



NATIONAL RESEARCH UNIVERSITY  
HIGHER SCHOOL OF ECONOMICS

*Natalia Soboleva*

**GENDER ATTITUDES IN THE  
WORLD OF WORK:  
CROSS-CULTURAL COMPARISON**

BASIC RESEARCH PROGRAM

WORKING PAPERS

SERIES: SOCIOLOGY  
WP BRP 465/SOC/2014

This Working Paper is an output of a research project implemented at the National Research University Higher School of Economics (HSE). Any opinions or claims contained in this Working Paper do not necessarily reflect the views of HSE.

## **GENDER ATTITUDES IN THE WORLD OF WORK: CROSS-CULTURAL COMPARISON<sup>2</sup>**

This paper deals with factors determining work-related gender attitudes. With the spread of emancipative values the difference between gender roles is becoming more vague but is still strongly dependent upon country characteristics. While gender attitudes are usually regarded as factors impacting socio-economic behavior, my research underlines a less explored aspect: they are themselves formed and changed in the process of economic interactions. The objective is to assess the role of job characteristics among factors determining gender attitudes in different types of countries. More specifically, we focus on the interaction effect between education and employment characteristics on a micro- and macro-level. Female labor force participation rate and ratio of female to male tertiary enrollment are used as the indicators of female involvement in labor market activities. The 5<sup>th</sup> wave of World Values Survey (2005-2008) serves as the empirical base. The targeted group of the population is the employed. Multilevel regression modeling is used. According to the results, work-related gender attitudes vary considerably by country. The higher occupational status as well as more intellectual, creative and independent jobs lead to more egalitarian gender attitudes. Self-employed and part-time workers have more traditional gender attitudes. On the country-level, the higher the ratio of female to male tertiary enrollment is, the more egalitarian work-related gender attitudes in the country. Contrary to the initial hypothesis, labor force participation rate itself does not have a significant impact. In countries with more involvement of women in education and labor market activities, education and job characteristics impact gender attitudes to a lesser extent. Furthermore, there is less difference in female and male gender attitudes in such countries.

Key words: gender attitudes, education, job characteristics, labor market, cross-cultural comparison

JEL Classification: J16, J24.

---

<sup>1</sup> Candidate of Social Sciences (2013), research fellow at the Laboratory for Comparative Social Research, National Research University Higher School of Economics, Saint-Petersburg, e-mail: nsoboleva@hse.ru

<sup>2</sup> This study was supported by LCSR Russian Government Grant No11.G34.31.0024 from November 28, 2010 and implemented as part of the Basic Research Program of the National Research University Higher School of Economics (HSE) in 2013. We would like to thank Hermann Duellmer, Ronald Inglehart, Tatiana Karabchuk, Eduard Ponarin, Francesco Sarracino, Malina Voicu, and Christian Welzel for helpful comments and suggestions on early versions of the paper. We are also grateful to Jaime Diez-Medrano for technical support with the WVS data. The paper has benefited much from discussions at regular workshops of the Laboratory of Comparative Social Research (LCSR) at HSE in Moscow and Saint Petersburg and at the 5<sup>th</sup> conference of ESRA in Ljubljana, July 2013.

## Introduction

Traditionally, men are considered to be the breadwinners, while a woman's main social role concerns taking care of children and the household. However, today the difference between gender roles is becoming less clear. This is an expected consequence of economic development. Changing gender patterns is one of the results of growing existential security and the spread of self-expression values. Nowadays, emancipative values are shared by the populations of more and more countries. (Inglehart, Welzel 2010). In the developed countries child care institutions and services make the household burden easier, and the traditional life pattern centered on marriage and having kids is more often regarded as only one of the possible alternatives. Women gain wider access to the labor market and become more successful in their careers. However, different countries manifest different gender patterns (Inglehart, Norris 2003; Fortin 2005; Braun, Gloeckner-Rist 2011). This is because other strong determinants of gender attitudes are cultural traditions, religion and history. Although today women have gained a lot in the field of emancipation, they are still disadvantaged as compared to men as far as career development is concerned because of both objective conditions and gender-biased socialization. Of course these limitations vary a lot across countries (Inglehart, Welzel 2010).

