3.3	39.4	47.4	8.9	1.1	0	10
	2002	3.2	39.0	52.3	5.1	.4	0	6
Traditional dominance	1994	4.3	54.6	36.2	1.3	3.4	.2	5
	2002	3.4	48.5	38.4	2.2	3.6	4.0	6
Traditional defence	1994	14.2	44.5	6.5	2.3	17.7	15.0	3
	2002	8.0	38.3	6.9	3.6	12.9	30,5	3
Moderate defence	1994	2.2	16.2	19.2	17.9	4.8	39.7	2
	2002	3.9	22.9	14.5	18.0	5.7	34.9	5
Defence Pronounced non-traditional dominance	1994	8.6	27.4	3.3	4.6	19.7	36.4	2
	2002	1.3	27.7	54.7	16.0	0	0	2

Source: ISSP 1994, 2002.

from 1994 to 2002, *traditional defenders* become less numerous. *Extreme traditionals* are also a non-negligible subgroup, though their size is on the decline. Thus, this higher-order segment can be interpreted as *traditional defence*.

The individual-level subgroup composition of the fourth segment with two and five countries in 1994 and 2002, respectively, resembles that of the third country segment with regard to the likely presence of defenders. *Moderate defenders* are most frequent, with some decline over time. Yet *traditional defenders* of working mothers as well as *extreme traditionals* are very unlikely. *Traditionals*, with an increase over time, *non-traditionals*, with a decrease over time, and *extreme non-traditionals*, with a comparable frequency at both time points, are of roughly equal probability. Thus, this higher-order segment is characterized by a *moderate defence*.

In contrast to the first four segments the fifth apparently has a different meaning in 2002 compared to 1994, since the nationals of the two countries allocated to it at each time point have completely different probabilities to belong to the six individual-level traditionality subgroups. In 1994, they are most probably *moderate defenders* of working mothers followed by *traditionals*. *Traditional defenders* and, with a clearly lower likelihood, *extreme traditionals* are also present, while *non-traditional* subgroups are virtually absent. Thus, in 1994 nationals of the two countries are located in-between those of the countries forming the *moderate* and *traditional defence* segments. Thus, we simply call it *defence*. In contrast, the nationals of the two countries clustered in the fifth segment in 2002 have a zero probability to belong to the two subgroups characterized by defending working mothers. On the contrary, they most probably are *non-traditionals* or, with a markedly lower probability, *traditionals* or *extreme non-traditionals*. Thus, in 2002 this country segment is even less traditional than the first higher-level segment. Thus, we label it *pronounced non-traditional dominance*.

Distribution of the countries across higher-level country segments and of traditionality subgroups within each country in 1994 and 2002

The six individual-level traditionality subgroups are almost identically structured at both time points. Yet, because of a classification error of about 18% and after the inspection of the posterior probabilities for each subgroup, it has to be taken into account that in particular allocations to the smaller subgroups involve some uncertainty. As a consequence, the same can also be expected for the clustering of individual countries into higher-order segments. Thus, transitions of countries across the five higher-order segments between both points in time cannot be taken as a straightforward indication that attitudes have

decisively changed within the respective countries. Such transitions might be a consequence of only small variations in the classification of their nationals into adjacent individual-level traditionality subgroups. Thus, in order to address the question whether attitudes have changed in a country, we will not only consider country transitions over the higher-order segments. Instead, we will also take into account changes within countries with regard to the distribution of individual-level subgroups.

According to Table 6, in 1994 the first higher-level segment, *non-traditional dominance*, comprises all Anglo-Saxon countries surveyed, plus the Netherlands, Israel, Norway, and Sweden. In 2002, the United States change from this segment into the *moderate defence* segment. According to Table 7, for U.S. respondents the probabilities of being *traditionals* and *non-traditionals* have decreased in 2002 in comparison to 1994, while those of being *moderate defenders* and *extreme non-traditionals* have increased. While the rise in the number of the latter might be an artifact due to the error which occurred when saving the data mentioned above, the increase of the former cannot be explained in such a way.

