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Multidimensionality of gender ideology and relationships with gendered practices: an exploratory analysis across Europe in 2002 and 2012

Authors: Heejung Chung[1] & Pia Schober[2]

Abstract

Many researchers assume a one-dimensionality of gender ideology constructs and/or stability of dimensions across countries and time, yet these assumptions have rarely been tested. WE apply factor analyses on two waves of the International Social Survey Programme in 2002 and 2012, and comparable European countries to test this. Our results show that gender ideologies can be distinguished into distinctive domains that relate to mother's employment, women's work, men's role in the family, and finally women's breadwinning. These dimensions have be found to be relatively stable across countries and time. Results from regression models investigating different aspects of the gender division of labour suggest that distinguishing dimensions is less important when considering gender ideologies at the individual level but can make a big difference when examining gender culture at the country level.

Keywords: Gender ideology, multidimensionality, cross-European analysis, factor analysis, gender division of labour

[1] Reader in Sociology and Social Policy, University of Kent, UK. Contact: h.chung@kent.ac.uk

[2] Professor of Sociology, University of Tübingen, Germany. Contact: pia.schober@uni-tuebingen.de

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1. Introduction

Many studies show that gender ideologies at the individual level as well as aggregate measures of gender culture predict differences in maternal employment, relative income and the division of housework and childcare within couples (e.g., Diefenbach, 2002; Jelen, 1988) (for a review, see Davis and Greenstein, 2009). Many of these researchers - using both national and international surveys - have frequently constructed one common gender ideology measure either by simply summing up all items (e.g., Fuwa, 2004; Lorenzini and Bassoli, 2015; Chung, 2011) or by using a principal component or factor analysis to create a weighted index (e.g., Brooks and Bolzendahl, 2004; Schober, 2013). This approach assumes that all questions on gender ideology represent one underlying construct, and fails to consider that attitudes may be multidimensional. Many of these studies report Cronbach's alpha for the gender ideology index used to support their choices of using gender ideology unidimensionally. However, Cronbach's alpha is a measure of reliability or internal consistency of a scale, not of homogeneity or one-dimensionality (Cronbach, 1951; Schmitt, 1996). As Schmitt (1996) shows, internal consistency is a necessary but not sufficient criterion for homogeneity.

Some researchers have acknowledged that the questions used in large-scale surveys may represent more than one dimension of gender ideology and have either used individual items (Brewster and Padavic, 2000; Lück and Hofäcker, 2003; Steiber and Haas, 2009; Diefenbach, 2002; Chung and Meuleman, 2017), excluded some items (Geist and Cohen, 2011; Schober and Scott, 2012) , or used more than one attitude construct for different domains (e.g., Baxter et al., 2012; Bolzendahl and Myers, 2004; Kunovich and Kunovich, 2008). Yet few studies have systematically explored the issue of multidimensionality of gender ideology items included in large-scale surveys over different periods. Furthermore and most importantly, no

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study to our knowledge tests to see whether examining gender ideology multidimensionally versus unidimensionally has consequences for the analyses of the practiced gender division of labour. Ignoring the multidimensionality of these measures may produce distorted results that hamper our ability to monitor and predict variation in gender ideologies within and across countries, and understand how different dimensions of gender ideologies impact a wide range of behaviours.

A couple of recent studies (Braun et al., 2008; Constantin and Voicu, 2015; Wall, 2007) have provided evidence that the dimensions of gender ideology measures may vary between countries or cultural contexts. This research compliments and extends these previous studies in three ways. Firstly, we focus on cross-national comparability across a widely used set of European Union countries, which represent a range of different cultural work-care regimes that are commonly compared. Secondly, we investigate the stability of gender ideology dimensions using more recent data, and using a longitudinal perspective, to compare the results from 2002 and 2012 to test for the stability of the dimension across time. It is especially important to examine more recent data due to the policy developments of recent years in Europe, which may have influenced gender ideology dimensions (Sjöberg, 2010). Lastly, we examine associations of different attitude dimensions at the individual and country level with the practiced gender division of labour to evidence the importance of distinguishing between different gender ideology dimensions in the analysis of work-family outcomes.

In the next section, we present our theoretical framework for the analysis of gender ideology dimensions across countries. Here we explain why there may be possible invariance of the dimensions across countries. Section 3 examines the data and methods applied, followed by

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section 4 which provides the analysis results. The paper concludes with a discussion and conclusion.

2. Theoretical framework

Conceptualising and measuring gender ideology dimensions

This study focuses on gender ideologies regarding the articulation of work and family life. Given that in many Western countries this articulation starts to diverge for men and women in particular once they become parents (Schober, 2014; Grunow and Evertsson, 2016), we focus specifically on ideologies concerning mothers' and fathers' roles in relation to breadwinning and family care. We consider gender ideologies at two analytical levels. First, we consider individuals' gender ideologies, expressed as their support for a division of paid and unpaid work between men and women that is based on the notion of gendered separate spheres (Davis and Greenstein, 2009). They are distinct from, yet closely related to, gender identities understood as social-psychological constructions of the gendered self (Stets and Burke, 2000), which are constantly and differently (re)produced in every day interactions depending on the situation and power relations (West and Zimmerman, 1987). Second, at the macro level, we refer to gender ideologies as widespread social beliefs that legitimize gendered power differences and inequality (Lorber, 1994: p.30) and are reflected in dominant family models (Pfau-Effinger, 2005) or work-care cultures (Kremer, 2007). This has also been termed gender culture (Grunow and Evertsson, 2016: p. 7).

We generally refer to strong beliefs in gendered separate spheres as traditional gender ideologies, and to beliefs embracing equal and shared contributions to paid and unpaid work by men and women as egalitarian gender ideologies. Previous research, however, points to different dimensions of gender ideologies by emphasising the importance of distinguishing

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between beliefs regarding the i) inferiority of women, and in ii) different and complementary aptitudes of men and women as two standpoints, which may not be represented well in a combined measure of gender role traditionalism (Constantin and Voicu, 2015; Jelen, 1988). Braun et al. (2008) also suggested that currently three types of non-traditional beliefs may be distinguished: 1) the goals of establishing gender equality in work and care involvement; 2) aiming towards economic independence or careers for both partners, and not restricting anyone exclusively to family work; and 3) the quest for individualized solutions which are freely chosen by couples. Similarly, Glick and Fiske (1996; 2001) have shown that hostile and benevolent sexism may be only moderately correlated with some people scoring high on only one of these two types of sexism and not on the other. Unfortunately, such differentiations of women's inferior or superior abilities and qualities cannot be captured well by most of the available gender ideology items in large international surveys.

However, several previous studies using comparative data have suggested domain-specific categorisations of gender ideology, e.g. by differentiating between ideologies towards women's engagement in the public versus the private sphere (Ashmore et al., 1995; Bolzendahl and Myers, 2004). In her analysis of seven European countries, Wall (2007) applied a conceptual ideology distinction between 1) the gender division of paid work; 2) the gender division of unpaid work; and 3) the employment of mothers with young children. Similarly, a few studies from the US and Australia have provided evidence that attitudes towards women's roles can be distinguished from ideologies regarding the gender division of family work or men's roles respectively (Baxter et al., 2012; Pleck et al., 1994). Using six items across 26 countries from the 2002 ISSP, Sjöberg (2010: : 44-45) distinguished two dimensions, i.e. one pertaining to the conflict between women's jobs and the needs of the family, and another capturing normative views on the societal division of labour between men and women.

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Based on these conceptualisations and empirical evidence, we expect that the extended ten gender ideology items in the ISSP 2002 data set (see Table 1) which all relate to combining paid work and family life will not result in a unidimensional construct and thus it may be more necessary to construct several distinct dimensions. This multidimensionality may capture the different domains in which gender roles are played out, e.g. regarding mothers' employment, as opposed to general societal expectation on the gender division of breadwinning and unpaid work, or specifically men's involvement in family care.

Cross-national differences in gender ideology dimensions

The gender culture of a country is likely to consist of several dimensions which may provide contradictory information concerning gender appropriate work-care arrangements. Three aspects of welfare state policy have been found to be particularly relevant in shaping gendered work and care ideals (Grunow and Evertsson, 2016; Keck and Saraceno, 2013; Kremer, 2007; Pascall and Lewis, 2004): i) the promotion of fathers as carers through individual entitlements to paid parental leave; ii) defamilialisation policies promoting maternal employment, in particular through provision of affordable and high-quality childcare; and iii) supported familialism in the form of long job-protected parental leave for mothers, cash benefits for care at home or tax benefits for second earners. Focussing on these dimensions - based on policy indicators from around 2005 presented by Thévenon (2012) - one may classify the countries used later in the analysis roughly into three gender equality regimes: The first group are Nordic countries which support dual-earner carer families through generous support for childcare services for under three-year-olds and paid parental leave including individual entitlements for fathers. The second group mainly captures countries which have pursued supported or optional familialism either through long (partly

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low-paid) leave entitlements or generous financial benefits in combination with moderate levels of childcare provision. These include countries like Germany, Austria, and France, but also some Eastern European countries like Hungary, the Czech Republic and Poland. The third group is made up of a diverse set of countries which generally provide limited assistance in terms of public childcare provision, short leave and little specific entitlements for fathers. These include liberal countries such as the United Kingdom and Switzerland, as well as Southern European countries such as Spain and Italy, and some Eastern European countries such as Slovakia. Over the past decade support for these policies has varied substantially between countries and has changed within countries over time. Some countries, such as Sweden and the Czech Republic, have promoted one type of family model – either egalitarian or traditional - more consistently than others (Grunow and Evertsson, 2016).

We expect that the gender ideology constructs may also vary across different countries depending on family policy support and the different models of family that developed across countries. For instance, gender ideologies regarding maternal employment may be shaped by the extent to which there is high-quality affordable childcare provided by the state, or whether fathers are assumed to take parental leave and be actively involved in childcare. Thus, in the Nordic countries, views relating to maternal employment - captured in the item 'A pre-school child is likely to suffer if his or her mother works' – may be closely related to ideologies regarding women's breadwinning – e.g. 'Both husband and wife (man and woman) should contribute to household income' - since employment of mothers of young children will not be viewed as having the same impact on children; however this may differ in countries where such provisions are not yet available but where women are still expected to contribute to family income for reasons of financial necessity, such as in Eastern European countries.

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Sjöberg (2010) provides some support for this through his analysis of ambivalence in gender ideology across countries. He notes that inconsistencies between gender ideology domains – i.e. where progressive views on one attitude do not strongly correlate with progressive views on another – vary across countries due to a disjunction between people's aspirations and the structural support for such aspirations. From a methodological point of view this can be understood as cross-cultural construct bias (Van de Vijver and Leung, 1997), which means that the concept has different meanings, or covers different behaviours, across cultures. As a result gender ideology dimensions may vary across countries.

Measurement equivalence entails that respondents with similar position in latent traits – here gender ideology; or from different groups – here countries, should provide similar responses across the groups (Davidov et al., 2014). Configural measurement equivalent entails that the factor structures are equal across countries; metric or weak measurement equivalence results from factor loadings that are equal across countries; and lastly scalar or strong measurement equivalence results from factor loadings and indicator intercepts being equal across countries. Strictly speaking only when strong measurement equivalence has been reached can we make meaningful comparisons of gender attitude means across countries, although many scholars argue that this may be too strict and weaker constraints should be considered (Davidov et al., 2014).