While gender attitudes are usually regarded as factors impacting socio-economic behavior, this research underlines a less explored aspect: they are themselves formed and changed in the process of economic interactions. A lot of research has been conducted on how perceptions of gender roles influence wage gap and other formal job characteristics (Campa 2009; Fortin 2005; Francois, Ours 2000), but the relation is more complex here. Work-related gender attitudes (which could be regarded as individual values) are themselves being formed and changed in the process of economic interactions. Gender attitudes have an impact on behavior (decisions about marriage, children, work, type of work, etc.) (for example, Bolzendahl, Myers 2004). We assume that during the processes of education and labor activity values and attitudes are formed and transmitted. Hence, the process of education and labor market activity should have an impact upon work-related gender attitudes. The objective of this research is to disclose the effect of job characteristics upon gender attitudes.

The level of education is one of the main predictors of work-related gender attitudes. Higher education promotes more egalitarian gender attitudes (Guiso et al. 2003). However, nowadays the share of higher education both among men and women is very high. Some researchers made a deeper analysis of the effect of education and demonstrated that the field of study contributes to the formation of values and attitudes because different fields of study develop different resources (Werhorst, Kraaykamp 2001; Guveli, Need, and de Graaf 2007). Furthermore, the same level of education can result in different jobs dependent upon the quality of education, opportunities and other factors. Individuals can have quite different work environments and career paths. We argue that future career and working environment could also impact gender attitudes. What is also important is that the work environment cannot be comprehensively described solely by formal characteristics (wage, position), but also depends on the type of work done and the atmosphere of the working place. These aspects form the specific work culture and hence may affect gender attitudes.

Gender attitudes should depend, to a large extent, both upon opportunities for women in the country on the whole and upon the job characteristics of the individual. The special focus of this research refers to the effect of job characteristics and

education on work-related gender attitudes of employed population. In this paper, besides formal characteristics like type of employment and occupational status different aspects of work done are considered.

In this paper, we concentrate both on individual and country levels of analysis. The country presents a context for the individual and also contributes to the formation of attitudes. We are interested in country characteristics that characterize women's involvement in educational and labor market activities. This type of analysis has not been performed so far in a huge range of countries.

Hence, the **key questions** of the research are as follows. First, we reveal the impact of job characteristics upon work-related gender attitudes of the employed (involved in labor market activities). Second, we disclose the effect of female involvement in education and labor market activities on the country-level upon work-related gender attitudes. Third, we compare the influence of job characteristics, education, income and gender upon gender attitudes across countries with different levels of women's participation in education and labor market activities.

In the first part, we will provide a brief literature review. The second part is devoted to the research methodology and the description of database. In the third part, we will describe the main results. Finally, the last part illustrates the main findings and conclusion.

## **Theoretical framework**

### **Gender attitudes as a determinant of actual behavior**

The influence of gender attitudes on various outcomes reflecting *de facto* gender equality in society has been explored in many papers. For instance, Campa (2009) and others focus on the impact of individual gender culture and firm culture (preferences of hiring somebody) on the gender gap in employment in Italy. Fortin (2005) conducts an analysis based on the WVS and regards the impact of gender-related attitudes upon the difference in economic outcomes by gender. Namely, she demonstrates that the agreement with the statement that men should have more access to jobs in the case of scarcity has the strongest impact on the gender pay gap and female employment rates in OECD countries. Francois and Ours (2000) concentrate on the role of household interaction effect (presence of a spouse who can do household work) in the explanation of male and female wage gap.

A lot of research papers are devoted to cross-cultural specifics of gender issues in the labor market. Many focus on work-family conflict (Aycan 2008; De Luis Carnicer et al. 2004, etc.). Aycan analyzes cross-cultural differences of work-family conflict and demonstrates their dependence upon the role of work and family in the culture of a specific country.