In 2002, Israel is also not longer assigned to the first but to the second segment of countries, *traditional dominance*. Table 7 shows, however, only a slight change in a traditional direction. Apparently, the classification of Israel to a segment is rather uncertain, and its assignment to different but narrowly adjacent country segments in 1994 and 2002 should not be over-interpreted as reflecting a marked change in attitudes. Finally, in 2002 also Norway and Sweden do no longer belong to the first segment but form a separate one. According to Table 7, the nationals of these countries have moved markedly from the *traditional* subgroups to the *non-traditional* or *extreme non-traditional* subgroups. This is an impressive trend in a non-traditional direction which makes these two countries unique.

The second country segment, *traditional dominance*, is composed of the Czech Republic, Slovenia, Poland, Spain, and the Philippines in 1994. In 2002, however, the Czech Republic is no longer allocated to this segment but to the fourth, *moderate defence*. As was the case for the United States, also in the Czech Republic both *traditionals* and *non-traditionals* are less frequent in 2002 than in 1994, while the opposite is true for *moderate defenders* and *extreme non-traditionals*. These differences are so pronounced that it is rather improbable that they are only caused by attitudinal change. Rather they might also be a consequence of altered item translations. Thus, these observations have to be interpreted with caution. In 2002, Bulgaria and, as already mentioned, Israel are assigned to the second segment in 2002. In 1994, Bulgaria clustered in the third segment, *traditional defence*. In 2002, *moderate*

TABLE N.º 6
Distribution of countries across group classes 1994 and 2002

	1994	2002
Western Germany	5A	4
Austria	5A	3
Spain	2	2
Eastern Germany	4	4
Hungary	3	3
Czech Republic	2	4
Slovenia	2	2
Poland	2	2
Bulgaria	3	2
Russia	3	3
Australia	1	1
Great Britain	1	1
Northern Ireland	1	1
United States	1	4
Ireland	1	1
New Zealand	1	1
Norway	1	5B
Sweden	1	5B
Netherlands	1	1
Philippines	2	2
Israel	1	2
Japan	4	4

Note: 1 = non-traditional dominance; 2 = traditional dominance; 3 = traditional defence; 4 = moderate defence; 5A = defence; 5B = pronounced non-traditional dominance.

Source: ISSP 1994, 2002.

TABLE N.º 7
Distribution of individual latent classes in the different countries (in %)

	Extreme traditionals		Traditionals		Non-traditionals		Moderate defenders		Extreme non-traditionals		Traditional defenders	
	1994	2002	1994	2002	1994	2002	1994	2002	1994	2002	1994	2002
Western Germany	8	3	31	28	4	12	36	40	4	10	17	7
Austria	10	8	19	33	2	5	37	32	6	6	26	16
Spain	4	3	54	48	39	41	0	3	1	3	2	2
Eastern Germany	1	1	13	9	17	15	48	48	17	22	4	6
Hungary	18	9	39	37	6	7	17	32	2	3	18	13
Czech Republic	8	4	47	27	37	18	0	34	3	10	5	7
Slovenia	5	2	58	48	32	39	0	3	1	2	4	5
Poland	5	4	55	47	33	49	0	4	1	2	6	3
Bulgaria	17	6	38	60	7	25	13	2	5	2	20	5
Russia	9	8	52	45	6	9	15	28	1	2	17	8
Australia	6	4	46	42	38	48	0	0	9	6	1	0
Great Britain	2	2	36	37	53	55	0	0	9	5	1	1
Northern Ireland	3	5	35	33	54	56	0	0	7	5	1	2
United States	3	5	33	26	48	11	0	27	13	27	2	4
Ireland	5	3	43	37	41	55	0	0	10	6	1	0
New Zealand	4	4	45	44	44	49	0	0	6	3	1	0
Norway	2	1	40	28	50	57	0	0	7	13	1	0
Sweden	2	1	31	27	53	52	0	0	13	21	1	0
Nether-lands	2	3	41	42	48	51	0	0	7	4	1	0
Phili-ppines	1	2	59	47	38	38	0	6	0	1	2	6
Israel	3	3	40	43	48	42	0	5	7	3	2	4
Japan	3	4	19	17	21	16	33	36	18	23	6	5

Source: ISSP 1994, 2002.

defenders do not play a role any more. Instead the "regular" *traditional* and *non-traditional* subgroups have both increased and *extreme traditionals* have become less frequent. However, the seeming decline of the *traditional defenders* can also be, at least partially, an artifact due to a change in the translation of the response categories.