Despite the fact that gender ideology measures are being widely used to compare attitudes across countries, to date such measurement equivalence testing has been rarely carried out. In a recent study, Constantin and Voicu (2015) tested for measurement equivalence among eight gender ideology items across a wide range of countries across the world using data from the early 2000s. They reported that the two scales met the criterion of configural and weak measurement equivalence but found evidence of scalar variance across countries. In the

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subsequent analysis, we will test measurement equivalence across a smaller sample of exclusively European countries representing different care regimes that are often used for comparative policy analysis, alongside recent additional data encompassing a set of items pertaining closely to division of labour between men and women.

Cross-time differences in gender ideology dimensions

Family policies have changed significantly during recent times in Europe (Ferragina and Seeleib-Kaiser, 2015) and accordingly, gender ideologies are likely to have changed. The fast changes found in family policies across Europe may have shaped how the different dimensions of gender ideologies relate to each other, e.g. as a result of the expansion of formal childcare, gender ideology dimensions relating to maternal employment and to the gender division of breadwinning and unpaid work more generally may have merged into a single construct over time, despite having previously existed as separate dimensions. By contrast, despite some extensions, individual entitlements and take-up of paid leave for fathers is still limited in most European countries, and therefore the distinctiveness of gender ideologies regarding paternal care involvement may have changed to a lesser extent. To the authors' knowledge, such a comparison of gender ideology dimensions across time has not been done and will thus be carried out in our analysis.

Gender ideology dimensions at individual and national level and the practiced gender division of labour

If gender ideology items were to be grouped by question domain, e.g. by whether the statement refers to maternal employment or paternal child care, this may have implications for the analysis of gendered practices. Following the theory of planned behaviour (Fishbein

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and Ajzen, 1977), including domain-specific dimensions that are more closely related to the respective behavioural outcomes, this may lead to greater predictive power as opposed to summing all available items. For example, attitude items that focus on the primacy of women's breadwinning may correlate more strongly with couples' earnings relations than when compared to attitude items focusing on maternal employment and childcare. This problem may be even more pronounced when we compare gender cultures across countries. Some studies (e.g., Lück and Hofäcker, 2003; Wall, 2007) have explored whether differentiating separate dimensions of gender ideology – either through groupings of variables or through using individual items – result in different country rankings, and whether they mirror common typologies of work-care policy. Looking at individual variable items across a larger number of Western countries, Lück and Hofäcker (2003) find that different gender ideology variables result in the different ranking of countries. Wall (2007) distinguishes ten attitude variables into three dimensions to suggest that the variation of gender ideologies across seven European countries can be better understood by looking at specific dimensions and prevalent combinations of these dimensions rather than a summative mean.

Thus, we will examine whether some gender ideology dimensions - possibly because they are conceptually more closely related to a specific behavioural aspect or to a set of national level institutions - have greater predictive power than a summative gender ideology index including all dimensions. Based on previous studies, we expect such variation in particular when investigating relationships with gender culture at a national level.

To sum up, this study aims to contribute to the literature by systematically exploring the issue of the multidimensionality of gender ideology regarding work-family articulation. We expect

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dimensions of gender ideology to be distinguished according to different domains of gendered action. We examine whether these dimensions may vary across countries as a result of different levels of policy support for working parents and gender equality in different domains which may have shaped the gender culture. We also test whether gender ideology dimensions may have changed over time, for instance as a result of a shift towards greater state support for maternal employment in many Western countries. Finally, we examine the empirical relevance of the multidimensionality of gender ideology by testing whether such operationalisation as several dimensions, at the individual and country level, has consequences for the analyses of the practiced gender division of labour.

3. Data and Methods

Data

To test the multidimensionality and the cross-national variance of gender ideology, we used the International Social Survey Programme (ISSP) of 2002 and 2012. ISSP is a survey held annually in over 40 different countries across the world. The module on Family and Changing Gender Roles has been repeated four times, I(1988), II(1994), III (2002), and IV (2012), but we focus on the two most recent modules, especially in light of fast family policy developments in previous decades (Ferragina and Seeleib-Kaiser, 2015). The III and IV modules include 34 and 24 countries respectively, with approximately 1,000 cases per country, with the exception of some larger countries. For most countries a random sample of individuals over 18 was drawn with an upper age limit of approximately 75. In this paper we focus mostly on the 2002 data set since it has a larger country sample, and a greater and more diverse set of gender ideology items. For the factor analyses we restrict our analysis to 16 countries that have been surveyed in both years and represent the different care regimes

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across Europe. We restrict the cases to these countries to ensure that the deviations between surveys in the results are not due to case selection. Countries included are Austria, Bulgaria, the Czech Republic, Denmark, Finland, France, Germany (East and West divided), Great Britain, Latvia, Norway, Poland, Slovakia, Slovenia, Spain, Sweden and Switzerland. For the multilevel analysis later on in the paper we use the 2002 data set which allows us to include five more countries to increase the degrees of freedom at level two; namely Cyprus, Hungary, the Netherlands, Portugal, and Belgium (only Flanders). The average response rates for both surveys were around 50% (for more information, see the ISSP website).

Analysis method

We use exploratory and confirmatory factor analysis (EFA/CFA) methods to investigate whether or not the gender ideology items form more than one latent dimension. Factor analysis reduces the number of variables into a smaller number of bundles using the identification of interrelated variables. The basic assumption is that gender ideologies cannot be measured directly, but instead through a number of observed variables – as listed in Table 1 – that reflect the latent trait (Davidov et al., 2014). Firstly, we run an EFA on the pooled 2002 data set including all 16 countries to find the dimensions that result from the 10 gender ideology items across Europe. We apply an EFA, because we do not have well established assumptions regarding exact factor structures. A CFA on the other hand, starts off with a clear structure in mind and tests the fit of the hypothesised structure (Thompson, 2004). Then we test the robustness of the dimensions found in our 2002 data across time using a CFA method with the seven items available in both the 2002 and the 2012 data sets. Lastly, we apply a multi-group CFA to test whether the dimensions are stable across countries. We use Mplus 7.31 for all factor analyses.

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Although we assume that there would be more than one underlying gender ideology dimension construct, it is likely that there is a certain degree of correlation rather than complete independence. Thus we apply the oblimin rotation method, one of the most commonly used oblique rotation methods allowing for the underlying factors to be correlated to one another. To measure the goodness of fit, we use a Root Mean Square Error of Approximation (RMSEA), a Comparative Fit Index (CFI), and a Standardized Root Mean Square Residual (SRMR) indices (Davidov et al., 2014). A widely accepted cut off for a good fit model would mean an RMSEA of less than 0.06, a CFI more than 0.95 and a SRMR less than 0.08 (Hu and Bentler, 1999). However, an RMSEA of 0.07 (Steiger, 2007) or 0.08 (MacCallum et al., 1996) and a CFI of 0.90 has also been noted as a possible cut off for a good fitting model (Hooper et al., 2008).

In the second part of the analysis, we compare the strength of the individual factors – which we had extracted based on the factor analysis in part one – or the combinations of them in comparison to a summative index of all items, both at the individual level and as an aggregate national level indicator. We use multilevel linear and logistic models of three different aspects of the gender division of labour, frequently explored in the literature; i.e, 1) the division of housework; 2) partners' relative earnings; and 3) maternal employment when the child is below school age. To compare the relative fit of the different models of the same outcome we draw on two measures of model fit of log-likelihoods. For the regression analyses, the sample is restricted to men and women of working age who lived with a partner since the first two dependent variables pertain only to coupled families. We use STATA 14.0 mixed and meqrlogit functions for the multilevel analyses.

Gender role attitude measures

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In the ISSP 2002 data 10 questions were used to measure gender role attitudes, of which seven selected questions were repeated in the 2012 wave (see Table 1). Individuals' answers could be: 1 "agree strongly"; 2 "agree"; 3 "neither agree nor disagree"; 4 "disagree"; to 5 "disagree strongly". We considered "can't choose" and "not answered/refused" as missing cases. All egalitarian worded variables were reverse-coded so as to have higher scores representing more gender egalitarian attitudes for all variables included in both data sets. We interpreted all gender role attitude items to represent continuous underlying constructs in this paper. Although some scholars (e.g., Holgado–Tello et al., 2010) have argued that Likert scale measures should be interpreted as ordinal, other methodological studies (Carifio and Perla, 2008; Norman, 2010) have suggested that treating them as continuous makes little difference for statistical analysis, especially when they offer five or more answer categories or if several items are combined into an index. In the subsequent regression analysis, to mirror previous studies with summative indices, the gender ideology factors are computed by adding up the items which load highest on the respective factor and dividing the sum by the number of items included in the scale.

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Table 1: Items used to measure gender ideology and means across 16 countries

Item	Domain	Survey	N	Mean	SD
A working mother can establish just as warm and secure a relationship with her children as a mother who does not work	Maternal employment and child care	ISSP 12 ISSP 02	21828 22150	3.96 3.73	1.09 1.20
A pre-school child is likely to suffer if his or her mother works	Maternal employment and child care	ISSP 12 ISSP 02	21526 21901	3.17 2.90	1.26 1.25
All in all, family life suffers when the woman has a full-time job	Maternal employment and child care	ISSP 12 ISSP02	21605 21988	3.17 2.95	1.28 1.28
A job is alright but what most women really want is a home and children	Women's work/family articulation/ breadwinning	ISSP 12 ISSP 02	20857 21240	3.10 3.01	1.22 1.24
Being a housewife is just as fulfilling as working for pay	Women's work/family articulation/ breadwinning	ISSP 12 ISSP 02	21516 21111	2.97 2.99	1.18 1.22
A man's job is to earn money; a woman's job is to look after the home and family	Women's work/family articulation/bread winning	ISSP 12 ISSP 02	21863 22291	3.51 3.46	1.27 1.27
Having a job is the best way for a woman to be an independent person	Woman's work/family articulation/ bread winning	ISSP 02	21744	3.80	1.07
Both husband and wife (man and woman) should contribute to household income	Woman's work/family articulation/ bread winning	ISSP 12 ISSP 02	21892 22235	4.15 4.03	0.88 0.94
Men ought to do a larger share of household work than they do now.	Men's family articulation	ISSP 02	21940	3.73	0.95
) Men ought to do a larger share of child care than they do now.	Men's family articulation	ISSP 02	21791	3.84	0.88

Note: All variables have been coded so higher values represent more egalitarian attitudes. Answers range from 1 to 5.

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Measures used for exploring the gender division of labour and modelling strategy

The first dependent variable refers to the gender division of housework. We calculate the relative housework share in couples based on questions which asked ISSP respondents about how much time they themselves and their partners spend on housework per week. We construct a continuous scale for the time spent by women on housework, measured as a percentage of total time spent on housework by both partners. As a second dependent variable we use partners' relative earnings. Again, based on self-reports from one partner in each couple, we form two categories to distinguish between couples where the partners earned equal earnings (40-60%) or where women earned more (60% or more), against the reference group where the man earned more (60% or more). The third aspect we look at was employment of mothers with children under school age. For couples with children we construct a dependent variable with categories describing whether the mother worked full-time, against the reference group where mothers worked part-time or stayed home while their child was below school age.