Alesina et al. (2010) analyze the origin of cross-cultural differences in perceptions of gender roles stemming from historical differences in agricultural technologies. Alesina and Giulino (2010) reveal the impact of family importance on gender attitudes and labor force participation. In the countries where family ties are strong, women are often required to stay at home to take of children and fulfill household duties.

Stickney and Konrad (2007) demonstrate that women with egalitarian attitudes earn more (in a cross-cultural perspective), and for those who work longer hours the effect is stronger. In our view, this could be explained by the fact that the working atmosphere itself contributes to the formation of egalitarian values. Stickney and Konrad embark from several

theoretical conceptions. According to social role theory, people adopt the attitudes which are consistent with the roles they occupy (Eagly, Karau 2002). This could also be explained by the cognitive dissonance theory. When a social role does not match a gender-role attitude, the person is likely to change either the role or the attitude. When the behavioral change is impossible, people modify their attitudes (Kroska 1997). The allocation of the energy model posits that women are strongly affected by their household responsibilities. Hence, married women reduce the effort they expend on labor market work in order to save the energy for the family.

### **Gender attitudes as an effect**

There are some works that regard gender attitudes as an effect. Steel and Taras (2010) adhere to the viewpoint that culture should be treated as an affect and that individual characteristics (like age, gender, generation, socio-economic status, education) determine cultural values to a great extent.

Guiso et al. (2003) studies the impact of religion on various attitudes, including gender equality (based on the WVS). According to their findings, an egalitarian attitude to women is positively associated with health, level of education, and high income. Old people and men are less tolerant towards women. Religious people have less progressive attitudes toward women, while atheists are more tolerant.

Another branch of research is devoted to the changing gender attitudes. Cunningham (2008) shows that the support for the male breadwinner declined rapidly from 1977 to 1993 but then this tendency lessened. According to the panel data, women's employment and education promote egalitarian work-related gender attitudes; women's employment being the strongest predictor. Pampel (2011) demonstrates that the change in gender attitudes was stronger for women than for men. According to the author, it is possible to distinguish three groups of causes of egalitarian gender views. They are the increase of women with higher education and good jobs (structural arguments), social and economic development (value shifts arguments), and the adoption of new norms firstly by non-traditional and innovative groups (diffusion arguments).

Voicu, Tufis (2012) analyze the trends of gender beliefs in Romania. They regard three categories of gender beliefs, covering egalitarian ideology, importance of jobs for women, and the attitude towards the effects of women's employment upon their families. They demonstrate that gender beliefs are becoming more egalitarian and the gap between men's and women's attitudes is becoming smaller, but still the traditional gender ideology is dominant.

Braun, Gloeckner-Rist (2011) focus upon the comparison of work-related gender attitudes across European countries. For the classification of countries, the authors use Esping-Andersen's classification, according to which it is possible to distinguish a social-democratic type (mainly Scandinavian countries), a liberal type (mainly the Anglo-Saxon countries) and a conservative-corporatist type (mainly the continental European countries) and former Soviet type. Twenty-two countries in ISSP of 1994 and 2002 served as the database. By a complex analysis of the structure of gender attitudes, the authors demonstrate the shift from traditional to non-traditional gender attitudes, which is especially pronounced in Eastern European countries.

### **Impact of labor market position on the gender attitudes**

Some authors focus more in detail upon the impact of labor market position on gender attitudes. Interest-based and exposure-based perspectives of analysis of work-related gender attitudes are distinguished. According to the interest-based approach, the individuals that benefit from egalitarian work-related gender attitudes tend to share more egalitarian work-related gender attitudes. This category includes women, economically active and so on. From this perspective, some categories of society (for instance, for those with highly educated and highly paid jobs) gain more from being employed. Hence, it is more economically beneficial for them to possess egalitarian work-related gender attitudes, because they can earn more money in the labor market. As to the exposure-based approach, individuals change their ideas and attitudes when they find a situation that goes against these ideas. In respect to gender issues, it is possible to point out work-force participation, education and socialization. By socialization authors mean mother's work status and mother's education (Bolzendahl, Myers 2004; Pampel 2011). According to this approach, the gender attitudes of a person are formed in the environment and social groups (family, education, place of work). If a person enters a different environment, he is likely to change the attitudes.