In 1994, the third country segment, *traditional defence*, is formed by Hungary, Bulgaria, and Russia. As mentioned, in 2002 Bulgaria does no longer fall in this segment, while Austria is assigned to it.

The fourth country segment, *moderate defence,* includes only eastern Germany and Japan in 1994. Yet in 2002, western Germany, the Czech Republic, and the United States are also assigned to this segment: Both western Germany and Austria have witnessed rather small changes between 1994 and 2002. Western Germany has moved slightly more in a non-traditional direction than Austria, with the consequence that the former is included in the fourth group, *moderate defence*, but the latter in the third one, *traditional defence*. Presumably, both cases were borderline already in 1994 when both countries constituted an exclusive class.

The fifth country segment in 1994 comprises western Germany and Austria. It is located between the third and fourth segments. As we have seen before, these two countries are allocated to different segments in 2002: Western Germany to the fourth, *moderate defence,* and Austria to the third, *traditional defence*. The fifth country segment in 2002 is characterized by a *pronounced non-traditional dominance*. It comprises Norway and Sweden. In 1994, these countries fell into the first segment of countries, *non-traditional dominance*. The fact of their leaving this country segment and forming a separate one indicates a markedly stronger trend in a non-traditional direction in Norway and Sweden than in the other countries belonging to the first segment in 1994.

In a nutshell, segment membership varies for one third of the 22 countries. Most of them change into adjacent segments. As outlined above, only the fifth country segment has an entirely different meaning in 1994 and 2002. Thus, it is not surprising that it comprises two different countries in these two years.

CONCLUSIONS

This paper investigated whether there are different patterns of traditionality with regard to the perceived consequences of female labor-force participation for their children. Multilevel latent-class (ML-LC) analysis was used to identify traditionality subgroups based on three items used in the Changing Family and Gender Roles module of the International Social Survey Program

(ISSP). The analysis included all 22 countries for which we have data for both 1994 and 2002. Latent classes of individual respondents and segments of countries were estimated simultaneously. Six individual-level subgroups and five country segments turn out to be the most reasonable solution for both points in time. The structure of individual-level subgroups is practically identical for both years: four classes represent only quantitatively varying levels of gender-role traditionality (*extreme traditionals*, *traditionals*, *non-traditionals*, and *extreme non-traditionals*), while two are primarily characterized by a unique tendency to defend working mothers against criticism (*traditional* and *moderate defenders*). Even in the relatively short time span of eight years, a decrease of the more traditional subgroups in favor of the less traditional is revealed.

Four of the five country segments are identical in both years. *Traditional dominance* and *non-traditional dominance* are characteristic for those countries where the tendency to defend working mothers does not seem to play a role, i.e. where pure types of traditionality or non-traditionality dominate. The countries, where the tendency to defend working mothers does play a role, form the country segments of *tradititional* and *moderate defence*. The fifth country segment in each year is specific. There is also a change in the composition of the country segments. However, not all of this change seems to be substantial. Rather, part of it is apparently due to the fact that some countries are classified with a high uncertainty to specific segments. Another part might to some degree represent methodological artifacts, i.e. changes observed for the United States, the Czech Republic, and Bulgaria might be due also to data-coding mistakes and altered item wordings and answer options.

However, the exceptional position of Norway and Sweden seems to be a substantial result. Both countries are special with regard to the speed of social change, though they have already reached a high level of non-traditionality. It is also remarkable how fast change in a non-traditional direction in several of the eastern European societies has gained momentum after the collapse of socialism. An earlier expectation was that of a reestablishment of traditional role models. The u-curve observed for Hungary between 1988 and 2002 by Braun and Scott (2009) – a traditional backlash followed by a non-traditional trend – seems to apply for other former socialist countries, too. These countries are on a good way towards less traditional attitudes.

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