In addition, we include a number of standard control variables in the regression analyses to examine whether the predictive power of the gender ideology factors was influenced by considering other potential influences on the gender division of labour, or on respondents' gender role attitudes. We control for: gender and age of the respondent; whether there are any children; and any children under school age currently living in the household. We also take into account the respondents' level of education. At the country level, we control for family policy expenditure as a percentage of GDP, a common variable used in cross-national studies for exploring gender inequalities. Descriptive statistics for these variables are shown in the appendix.

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4. Results

Descriptive analysis

First we examined the means and variances of the gender role attitude variables (see Table 1). On average European individuals held rather egalitarian attitudes, with the mean of the items ranging from 2.90 (neither agree or disagree) to 4.15 (agree) on a five-point scale. During the past decade individuals have become less accepting of traditional gender role attitude statements – showing a slight increase in the mean scores for most variables. The greatest increases can be seen for the three items relating to the consequences of maternal employment on children and family life (items 1-3) – indicating that individuals in the sixteen countries under investigation have become more approving of maternal employment. Individuals seem to hold the most egalitarian views concerning the gender of the family breadwinner – "Both husband and wife should contribute to household income" - with an average of 4.03 in 2002 and 4.15 in 2012.

Exploratory Factor Analysis using ISSP 2002

Table 2 provides the fit indices for the EFA analysis outcomes when one to five factors (minimum and maximum number of factors possible with 10 variables) are extracted with the ISSP 2002 data. A four factor extraction is deemed most appropriate when examining the fit indices, with an RMSEA of 0.035, a CFI of 0.992, a TLI of 0.966, an SRMR of 0.011, and a large drop of the Eigen value between 4-5 factors. This suggests that gender ideologies are not unidimensional, but rather multidimensional.

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Table 2. Fit indices for the exploratory factor analyses results based on ISSP 2002

Factors	Chi-square	DF	RMSEA	CFI	TLI	SRMR	Eigen value
1	16002.151	35	0.142 (0.140 0.144)	0.564	0.440	0.110	2.969
2	5311.275	26	0.095 (0.093 0.097)	0.856	0.750	0.056	1.791
3	4538.106	18	0.105 (0.103 0.108)	0.877	0.692	0.040	1.140
4	***316.065***	***11***	***0.035 (0.032 0.038)***	***0.992***	***0.966***	***0.011***	1.038
5	***Not extracted***						0.708

Table 3 provides the four factor exploratory factor analysis result. The first factor includes the first three items: “A working mother can establish just as warm and secure a relationship with her children as a mother who does not work (reverse coded)”; “A pre-school child suffers with a working mother”; and “Family life suffers when the woman has a full-time job”. We call this factor the ‘mother’s employment’ domain, since all items relate to potential consequences of a mother’s employment on the family. The second factor includes: “What women really want is a home and children”; “Household satisfies as much as paid job”; and “Men’s job is work and women’s job household”. This is called attitude towards ‘women’s work’ since all these items relate to normative views about women’s roles in paid and unpaid work. The third factor consists of the two questions concerning a man’s role in the family: “Men ought to do a larger share of household work than they do now (reverse coded)” and “Men ought to do a larger share of childcare than they do now (reverse coded)” – labelled ‘men and family’. The last factor includes items on women as breadwinners and financial independence: “Job is the best way for a woman to be an independent person (reverse coded)” and “Both the man and woman should contribute to the household income (reverse

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coded)" - labelled 'women breadwinning'. We find that item 7 does not fit well in the fourth factor with a remaining variance of 0.75, and with a somewhat low factor loading of this item, 0.479 on factor four. This indicates that this item is not represented well by the latent factors extracted from this model. Further, we can see that the first item "working mother can establish…" also has a loading on the fourth factor, women's breadwinning factor, of 0.285. When we examine the pairwise Pearson correlation coefficient of the four factors, the first two factors are strongly correlated with a coefficient of 0.58, yet these two factors are only weakly correlated with factors 3 and 4 – with coefficients of below 0.20. Although the last two factors show a slightly higher correlation of 0.30, it is still not very strong.

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Table 3: Rotated factor analysis based on ISSP 2002 across sixteen European countries

Variable	Factors				
	1 Mother's employment	2 Women's work	3 Men & family	4 Women breadwinning	Residual variance
1) A working mother can establish warm and secure a relationship with her children (reverse coded)	**0.431**	-0.041	-0.004	*0.285*	0.707
2) A pre-school child suffer if mother works	**0.814**	-0.006	0.010	-0.022	0.349
3) Family life suffers when the woman has a full-time job	**0.742**	0.077	-0.015	0.006	0.377
4) What women really want is home & kids	0.022	**0.748**	-0.013	-0.069	0.433
5) Household fulfilling as much as paid job	-0.078	**0.536**	-0.021	0.182	0.704
6) Men's job is work, women's job household	*0.239*	**0.511**	0.080	0.041	0.508
7) Job is the best way for a woman to be an independent person (reverse coded)	-0.135	0.118	0.058	**0.479**	***0.746***
8) Both the man and woman should contribute to the household income (reverse coded)	0.072	-0.038	0.021	**0.627**	0.584
9) Men ought to do a larger share of household work than they do now (reverse coded)	0.010	0.011	**0.923**	-0.024	0.157
10) Men ought to do a larger share of childcare than they do now (reverse coded)	-0.030	-0.027	**0.727**	0.051	0.453
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	0.58*	1.00			
Factor 3	0.08*	0.12*	1.00		
Factor 4	0.20*	0.14*	0.30*	1.00	
N = 22864					

Note: Oblimin rotation method used. Those in bold indicate the highest loadings.

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Confirmatory Factor Analysis using ISSP 2012

To check the robustness of our dimensions across time, we also performed a CFA using the ISSP data from 2012. This data set does not include three of the items included in the previous survey – two 'men and family' items (items 9 and 10) and item 7 ("having a job is the best way…"). Since it is impossible to run a CFA of the exact same model found with the 2002 data, we estimated four alternative models[i]. Based on the fit indices and Chi-square changes (see Table 4), the where item 8 ('both men and women should contribute to the household income') was removed, and items 1-3 were loaded into one factor, items 4-6 were loaded into the second, and the two were allowed to covary – was found to be the best fitting model and yielded sufficient fit indices. We then re-ran a CFA analysis on the same two-factor model, using the six items from the 2002 data to check for changes across time. We found the model showed very good fit indices (RMSEA=0.037-0.045, CFI=0.987, TLI=0.975, SRMR=0.020), showing a relative stability of the dimensions across time. Appendix Figure 2 provides a representation of the resulting factor loadings and covariance, where the variance of each factor has been constrained to be 1.00.

Table 4. Fit indices for the confirmatory factor analyses (CFA) based on ISSP 2012

Model	Chi-square	DF	RMSEA	CFI	TLI	SRMR
Two factor- item 8 covary	1047.434	12	0.062 (0.059 0.066)	0.960	0.930	0.032
Two factor excl. item 8	**270.642**	**8**	**0.038 (0.035 0.042)**	**0.989**	**0.979**	**0.018**
One factor	3313.293	14	0.103 (0.100 0.106)	0.873	0.810	0.054
One factor excl. item 8	2553.206	9	0.113 (0.109 0.117)	0.893	0.822	0.053

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Differences across countries (Multigroup CFA)

In the next step of our analysis, we applied a multi-group confirmatory factor analysis (MGCFA) to test the stability of the four dimensions found in our 2002 data across countries. We first constructed our baseline simplified CFA model, since our EFA model allowed for all variables to load on all four factors. The model where items were only allowed to load in the strongest factors, without any cross-factor loadings – e.g. one variable loading in two factors, resulted in a low model fit (CFA1 in Table 5). Thus, based on the modification index as well as the EFA result we allowed the first item to load on the women's breadwinning factor (factor4), resulting in a very good model fit (CFA2 in table 5). In the next step, we examined the configural measurement equivalence of our second model, that is, whether the grouping of the variables into the four factors remained stable across our 16 countries. We accepted the configural measurement equivalence based on the good fit indices it produced (Table 5 MGCFA1). Next we tested for a metric or weak measurement equivalence (WME) (Table 5 MGCFA2) where the factor loadings were held constant across countries. The fit was just within the acceptable range for an RMSEA of 0.059 and a CFI of 0.921, yet the SRMR score was slightly higher than the normal range of 0.08 at 0.101. Accordingly, scalar/strong measurement equivalence also resulted in a weak model with an RMSEA of 0.115, a CFI of 0.631 and an SRMR of 0.185 (Table 5 MGCFA3).

To take a closer look at cross-country diversity we examined the factor analysis results for each of the 16 countries included in our analysis. The results (see Appendix Table A-8) show that - with the exception of France and Finland - all countries resulted in the same configuration of factor groupings as our cross-European results showed in Table 2. However the factor loadings varied across different countries with very low loading of some items on the main factors, such as item 1, where in many countries such as Austria and Slovakia the

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item loaded stronger on factor 4. However having removed France and Finland, the fit of the scalar model did not improve significantly enough, nor did freeing up or removing items such as item 1, meaning the inclusion/exclusion of certain countries or items alone could not explain for the lack of scalar invariance across countries.

We found similar results for the 2012 data (Table 6). The model fit for a configural measurement equivalent was good with an RMSEA of 0.053, a CFI of 0.977 and an SRMR of 0.030. The fit for the WME model was just within the acceptable range yet worse than the fit found for the 2002 data with an RMSEA of 0.08, a CFI of 0.911, and again a low fitting SRMR score of 0.161. Once again the scalar model for the 2002 data resulted in a poor model fit. When we examined the EFA results per country (Appendix Table A-10) as well as the modification indices, there did not seem to be a particular item nor country that seemed to be driving this result – making it difficult to draw out a modified scalar model.

Overall these findings point to scalar differences in the gender ideology dimensions across countries – i.e. although the grouping of items and their factor loadings are relatively stable, their starting points (intercepts) are not the same across countries. This results in potential problems of using country averages across countries to measure gender norms. Furthermore, looking at the fit indices, it seems that the cross-national variation in the dimensions may have increased over the years.

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Table 5. Fit indices for (multi-group) confirmatory factor analyses (MGCFA) based on ISSP 2002 for 10 variables across 16 countries

Model	Chi-square	DF	RMSEA	CFI	TLI	SRMR
CFA1	2385.979	29	0.060 (0.058 0.062)	0.936	0.900	0.043
CFA2	1471.286	28	0.048 (0.046 0.050)	0.961	0.937	0.032
MGCFA1 – configural	2109.510	476	0.051 (0.049 0.053)	0.958	0.932	0.037
MGCFA2 – WME	3726.853	652	0.059 (0.058 0.061)	0.921	0.907	0.101
MG CFA3 – scalar	15126.440	812	0.115 (0.113 0.117)	0.631	0.653	0.185

Table 6. Fit indices for (multi-group) confirmatory factor analyses (MGCFA) based on ISSP 2012 for 6 variables across 16 countries

Model	Chi-square	DF	RMSEA	CFI	TLI	SRMR
CFA	270.642	8	0.038 (0.035 0.042)	0.989	0.979	0.018
MGCFA1- configural	636.269	136	0.053 (0.049 0.057)	0.977	0.957	0.030
MGCFA2 - WME	2154.701	232	0.080 (0.077 0.083)	0.911	0.903	0.161
MGCFA3 – scalar	11284.485	328	0.160 (0.157 0.162)	0.495	0.608	0.288

Relationships with the gender division of labour

To investigate the empirical relevance of these findings, we examined to what extent gendered outcomes correlate differently with the summed gender ideology index or with any of the four sub-factors, both at the individual and country level (Table 7). Here we examined three gendered outcomes – the gender division of housework; partners' relative earnings; and maternal employment. Note that in these models we considered 22 EU countries included in the ISSP 2002 to increase our degree of freedom at the country level[ii].