Bolzendahl and Myers reveal the predictors of feminist attitudes according to these two perspectives. In their concept, female attitudes comprise several aspects: opinions on abortion, sexual behavior, and gender roles in the public sphere (Bolzendahl, Myers 2004). In the framework of this research, the two last aspects are the most relevant. They analyze male and female attitudes separately and demonstrated that deviation in female attitudes is higher. Both working status in the moment (interest-based perspective) and having worked in the past (exposure-based perspective) has more impact. Furthermore, feminist gender attitudes are promoted by divorced family status, younger age, higher education level, liberal political identification, and less attendance of religious services. For men, the strong predictors for feminist attitudes are spouse work-life variables, absence of children, younger age, higher education, mother's education (more significant compared to women's), liberal political identification, and no religious participation (Bolzendahl, Myers 2004: pp. 777-778).

Despite a large amount of studies, research focusing on specific job characteristics as a predictor of gender attitudes is missing.

### **Importance of field of study and social class in formation of gender attitudes**

Studies dealing with the impact of field of study upon values and attitudes are the most relevant to the framework of this research and therefore need a more detailed insight. According to Werhorst and Kraaykamp (2001), particularities of various fields of study may lead to differentiation of values. Different types of education develop different kinds of resources, which include cultural, economic, communicative and technical. According to the authors' initial hypothesis, social and behavioral sciences focus on social issues, hence promoting more tolerant and egalitarian attitudes, whereas in technical studies there is no such emphasis. Hence, those who receive a technical education are likely to share more conservative attitudes. The authors use the Family Survey of the Dutch Population (1998). They distinguish higher economic occupational status (where knowledge in trade, economics and commercial skills are required and financial reward is high) and higher cultural status (where written texts, cultural knowledge and creative and artistic skills are used). According to the results, the promotion of cultural and communicative resources leads to a higher cultural status and to more tolerant attitudes. A focus on

economic resources during the educational process results in a higher economic status. Those who have technical resources usually have jobs with a low status. Communicative resources are also associated with more egalitarian gender attitudes, whereas technical resources lead more often to traditional gender attitudes. Cultural and economic educational resources have no impact upon gender attitudes. However, high cultural status results in more egalitarian gender attitudes. Hence, those who possess cultural resources are more likely to form their egalitarian beliefs during their occupational activity but not during their educational process.

Guveli, Need and de Graaf (2007) also stress the importance of field of study in the formation of values and attitudes. Based on the theory of Pierre Bourdieu (1984), they state a hypothesis that the gender attitudes of the new social classes are more progressive than gender attitudes of the old social classes. Social and cultural specialists (new class) show more tolerant attitudes and more equal gender-role attitudes than technocrats (old class) using the Family Survey of the Dutch Population as a database. This effect remains significant after controlling for educational level. The authors distinguish between high-grade technocrats (managers of big firms, governmental and non-governmental administrators, physical scientists, etc.) and low-grade technocrats (managers of small firms, engineers, computer programmers, etc.), and between high-grade social and cultural specialists (medical doctors, dentists, university teachers, social scientists, high church officers, etc.) and low-grade social and cultural specialists (medical assistants, professional nurses, teachers, artists, etc). They also include such categories as routine non-manual employees, self-employed persons, skilled manual workers and semi- and unskilled manual workers (Guveli, Need and de Graaf 2007: p. 605].

Based on research exploring field of study, it is possible to conclude that occupational status and work environment should also influence gender attitudes. Job status and specialization, to a large extent, reflect the social class of the person.