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Based on linear and logistic multilevel regression models (for detailed results see Tables A-2, A-3, and A-4 in the appendix), we found that at the individual level more egalitarian gender ideologies of individuals – as measured by the combined index of all items as well as by individual factors – correlated with a lower share of housework done by women, with the increased likelihood that partners earned an equal share of the household income/or with women earning more, and with an increased likelihood of mothers working full-time when children were below school age. Examining the log-likelihood we found that no one sub-factor alone performed better at predicting gender division of labour outcomes than a combined index of all items. However, as predicted, when we included a number of factors together in one model, some models showed a slight increase in predictive powers compared with including the one summative index. For example, in explaining women's relative housework (Table A-2 in Appendix) or mother's full-time employment (Table A-4 in Appendix), the models including the two factors of mother's employment (Factor 1) and women's breadwinning (Factor 4), or the model including these two alongside the women's work factor (Factor 2), together provided a better fit compared to the models including one summative index of all items.

At the country level, the differences in explanatory power when using factors capturing separate domains were more evident. Country rankings varied substantially between the four domains (see Figure1). The country rankings on the 'mother's employment' and the 'women's work' dimensions were relatively similar and followed expected patterns with most Northern European countries ranking highest followed by the liberal and conservative countries, while most Southern and Eastern European countries showed lower average values. By contrast, the patterns were very different for the factors of 'women's breadwinning' and 'men and family'. For both factors, some Eastern and Southern European

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countries showed high average scores – e.g. Portugal, Bulgaria, and the Czech Republic for 'men and family'; and Spain, Portugal, Bulgaria and Poland for 'women's breadwinning'. This may be due to the greater economic necessity of women's earnings in these countries, possibly leading to stronger agreement that both partners should contribute to the household income. Furthermore, the contrasting average scores for the different gender dimensions found in Eastern European countries may be a "consequence of a disjunction between people's aspirations and the structural possibility of realizing them" (Sjöberg, 2010: :33), i.e. a result of the lagging development or partial cut back of family policy provisions in these countries since the early 1990s.

In all multilevel regression models of the three aspects of the gender division of labour (see Table 6 and Table A-5, A-6, and A-7 in the appendix) the summative means of all 10 items at the national level were not significant in explaining cross-national variation. We found significant relationships between the national averages of the 'men and family' factor and the 'women's work' dimension with the division of breadwinning, as well as with the likelihood of mothers' full-time employment (Appendix Tables A-6 and A-7). Countries where people are more supportive of men having greater involvement in the family sphere are those where we observe a more progressive gender division of labour in terms of income generation, as well as more mothers with preschool children working full-time. This result remained stable even having controlled for individual level characteristics, national family policy expenditure and other gender culture dimensions.

Surprisingly the countries with the more progressive views on women's work were found to be those where women were less likely to earn the same or more than their partners, and mothers were more likely to have stayed home or worked part-time rather than full-time before their children started school, even after controlling for various individual level

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characteristics, national family policy expenditure, as well as father and employment gender culture. Furthermore, when the 'women's work' and 'men and family' factor means were included together in the model explaining gender division of household labour, gender norms on women's work was significant in its association with a larger share of housework for women. Inspections of country scatter plots and additional models with interaction terms suggested that these somewhat counterintuitive associations were driven by several Eastern European countries. These countries showed relatively gender egalitarian outcomes in terms of women's relative earnings and likelihood of mothers' full-time employment, yet held a rather traditional view of women's work based on statements suggesting that a traditional gender division of labour may be equally fulfilling. When the Eastern European countries were excluded, egalitarian cultures on women's work were positively associated with the likelihood of women earning the same or more than their partners and with mothers' likelihood of full-time employment (results available upon request). Given the opposing directions of the associations with different gender ideology dimensions, it was not surprising that the summative indices were not significant in explaining cross-national variation in the three aspects of the gender division of labour.

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Table 7. Associations of individual- and country-level gender ideology factors with A) women's relative housework share, B) partners' relative earnings, and C) maternal full-time employment based on separate multilevel regression models

Factors		Dependent variables		
		A) Women's relative housework share[a]	B) Woman equal or higher earnings[b]	C) Mother working full-time when child preschool age[b]
Individual level	F1: Mother's employment	-***	+***	+***
	F2: Women's work	-***	+***	+***
	F3: Men & family	-***	+***	+***
	F4: Women breadwinning	-***	+***	+***
	Summative index (10 items)	-***	+***	+***
Country level	F1: Mother's employment	n.s.	n.s.	n.s.
	F2: Women's work	n.s.	-*	-***
	F3: Men & family	n.s.	+*	+**
	F4: Women breadwinning	n.s.	n.s.	n.s.
	Summative index (10 items)	n.s.	n.s.	n.s.
N		N1=14342 N2=22	N1=14762 N2=22	N1=12321 N2=22
Interclass correlation (empty models)		5.3%	2.8%	30.2%

Note: [a] Linear multilevel regression models, [b] Logistic multilevel regression models. Each factor is included in a separate regression model. All models control for the following individual level variables: sex, age, education, living with a child, living with children under school age. The models including country-level gender norms additionally control for family policy expenditure as a % of GDP at the national level. See appendix for detailed results.

*** p<0.001, ** p<0.01, * p<0.05, + p<0.1,

5. Conclusion and Discussion

This study explored whether gender ideologies on work-family articulation - based on several items from large-scale surveys - were a one-dimensional or a multidimensional concept. We tested this through the International Social Survey Program 2002 and 2012 across 16 European countries representing a diverse set of care regimes. We contributed to the existing literature (Sjöberg, 2010; e.g., Lück and Hofäcker, 2003; Wall, 2007; Constantin and Voicu,

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2015) in three ways. Firstly, we used more recent data and examined whether the dimensions varied across a more comparable sample of European countries using a more advanced method that allows us to test the significance of the variance across countries. Secondly, we tested whether the dimensions remained stable across time. Thirdly, we investigated as to what extent the distinction between the dimensions mattered for analysing different aspects of the gender division of labour using a multilevel framework. The last contribution especially allowed us to test whether distinguishing between the different gender ideology dimensions made a difference in understanding how gender ideologies at the micro and macro level influenced gendered outcomes.

Our analysis of the two data sets suggested that the items did not all load sufficiently strongly onto one common factor for all of the items to be considered one gender ideology construct. Our results showed that the gender ideology items form different dimensions based on domains, which the questions are measuring, such as attitudes towards mother's employment; women's work; men and family; and women's breadwinning roles. The result is somewhat similar to what has been found in previous studies (e.g.,Constantin and Voicu, 2015; Sjöberg, 2010), although we examined a larger range of items. We find that the first two dimensions remained stable across time, namely between 2002 and 2012.

Although our sample covered a diverse set of countries with different work-care regimes, the groupings of the items in four different dimensions and their factor loadings remained relatively stable across the sixteen European countries observed for both 2002 and 2012. We therefore found little support for the argument that dimensions vary between different work-care regimes as outlined in the theoretical framework. Only a small number of countries, such as Finland and France, were found to deviate in their factor configurations. One possible explanation may relate to contradicting policies, which have encouraged full-time

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employment of mothers but not necessarily greater care involvement of fathers, and in the case of Finland, also provided incentives for mothers to take longer leaves to care for their young children. However, further studies are needed to better understand these differences, for instance by looking more closely at specific countries and how prevalent different combinations of agreement are with gender ideology dimensions.

The configural and weak measurement equivalence across countries entailed that the gender ideology domains found here could be used to test the impact of gender ideology on gendered practices at the individual level across countries and time. There was weaker evidence for scalar invariance, raising potential concerns of using national averages of gender ideology variables to compare gender norms across countries in multilevel models. Although such approaches is being used widely in work-family research, some caution is warranted. Future research should endeavour to find out exactly why such variances occur so as to see how we can overcome these issues of comparability. We found that excluding certain items and or countries did not change the variance results much. Further work is needed to see how we can reach a (partial) invariance of gender ideology variables across countries in order to ensure the association found between gender culture and various outcomes are methodologically sound.

We extended previous studies on multidimensionality of gender ideologies by also examining practical implications: we explored whether differentiating several gender ideology dimensions may or may not be advantageous when researchers are interested in analysing at the individual or national level the relationship of gender ideologies with different aspects of the gender division of labour. At the individual level there seems to be little additional benefit to differentiating multiple dimensions of gender ideologies on work-family articulation based on the available items. In general the results for individual factors and their combinations did

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not deviate substantially from what was found for the summative index. The models including the summative index provided better fits compared to models including single gender ideology domains. However, at the country level we found that gender ideology dimensions may show opposing associations with the gender division of labour. By cancelling each other out in a summative index, they resulted in non-significant relationships with such an index. Our results also indicated that the associations of some of the dimensions vary when distinguishing the post-Soviet countries from other European countries. Distinguishing different dimensions may therefore be particularly relevant when analysing a diverse set of countries based on their historical and current gender cultures and policies.

Our findings suggested important implications for the analysis of the gender division of labour. When examining how individuals' gender ideologies relate to their own gendered practices and division of labour, distinguishing between the different types of gender ideology dimensions based on the items analysed seemed to make little difference to the results. At the country level, however, researchers must be much more careful about exactly which cultural dimensions of gender ideologies they want to investigate. The country rankings of some dimensions varied substantially and the country means of gender ideology dimensions are not necessarily highly correlated, meaning that depending on the dimension included one may end up with very different results. As a result we have shown that because the gender culture dimensions do not necessarily relate to gendered practices in the same way and may cancel each other out, a summative approach of different dimensions of gender culture will likely result in a less or no significant relationship.

It is important to keep some limitations of this study in mind. Although we included in our analysis countries that previous studies on work-family and family policies frequently draw on, our analysis result may change depending on which countries and gender ideology items

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are included. Furthermore, we only test the relatedness of gender ideology dimensions to gender practices for coupled families, mainly with children only. Future studies should explore these relationships for single parents or childless couples as well. Despite these limitations this study has provided useful insights as to how to best use currently available sets of gender ideology items in large scale cross-national surveys, which are widely used in comparative sociological research both at the individual and national level.

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Figure 1. Country rankings per factor mean scores across 22 European countries in 2002

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Appendix

Table A-1. Descriptive statistics of control variables from ISSP 2002 included in the regression analysis (selected for our sample of less than 65 years of age and partnered couples in the 16 countries)

Variable	Mean	Std. Dev.	Min	Max
Sex	1.58	0.49	1	2
Age	43.49	11.57	15	65
Secondary education	0.53	0.50	0	1
Tertiary education	0.30	0.46	0	1
Child	0.49	0.50	0	1
Toddler	0.21	0.41	0	1
family policy expenditure as % of GDP	2.08	0.87	0.9	3.9

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Table A-2. Associations of individual's gender role attitudes with women's relative housework share

Women's relative housework share (linear ML regression)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
F1: Mother's employment	-2.248***					-2.001***	-1.775***
	(0.167)					(0.171)	(0.183)
F2: Women's work		-1.715***					-0.689 ***
		(0.185)					(0.202)
F3: Men and family			-0.601**				
			(0.191)				
F4: Women breadwinning				-1.857***		-1.360***	-1.256***
				(0.196)		(0.199)	(0.201)
Summative index (10 items)					-4.064***		
					(0.278)		
N1=14342 N2=22 ICC=5.3%(empty model)							
Variance level 2	14.878	17.014	15.781	16.178	16.461	15.193	15.819
Variance level 1	326.310	328.394	330.181	328.331	325.531	325.241	324.958
-2 Log likelihood	-61892.18	-61939.19	-61977.247	-61937.287	-61876.134	-61868.901	-61863.085

*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Note: All models include controls for individual level variables such as sex, age, education, children in the household, and living with preschool child.

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Table A-3. Associations of individual's gender role attitudes with partners' relative earnings

Relative income contribution - equal or woman more (logistic ML regression) odds ratios						
Ref=Man has higher income	(1)	(2)	(3)	(4)	(5)	(6)
F1: Mother's employment	1.149***					1.128***
	(0.023)					(0.020)
F2: Women's work		1.103***				
		(0.024)				
F3: Men and family			1.084***			1.055**
			(0.024)			(0.023)
F4: Women breadwinning				1.136***		1.088***
				(0.026)		(0.024)
Summative index (10 items)					1.308***	
					(0.043)	
N1=14762 N2=22 ICC=2.8%						
Variance level 2	0.103	0.107	0.092	0.086	0.104	0.093
Variance level 1	3.29					
-2 Log likelihood	-9149.2901	-9163.7563	-9167.5082	-9158.7883	-9140.5494	-9138.1334

Note: All models include controls for individual level variables such as sex, age, education, children in the household, and living with preschool child.
*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

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Table A-4. Association of individual's gender role attitudes with mother's full-time employment when children are preschool aged

Mother working full time when child younger than school age (logistic ML regression) odds ratios							
Ref=Mother worked part-time/not worked	(1)	(2)	(3)	(4)	(5)	(6)	(7)
F1: Mother's employment	1.503***					1.443***	1.380***
	(0.034)					(0.033)	(0.025)
F2: Women's work		1.369***					1.144***
		(0.034)					(0.027)
F3: Men and family			1.102***				
			(0.027)				
F4: Women breadwinning				1.375***		1.256***	1.231***
				(0.036)		(0.034)	(0.028)
Summative index (10 items)					2.081***		
					(0.080)		
N1=12321 N2=22 ICC=30.2%							
Variance level 2	1.131	1.162	1.008	0.940	1.125	1.058	1.070
-2 Log likelihood	-7153.4921	-7236.4412	-7311.438	-7245.2823	-7127.8904	-7118.2862	-7106.1454

Note: All models include controls for individual level variables such as sex, age, education, children in the household, and living with a preschool child.
*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

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Table A-5. Association of country-level gender norms with women's relative housework share

Women's relative housework share (linear ML regression)						
	(1)	(2)	(3)	(4)	(5)	(6)
F1: Mother's employment	-2.884					
	(3.611)					
F2: Women's work		4.442				5.117^{+}
		(2.866)				(2.859)
F3: Men and family			2.278			3.581
			(3.471)			(3.321)
F4: Women breadwinning				2.498		
				(4.386)		
Summative index (10 items)					5.455	
					(6.033)	
N1=14342 N2=22						
Variance level 2	15.945	14.769	16.110	16.175	15.827	13.931
Variance level 1	325.532	325.531	325.532	325.532	325.532	325.532
-2 Log likelihood	-61875.808	-61874.982	-61875.909	-61875.961	-61875.721	-61874.417

Note: All models include controls for individual level variables such as gender attitude at the individual level, sex, age, education, living with a child, living with a preschool child, and at the national level family policy expenditure as a % of GDP. Standard errors shown in parentheses.
*** p<0.001, ** p<0.01, * p<0.05, + p<0.1,

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Table A-6. Associations of country-level gender norms with partners' relative earnings

Relative income contribution - equal or woman more (logistic ML regression) odds ratios						
Ref=Man has higher income	(1)	(2)	(3)	(4)	(5)	(6)
F1: Mother's employment	0.903					
	(0.249)					
F2: Women's work		0.605*				0.663*
		(0.121)				(0.124)
F3: Men and family			1.174*			1.604*
			(0.416)			(0.348)
F4: Women breadwinning				1.537		
				(0.490)		
Summative index (10 items)					0.830	
					(0.382)	
N1=14762 N2=22						
Variance level 2	0.088	0.067	0.067	0.081	0.088	0.054
-2 Log likelihood	-9138.8492	-9136.1638	-9136.1999	-9138.0458	-9138.836	-9134.0067

Note: All models include controls for individual level variables such as gender attitude at the individual level, sex, age, education, living with a child, living with a preschool child, and at the national level family policy expenditure as a % of GDP. Standard errors shown in parentheses.
*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

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Table A-7. Associations of country-level gender norms with mother's full-time employment when children are/were preschool aged (odds ratio)

Mother working full time when child younger than school age (logistic ML regression) odds ratios						
Ref=Mother worked part-time/not worked	(1)	(2)	(3)	(4)	(5)	(6)
F1: Mother's employment	0.293					
	(0.260)					
F2: Women's work		0.105***				0.143***
		(0.063)				(0.076)
F3: Men and family			8.770**			5.401**
			(6.690)			(3.312)
F4: Women breadwinning				3.207		
				(3.512)		
Summative index (10 items)					0.129	
					(0.194)	
N1=12321 N2=22						
Variance level 2	0.995	0.651	0.790	1.030	0.995	0.483
-2 Log likelihood	-7126.5597	-7121.9827	-7124.0075	-7126.9223	-7126.5711	-7118.7082

Note: All models include controls for individual level variables such as gender attitude at the individual level, sex, age, education, living with a child, living with a preschool child, and at the national level family policy expenditure as a % of GDP. Standard errors shown in parentheses.
*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

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Table A-8. Exploratory Factor Analysis Oblique Oblimin Rotated pattern matrix per country (4 factor solution) for ISSP2002

West Germany

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	-0.078	**0.439**	0.148	0.182	0.702
2 preschool child suffers if mothers work	0.064	**0.746**	-0.087	-0.064	0.427
3 Family life suffers … women FT job	0.204	**0.646**	-0.074	0.035	0.397
4 Women really want home&kids	**0.708**	0.128	0.034	-0.098	0.402
5 Household fulfilling as much as paid job	**0.680**	-0.093	-0.017	0.109	0.568
6 Men's job is work…women household	**0.601**	0.211	0.069	-0.044	0.452
7 Job is the best way ... for independence	0.069	0.042	0.135	**0.242**	0.874
8 Man & woman …contribute income	0.001	0.022	-0.091	**0.889**	0.244
9 Men ought …more household work	0.043	-0.028	**0.784**	0.034	0.360
10 Men ought…more childcare	-0.009	-0.019	**0.736**	-0.057	0.488
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	0.54	1.00			
Factor 3	0.16	0.15	1.00		
Factor 4	0.19	0.32	0.34	1.00	

East-Germany (Haywood case)

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	0.004	**0.358**	-0.069	**0.378**	0.689
2 preschool child suffers if mothers work	0.027	**0.743**	0.092	-0.039	0.379
3 Family life suffers … women FT job	-0.011	**0.781**	0.078	-0.020	0.327
4 Women really want home&kids	-0.005	0.335	**0.548**	-0.091	0.412
5 Household fulfilling as much as paid job	0.011	-0.052	**0.861**	0.085	0.280
6 Men's job is work…women household	0.003	0.371	**0.413**	0.112	0.483
7 Job is the best way ... for independence	-0.022	-0.074	0.076	**0.502**	0.756
8 Man & woman …contribute income	-0.009	0.062	0.012	**0.569**	0.655
9 Men ought …more household work	**0.283**	-0.014	-0.040	**0.300**	0.790
10 Men ought…more childcare	**1.935**	0.027	0.068	-0.199	-2.583
Pearson correlation coefficients	**F1**	F2	F3	F4	
Factor 2	0.04	1.00			
Factor 3	-0.06	0.53	1.00		
Factor 4	0.25	0.25	0.13	1.00	

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Great Britain

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	**0.649**	0.009	-0.058	0.120	0.570
2 preschool child suffers if mothers work	**0.800**	-0.018	0.035	-0.022	0.346
3 Family life suffers … women FT job	**0.715**	-0.062	0.108	0.008	0.427
4 Women really want home&kids	0.171	0.045	**0.673**	-0.182	0.429
5 Household fulfilling as much as paid job	-0.099	-0.043	**0.526**	0.228	0.683
6 Men's job is work…women household	0.335	0.101	**0.497**	-0.115	0.498
7 Job is the best way ... for independence	0.008	0.006	0.053	**0.707**	0.483
8 Man & woman …contribute income	0.185	0.128	-0.021	**0.409**	0.732
9 Men ought …more household work	-0.070	**0.928**	0.016	-0.006	0.160
10 Men ought…more childcare	-0.021	**0.775**	-0.009	0.037	0.390
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	0.18	1.00			
Factor 3	0.40	0.06	1.00		
Factor 4	0.13	0.25	0.13	1.00	

Austria

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	0.034	0.260	-0.038	**0.406**	0.719
2 preschool child suffers if mothers work	0.006	**0.820**	0.078	-0.033	0.311
3 Family life suffers … women FT job	0.130	**0.706**	-0.002	0.009	0.393
4 Women really want home&kids	**0.873**	0.043	0.011	-0.129	0.264
5 Household fulfilling as much as paid job	**0.645**	-0.010	-0.031	0.041	0.580
6 Men's job is work…women household	**0.499**	0.130	0.065	0.174	0.538
7 Job is the best way ... for independence	0.133	-0.114	0.096	**0.380**	0.783
8 Man & woman …contribute income	-0.067	-0.012	0.005	**0.676**	0.572
9 Men ought …more household work	0.014	0.055	**0.785**	0.031	0.346
10 Men ought…more childcare	-0.038	-0.005	**0.894**	-0.032	0.234
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	0.48	1.00			
Factor 3	0.28	0.13	1.00		
Factor 4	0.37	0.19	0.30	1.00	

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Norway

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	**0.706**	-0.039	0.048	0.149	0.473
2 preschool child suffers if mothers work	**0.845**	0.007	-0.024	-0.042	0.291
3 Family life suffers … women FT job	**0.593**	0.246	-0.051	-0.029	0.427
4 Women really want home&kids	0.193	**0.503**	0.011	-0.111	0.616
5 Household fulfilling as much as paid job	-0.069	**0.456**	-0.013	0.240	0.708
6 Men's job is work…women household	0.205	**0.638**	0.087	-0.086	0.392
7 Job is the best way ... for independence	0.076	-0.048	0.015	**0.826**	0.318
8 Man & woman …contribute income	0.075	0.253	0.083	**0.356**	0.688
9 Men ought …more household work	0.022	0.012	**0.808**	-0.013	0.342
10 Men ought…more childcare	-0.044	-0.019	**0.768**	0.003	0.421
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	0.62	1.00			
Factor 3	0.15	0.18	1.00		
Factor 4	0.13	0.31	0.22	1.00	

Sweden

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	**0.725**	-0.114	0.005	0.084	0.526
2 preschool child suffers if mothers work	**0.734**	0.163	-0.055	-0.075	0.333
3 Family life suffers … women FT job	**0.683**	0.178	0.014	-0.063	0.376
4 Women really want home&kids	0.121	**0.675**	0.065	-0.092	0.444
5 Household fulfilling as much as paid job	-0.003	**0.471**	-0.032	0.308	0.621
6 Men's job is work…women household	0.380	**0.377**	0.073	0.029	0.504
7 Job is the best way ... for independence	-0.039	0.007	0.033	**0.695**	0.510
8 Man & woman …contribute income	0.221	0.021	0.098	**0.333**	0.752
9 Men ought …more household work	-0.039	0.042	**0.784**	0.024	0.371
10 Men ought…more childcare	-0.008	-0.044	**0.950**	-0.022	0.126
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	0.59	1.00			
Factor 3	0.20	0.17	1.00		
Factor 4	0.25	0.26	0.36	1.00	

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Czech Republic

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	**0.429**	0.011	-0.182	0.283	0.695
2 preschool child suffers if mothers work	**0.715**	0.014	0.152	-0.109	0.417
3 Family life suffers … women FT job	**0.718**	-0.021	0.150	-0.008	0.385
4 Women really want home&kids	0.137	-0.028	**0.458**	-0.137	0.717
5 Household fulfilling as much as paid job	-0.074	0.021	**0.722**	0.157	0.486
6 Men's job is work…women household	0.206	0.038	**0.434**	0.111	0.670
7 Job is the best way ... for independence	-0.022	0.086	0.012	**0.401**	0.812
8 Man & woman …contribute income	0.027	-0.034	0.088	**0.568**	0.669
9 Men ought …more household work	0.000	**0.827**	0.026	-0.014	0.322
10 Men ought…more childcare	0.004	**0.829**	-0.020	-0.004	0.316
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	0.00	1.00			
Factor 3	0.37	0.04	1.00		
Factor 4	0.27	0.34	0.02	1.00	

Slovenia (Haywood case)

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	-0.014	**0.385**	-0.042	0.159	0.826
2 preschool child suffers if mothers work	-0.009	**0.656**	0.078	-0.062	0.519
3 Family life suffers … women FT job	0.035	**0.789**	0.119	-0.159	0.280
4 Women really want home&kids	0.003	0.136	**0.623**	-0.099	0.499
5 Household fulfilling as much as paid job	-0.012	-0.099	**0.661**	0.059	0.617
6 Men's job is work…women household	-0.042	0.184	**0.508**	-0.008	0.619
7 Job is the best way ... for independence	-0.010	0.010	0.004	**0.429**	0.818
8 Man & woman …contribute income	-0.046	0.006	-0.040	**0.588**	0.660
9 Men ought …more household work	0.208	-0.001	0.072	**0.319**	0.820
10 Men ought…more childcare	**1.551**	0.007	-0.115	-0.056	-1.378
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	-0.06	1.00			
Factor 3	-0.01	0.45	1.00		
Factor 4	0.26	0.10	-0.09	1.00	

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Poland (Heywood case)

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	**0.464**	-0.087	-0.032	0.310	0.658
2 preschool child suffers if mothers work	**0.807**	0.059	-0.004	-0.073	0.333
3 Family life suffers … women FT job	**0.762**	0.182	0.052	-0.090	0.314
4 Women really want home&kids	0.191	**0.684**	0.031	-0.042	0.408
5 Household fulfilling as much as paid job	-0.092	**0.563**	-0.026	0.032	0.708
6 Men's job is work…women household	0.283	**0.542**	-0.014	0.150	0.435
7 Job is the best way ... for independence	-0.095	0.045	0.079	**0.431**	0.789
8 Man & woman …contribute income	0.113	0.052	0.010	**0.726**	0.394
9 Men ought …more household work	0.006	-0.013	**0.599**	0.073	0.605
10 Men ought…more childcare	0.017	-0.015	**1.053**	-0.061	-0.067
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	0.38	1.00			
Factor 3	-0.02	0.01	1.00		
Factor 4	0.24	0.19	0.35	1.00	

Bulgaria

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	-0.064	**0.344**	-0.023	0.210	0.829
2 preschool child suffers if mothers work	0.156	**0.638**	-0.018	-0.088	0.508
3 Family life suffers … women FT job	0.058	**0.750**	0.005	-0.104	0.423
4 Women really want home&kids	**0.712**	0.023	-0.045	-0.005	0.474
5 Household fulfilling as much as paid job	**0.757**	-0.074	-0.025	0.061	0.446
6 Men's job is work…women household	**0.504**	0.222	0.048	0.029	0.614
7 Job is the best way ... for independence	0.098	-0.079	0.093	**0.544**	0.649
8 Man & woman …contribute income	0.008	0.039	0.003	**0.802**	0.341
9 Men ought …more household work	-0.022	0.035	**0.687**	0.045	0.507
10 Men ought…more childcare	-0.008	-0.034	**0.859**	-0.030	0.269
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	0.36	1.00			
Factor 3	-0.09	-0.14	1.00		
Factor 4	0.14	0.18	0.36	1.00	

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Spain

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	0.017	**0.517**	-0.090	0.247	0.631
2 preschool child suffers if mothers work	0.037	**0.661**	0.062	-0.037	0.530
3 Family life suffers … women FT job	-0.025	**0.735**	0.091	-0.062	0.438
4 Women really want home&kids	0.025	0.207	**0.602**	-0.071	0.529
5 Household fulfilling as much as paid job	-0.032	-0.098	**0.564**	0.081	0.689
6 Men's job is work…women household	0.132	0.208	**0.520**	0.082	0.480
7 Job is the best way ... for independence	0.097	-0.029	0.133	**0.326**	0.804
8 Man & woman …contribute income	0.028	0.069	0.017	**0.704**	0.439
9 Men ought …more household work	**0.797**	0.014	0.004	0.081	0.281
10 Men ought…more childcare	**0.990**	-0.034	-0.029	-0.058	0.107
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	0.25	1.00			
Factor 3	0.29	0.36	1.00		
Factor 4	0.54	0.29	0.35	1.00	

Latvia (Haywood case)

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	**0.462**	-0.011	0.096	0.016	0.777
2 preschool child suffers if mothers work	**0.666**	-0.023	-0.071	-0.028	0.573
3 Family life suffers … women FT job	**0.619**	0.130	-0.139	-0.015	0.511
4 Women really want home&kids	0.022	**0.793**	0.050	-0.087	0.385
5 Household fulfilling as much as paid job	-0.040	**0.437**	0.011	0.024	0.819
6 Men's job is work…women household	0.143	**0.340**	-0.105	0.079	0.781
7 Job is the best way ... for independence	0.173	0.041	0.149	**0.204**	**0.864**
8 Man & woman …contribute income	-0.084	-0.011	-0.073	**1.051**	-0.031
9 Men ought …more household work	-0.064	0.089	**0.729**	-0.035	0.476
10 Men ought…more childcare	0.032	-0.105	**0.818**	0.012	0.308
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	0.44	1.00			
Factor 3	-0.02	-0.08	1.00		
Factor 4	0.34	0.22	0.14	1.00	

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Slovakia

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	0.131	-0.056	-0.118	**0.551**	0.670
2 preschool child suffers if mothers work	**0.729**	0.020	0.060	0.020	0.413
3 Family life suffers … women FT job	**0.860**	0.003	0.018	-0.013	0.254
4 Women really want home&kids	0.063	-0.049	**0.559**	-0.097	0.666
5 Household fulfilling as much as paid job	-0.016	-0.002	**0.619**	0.037	0.615
6 Men's job is work…women household	0.095	0.061	**0.405**	0.183	0.700
7 Job is the best way ... for independence	-0.033	0.054	0.030	**0.453**	0.779
8 Man & woman …contribute income	-0.037	0.024	0.084	**0.482**	0.750
9 Men ought …more household work	-0.013	**0.698**	0.007	0.050	0.484
10 Men ought…more childcare	0.038	**0.981**	-0.045	-0.066	0.085
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	-0.03	1.00			
Factor 3	0.47	0.05	1.00		
Factor 4	0.38	0.36	0.21	1.00	

France

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	**0.623**	0.097	0.008	-0.151	0.575
2 preschool child suffers if mothers work	**0.798**	-0.105	-0.012	0.074	0.399
3 Family life suffers … women FT job	**0.753**	-0.005	0.008	0.070	0.401
4 Women really want home&kids	0.260	0.113	0.012	**0.510**	0.540
5 Household fulfilling as much as paid job	0.004	**0.576**	-0.046	0.269	0.555
6 Men's job is work…women household	**0.516**	0.152	0.100	0.195	0.493
7 Job is the best way ... for independence	-0.034	**0.424**	0.117	0.042	0.773
8 Man & woman …contribute income	0.137	**0.532**	0.014	-0.211	0.636
9 Men ought …more household work	0.046	-0.049	**0.890**	0.028	0.222
10 Men ought…more childcare	-0.036	0.044	**0.750**	-0.033	0.421
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	0.46	1.00			
Factor 3	0.20	0.40	1.00		
Factor 4	0.26	0.19	0.04	1.00	

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Denmark

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	**0.625**	-0.109	0.051	0.170	0.600
2 preschool child suffers if mothers work	**0.685**	0.200	-0.036	-0.094	0.392
3 Family life suffers … women FT job	**0.747**	0.129	-0.046	-0.078	0.356
4 Women really want home&kids	0.193	**0.599**	0.018	-0.092	0.529
5 Household fulfilling as much as paid job	-0.103	**0.595**	-0.014	0.139	0.638
6 Men's job is work…women household	0.348	**0.487**	0.032	0.029	0.501
7 Job is the best way ... for independence	-0.071	0.058	0.037	**0.391**	0.830
8 Man & woman …contribute income	0.175	-0.003	-0.023	**0.646**	0.539
9 Men ought …more household work	-0.034	0.065	**0.863**	-0.008	0.258
10 Men ought…more childcare	0.033	-0.054	**0.848**	-0.007	0.280
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	0.39	1.00			
Factor 3	0.01	- 0.01	1.00		
Factor 4	0.09	0.18	0.27	1.00	

Switzerland (Haywood case)

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	**0.609**	0.029	-0.069	0.092	0.614
2 preschool child suffers if mothers work	**0.780**	0.001	0.031	-0.063	0.392
3 Family life suffers … women FT job	**0.701**	-0.019	0.113	-0.017	0.437
4 Women really want home&kids	0.036	-0.007	**0.753**	-0.087	0.438
5 Household fulfilling as much as paid job	-0.030	0.023	**0.332**	0.265	0.776
6 Men's job is work…women household	0.278	0.098	**0.539**	0.042	0.414
7 Job is the best way ... for independence	-0.017	0.025	0.022	**0.586**	0.644
8 Man & woman …contribute income	0.077	0.006	-0.056	**0.698**	0.496
9 Men ought …more household work	-0.052	**1.092**	-0.013	-0.093	-0.093
10 Men ought…more childcare	0.039	**0.595**	0.006	0.071	0.591
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	0.33	1.00			
Factor 3	0.48	0.23	1.00		
Factor 4	0.28	0.35	0.28	1.00	

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Finland

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	0.104	-0.003	**0.644**	0.126	0.477
2 preschool child suffers if mothers work	**0.498**	-0.022	**0.502**	-0.074	0.342
3 Family life suffers … women FT job	**0.617**	-0.002	0.310	0.048	0.365
4 Women really want home&kids	**0.584**	-0.015	-0.041	-0.043	0.682
5 Household fulfilling as much as paid job	0.251	-0.065	-0.152	**0.484**	0.691
6 Men's job is work…women household	**0.586**	0.101	0.080	0.071	0.580
7 Job is the best way ... for independence	-0.105	0.110	0.031	**0.550**	0.667
8 Man & woman …contribute income	-0.049	0.003	0.135	**0.433**	0.784
9 Men ought …more household work	0.053	**0.883**	-0.004	0.055	0.197
10 Men ought…more childcare	0.017	**0.864**	-0.034	-0.036	0.271
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	-0.02	1.00			
Factor 3	0.36	0.10	1.00		
Factor 4	0.20	0.20	0.18	1.00	

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Table A-9. Exploratory Factor Analysis Oblique Oblimin Rotated pattern matrix per country (4 factor solution) for the **additional country cases** included in the multilevel analysis

Cyprus (haywood case)

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	0.388	-0.025	**0.248**	0.018	0.684
2 preschool child suffers if mothers work	-0.022	-0.010	**0.881**	0.031	0.240
3 Family life suffers … women FT job	0.024	0.075	**0.806**	-0.016	0.268
4 Women really want home&kids	-0.103	**0.742**	0.017	0.020	0.502
5 Household fulfilling as much as paid job	0.193	**0.640**	0.030	-0.065	0.429
6 Men's job is work…women household	0.100	**0.662**	0.022	0.092	0.395
7 Job is the best way ... for independence	**0.709**	0.079	0.024	0.007	0.402
8 Man & woman …contribute income	**0.799**	0.023	-0.048	0.057	0.347
9 Men ought …more household work	0.056	0.087	0.007	**0.640**	0.499
10 Men ought…more childcare	-0.033	-0.068	0.001	**1.094**	-0.118
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	0.56	1.00			
Factor 3	0.58	0.49	1.00		
Factor 4	0.39	0.40	0.25	1.00	

Hungary

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	0.043	-0.122	0.036	**0.421**	0.821
2 preschool child suffers if mothers work	-0.053	0.274	-0.042	**0.514**	0.593
3 Family life suffers … women FT job	-0.018	0.348	-0.039	**0.552**	0.475
4 Women really want home&kids	-0.027	**0.600**	-0.031	0.074	0.606
5 Household fulfilling as much as paid job	0.026	**0.670**	0.053	-0.154	0.588
6 Men's job is work…women household	0.045	**0.550**	-0.010	0.166	0.618
7 Job is the best way ... for independence	0.092	-0.005	0.104	0.047	**0.971**
8 Man & woman …contribute income	**1.830**	0.103	-0.157	-0.098	-2.167
9 Men ought …more household work	-0.055	0.051	**0.768**	-0.014	0.433
10 Men ought…more childcare	-0.038	-0.012	**0.877**	-0.034	0.248
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	-0.03	1.00			
Factor 3	0.25	-0.08	1.00		
Factor 4	0.20	0.27	0.09	1.00	

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The Netherlands

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	**0.545**	0.011	0.052	0.151	0.601
2 preschool child suffers if mothers work	**0.904**	-0.041	-0.041	-0.045	0.263
3 Family life suffers … women FT job	**0.496**	0.240	0.012	-0.023	0.555
4 Women really want home&kids	0.051	**0.600**	0.038	-0.114	0.622
5 Household fulfilling as much as paid job	-0.020	**0.509**	-0.065	0.226	0.655
6 Men's job is work…women household	0.200	**0.548**	0.099	0.010	0.474
7 Job is the best way ... for independence	0.043	-0.047	-0.002	**0.664**	0.562
8 Man & woman …contribute income	0.029	0.106	0.132	**0.443**	0.685
9 Men ought …more household work	-0.050	0.076	**0.838**	0.049	0.254
10 Men ought…more childcare	0.026	-0.074	**0.836**	-0.010	0.320
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	0.61	1.00			
Factor 3	0.26	0.23	1.00		
Factor 4	0.29	0.31	0.34	1.00	

Portugal

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	**0.515**	-0.044	-0.014	0.149	0.733
2 preschool child suffers if mothers work	**0.544**	0.084	-0.018	-0.114	0.650
3 Family life suffers … women FT job	**0.738**	0.093	0.030	-0.145	0.373
4 Women really want home&kids	0.061	**0.665**	0.034	-0.168	0.535
5 Household fulfilling as much as paid job	-0.025	**0.401**	-0.046	0.139	0.811
6 Men's job is work…women household	0.284	**0.441**	0.112	0.177	0.507
7 Job is the best way ... for independence	-0.117	0.052	0.049	**0.417**	0.792
8 Man & woman …contribute income	0.134	0.004	0.074	**0.466**	0.729
9 Men ought …more household work	0.022	0.076	**0.656**	0.052	0.520
10 Men ought…more childcare	-0.050	-0.090	**0.810**	-0.019	0.361
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	0.44	1.00			
Factor 3	0.09	0.10	1.00		
Factor 4	0.02	0.21	0.36	1.00	

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Flanders (Belgium) (Haywood case)

item	Factor1	Factor2	Factor3	Factor4	Uniqueness
1 working mother… warm relationship	**0.650**	0.009	-0.043	0.166	0.543
2 preschool child suffers if mothers work	**0.797**	0.022	0.036	-0.052	0.347
3 Family life suffers … women FT job	**0.803**	-0.016	0.009	-0.021	0.354
4 Women really want home&kids	0.366	-0.008	**0.440**	-0.092	0.545
5 Household fulfilling as much as paid job	-0.117	0.019	**0.680**	0.055	0.578
6 Men's job is work…women household	0.314	0.010	**0.597**	-0.012	0.389
7 Job is the best way ... for independence	-0.005	0.047	0.033	**0.545**	0.682
8 Man & woman …contribute income	0.052	-0.030	-0.007	**0.668**	0.553
9 Men ought …more household work	0.057	**1.221**	-0.040	-0.127	-0.408
10 Men ought…more childcare	-0.033	**0.627**	0.030	0.101	0.554
Pearson correlation coefficients	F1	F2	F3	F4	
Factor 2	0.02	1.00			
Factor 3	0.42	0.15	1.00		
Factor 4	0.13	0.29	0.07	1.00	

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Table A-10. Exploratory Factor Analysis Oblique Oblimin Rotated pattern matrix per country (2 factor solution) for ISSP2012

Austria

item	Factor1	Factor2	Uniqueness
1 working mother… warm relationship	**0.490**	0.086	0.701
2 preschool child suffers if mothers work	**0.943**	-0.125	0.241
3 Family life suffers … women FT job	**0.609**	0.139	0.504
4 Women really want home&kids	-0.065	**0.864**	0.319
5 Household fulfilling as much as paid job	0.024	**0.636**	0.576
6 Men's job is work…women household	0.244	**0.492**	0.549
Correlation	0.619		

Bulgaria

item	Factor1	Factor2	Uniqueness
1 working mother… warm relationship	-0.039	**0.381**	0.867
2 preschool child suffers if mothers work	0.342	**0.333**	0.671
3 Family life suffers … women FT job	0.085	**0.902**	0.111
4 Women really want home&kids	**0.615**	0.119	0.542
5 Household fulfilling as much as paid job	**0.704**	-0.060	0.538
6 Men's job is work…women household	**0.610**	-0.041	0.648
Correlation	0.447		

Czech Republic

item	Factor1	Factor2	Uniqueness
1 working mother… warm relationship	**0.585**	-0.062	0.686
2 preschool child suffers if mothers work	**0.849**	0.024	0.262
3 Family life suffers … women FT job	**0.743**	0.158	0.321
4 Women really want home&kids	0.149	**0.528**	0.631
5 Household fulfilling as much as paid job	-0.119	**0.845**	0.359
6 Men's job is work…women household	0.033	**0.490**	0.745
Correlation	0.433		

Denmark

item	Factor1	Factor2	Uniqueness
1 working mother… warm relationship	**0.550**	-0.073	0.734
2 preschool child suffers if mothers work	**0.701**	0.061	0.460
3 Family life suffers … women FT job	**0.622**	0.173	0.471
4 Women really want home&kids	0.187	**0.546**	0.560
5 Household fulfilling as much as paid job	-0.057	**0.413**	0.851
6 Men's job is work…women household	0.323	**0.476**	0.508
Correlation	0.524		

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Finland

item	Factor1	Factor2	Uniqueness
1 working mother… warm relationship	**0.735**	-0.068	0.512
2 preschool child suffers if mothers work	**0.898**	-0.016	0.210
3 Family life suffers … women FT job	**0.689**	0.198	0.331
4 Women really want home&kids	0.044	**0.602**	0.605
5 Household fulfilling as much as paid job	-0.040	**0.483**	0.787
6 Men's job is work…women household	0.336	**0.409**	0.562
correlation	0.572		

France

item	Factor1	Factor2	Uniqueness
1 working mother… warm relationship	**0.531**	-0.026	0.737
2 preschool child suffers if mothers work	**0.669**	0.100	0.449
3 Family life suffers … women FT job	**0.832**	0.005	0.301
4 Women really want home&kids	0.107	**0.588**	0.556
5 Household fulfilling as much as paid job	-0.069	**0.605**	0.687
6 Men's job is work…women household	0.262	**0.505**	0.492
Correlation	0.689		

Latvia

item	Factor1	Factor2	Uniqueness
1 working mother… warm relationship	-0.098	**0.434**	0.832
2 preschool child suffers if mothers work	0.253	**0.597**	0.474
3 Family life suffers … women FT job	0.330	**0.635**	0.344
4 Women really want home&kids	**0.589**	0.057	0.626
5 Household fulfilling as much as paid job	**0.611**	-0.106	0.661
6 Men's job is work…women household	**0.483**	0.128	0.707
Correlation	0.346		

Norway

item	Factor1	Factor2	Uniqueness
1 working mother… warm relationship	**0.754**	-0.073	0.506
2 preschool child suffers if mothers work	**0.789**	0.007	0.370
3 Family life suffers … women FT job	**0.619**	0.154	0.455
4 Women really want home&kids	0.028	**0.763**	0.386
5 Household fulfilling as much as paid job	-0.011	**0.439**	0.814
6 Men's job is work…women household	0.378	**0.358**	0.533
Correlation	0.722		

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Poland

item	Factor1	Factor2	Uniqueness
1 working mother… warm relationship	**0.584**	-0.054	0.679
2 preschool child suffers if mothers work	**0.843**	-0.036	0.311
3 Family life suffers … women FT job	**0.727**	0.098	0.411
4 Women really want home&kids	0.150	**0.757**	0.324
5 Household fulfilling as much as paid job	-0.074	**0.431**	0.832
6 Men's job is work…women household	0.401	**0.440**	0.519
Correlation	0.360		

Slovakia

item	Factor1	Factor2	Uniqueness
1 working mother… warm relationship	**0.502**	-0.046	0.768
2 preschool child suffers if mothers work	**0.802**	0.024	0.339
3 Family life suffers … women FT job	**0.821**	0.104	0.233
4 Women really want home&kids	-0.051	**0.656**	0.600
5 Household fulfilling as much as paid job	-0.018	**0.624**	0.621
6 Men's job is work…women household	0.158	**0.367**	0.786
Correlation	0.479		

Slovenia

item	Factor1	Factor2	Uniqueness
1 working mother… warm relationship	-0.051	**0.340**	0.899
2 preschool child suffers if mothers work	0.166	**0.732**	0.318
3 Family life suffers … women FT job	0.300	**0.653**	0.292
4 Women really want home&kids	**0.634**	0.169	0.464
5 Household fulfilling as much as paid job	**0.774**	-0.127	0.481
6 Men's job is work…women household	**0.558**	0.190	0.548
Correlation	0.491		

Spain

item	Factor1	Factor2	Uniqueness
1 working mother… warm relationship	**0.607**	-0.008	0.635
2 preschool child suffers if mothers work	**0.721**	0.039	0.461
3 Family life suffers … women FT job	**0.712**	-0.001	0.494
4 Women really want home&kids	0.259	**0.582**	0.496
5 Household fulfilling as much as paid job	-0.139	**0.544**	0.734
6 Men's job is work…women household	0.214	**0.615**	0.490
Correlation	0.325		

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Sweden

item	Factor1	Factor2	Uniqueness
1 working mother… warm relationship	**0.779**	-0.125	0.489
2 preschool child suffers if mothers work	**0.715**	0.151	0.342
3 Family life suffers … women FT job	**0.687**	0.183	0.350
4 Women really want home&kids	0.170	**0.619**	0.468
5 Household fulfilling as much as paid job	-0.049	**0.510**	0.767
6 Men's job is work…women household	0.398	**0.437**	0.452
Correlation	0.572		

Switzerland

item	Factor1	Factor2	Uniqueness
1 working mother… warm relationship	**0.469**	0.066	0.739
2 preschool child suffers if mothers work	**0.803**	-0.049	0.400
3 Family life suffers … women FT job	**0.697**	0.020	0.497
4 Women really want home&kids	0.174	**0.455**	0.667
5 Household fulfilling as much as paid job	-0.071	**0.499**	0.789
6 Men's job is work…women household	0.247	**0.562**	0.456
Correlation	0.603		

West Germany

item	Factor1	Factor2	Uniqueness
1 working mother… warm relationship	-0.026	**0.422**	0.836
2 preschool child suffers if mothers work	0.024	**0.759**	0.398
3 Family life suffers … women FT job	0.061	**0.774**	0.332
4 Women really want home&kids	**0.764**	0.028	0.386
5 Household fulfilling as much as paid job	**0.673**	-0.055	0.596
6 Men's job is work…women household	**0.729**	0.097	0.362
Correlation	0.690		

East Germany

item	Factor1	Factor2	Uniqueness
1 working mother… warm relationship	0.282	0.122	0.853
2 preschool child suffers if mothers work	**0.874**	-0.065	0.319
3 Family life suffers … women FT job	**0.841**	0.014	0.275
4 Women really want home&kids	0.015	**0.681**	0.520
5 Household fulfilling as much as paid job	-0.009	**0.601**	0.647
6 Men's job is work…women household	0.017	**0.789**	0.356
Correlation	0.767		

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Great Britain

item	Factor1	Factor2	Uniqueness
1 working mother… warm relationship	**0.560**	-0.003	0.688
2 preschool child suffers if mothers work	**0.818**	-0.051	0.366
3 Family life suffers … women FT job	**0.769**	0.096	0.335
4 Women really want home&kids	0.160	**0.618**	0.505
5 Household fulfilling as much as paid job	-0.083	**0.466**	0.811
6 Men's job is work…women household	0.301	**0.493**	0.535
Correlation	0.445		

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Appendix Figures

Figure A-1: Scree plot for ISSP2002 analysis for 16 European countries, ten variables

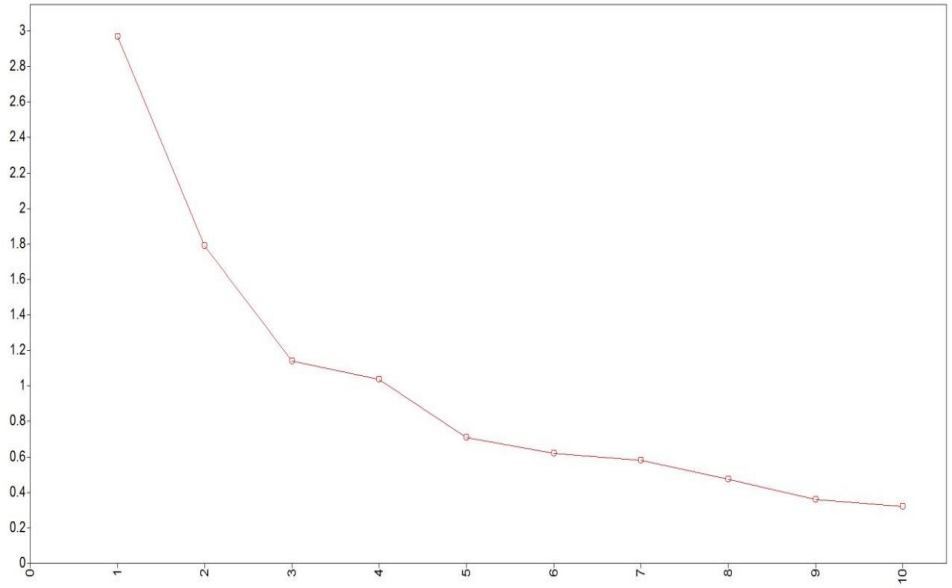

Figure A-2. CFA result for ISSP 2012 across sixteen European countries - Model 2

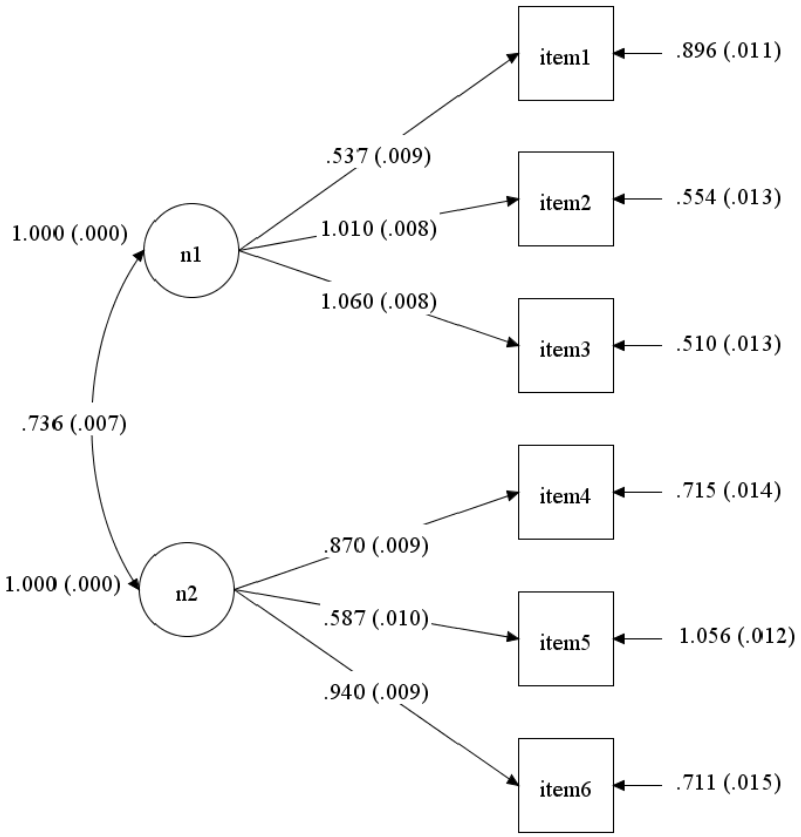

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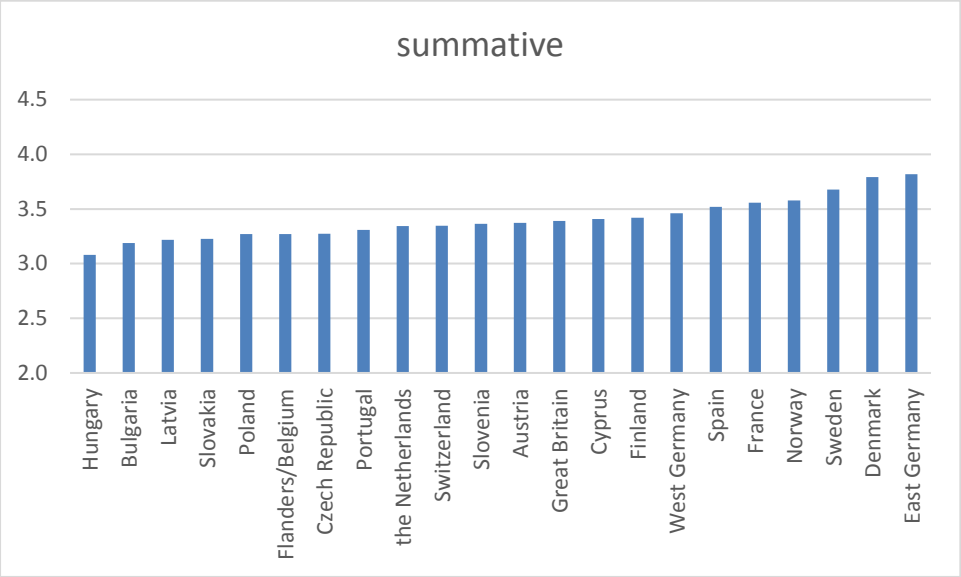
Figure A-3. Summative gender ideology mean scores across 22 European countries



[i] The first included all items (1-6, 8) with items 1-3 to load on the first 'mother's employment' factor; items 4-6 to load on the second 'women's work' factor; and item 8 to covary with the two factors. The second model was a replication of the first model excluding item 8. The third model allowed all seven items to load on one single factor, and the fourth allowed all six items to load on one factor excluding item 8.

[ii] Additional tests of a factor analysis using these 22 countries provided the same groupings as reported above (results available upon request and see Appendix Table A-9).

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