Our paper differs from the research of Guveli, Need and de Graaf in several aspects. First, we focus more on the importance of job environment on a theoretical level and regard not only occupational status but also the nature of work and type of employment. Second, we perform our analysis in a large scope of countries. Third, we assess the effect of female involvement in educational and labor market activities. Finally, we concentrate only on gender attitudes and that allows us to perform a deeper analysis on this specific aspect.

## **Main hypotheses**

For the next step we define our main hypotheses. We will begin with the **individual level**.

Those who have a higher occupational status are expected to have more egalitarian work-related gender attitudes. We assume that those who have a higher occupational status are likely to be more open to cultural change and to adaptation of new values and ideas. At the same time, openness to new values is also dependent on the field of work. Following Werhorst, Kraaykamp (2001) and Guveli, Need and de Graaf (2007), it is possible to suppose being a cultural specialist contributes positively to egalitarian gender attitudes. In this respect, we assume that professional workers, lawyers, accountants and teachers (cultural specialists) attach a lot importance to human capital accumulation. Hence, we expect them to possess the most egalitarian work-related gender attitudes. Cultural specialists usually perform more intellectual and creative work which itself could shape emancipative values including egalitarian gender attitudes. Our first two hypotheses are as follows:

**H1:** Those who have higher occupational status are expected to have more egalitarian work-related gender attitudes.

**H2:** Those who perform more cognitive, creative work and are more independent at their jobs are likely to share more egalitarian work-related gender attitudes.

Type of employment reflects other aspect of work environment and is also connected with the nature of employment. Self-employment could be regarded as a way of living. On one hand, self-employed are likely to possess more independence, possibly leading to the formation of such values as freedom, independence and tolerance. On the other hand, self-employed also include family businesses and small entrepreneurs that put a lot emphasis on family. In this case, self-employed should possess more traditional gender attitudes. As to part-timers, they spend less time at work and hence for them a career should be less important. From the perspective of the interest-based approach, they benefit less from egalitarian gender attitudes (Bolzendahl, Myers 2004). For this reason their gender attitudes could be more traditional. Hence, our next hypothesis is the following:

**H3:** Part-timers are expected to have more traditional gender attitudes, whereas the impact of self-employment on gender attitudes can be controversial.

We also expect countries to differ a lot in prevalent gender attitudes, and this allows us to formulate **country level** hypotheses. It was demonstrated that countries vary a lot in prevalent gender attitudes (Fortin 2005; Braun, Gloeckner-Rist 2011). The support for gender equality is highly correlated with the level of economic development (Inglehart, Norris 2003). Furthermore, attitudes toward gender roles are highly correlated with the percent of women in parliament (Inglehart, Welzel 2010). Based on this, we suggest that female actual involvement in education and labor market activities should affect gender attitudes. In countries where women are more involved in education and labor market activities, women have more opportunities to make a career and realize themselves in their jobs. Hence, making a career is more acceptable and socially approved in such countries. This should affect the dominant gender attitudes and our next hypothesis is as follows:

**H4:** We expect work-related gender attitudes to be more egalitarian in countries where women are more involved in education and labor market activities.

In countries where women are involved in education and labor market activities, egalitarian gender attitudes will be typical for a lot of social groups. The development of self-expression values puts emphasis on individual autonomy and tolerance towards difference in lifestyles (Inglehart, Welzel 2010). Hence, even those individuals who themselves do not manifest egalitarian gender patterns would have egalitarian gender attitudes. In countries that are less progressive towards gender equality, there will be both progressive and non-progressive social groups. In such countries, only more progressive groups will share egalitarian gender attitudes. We expect that in countries with a higher female involvement in education and labor market activities the level of education, as well as specific job characteristics, contribute to work-related gender attitudes to a lesser extent. This impact is likely to be smaller because in such countries all the social groups are likely to possess more egalitarian work-related gender attitudes. Our last hypothesis is as follows.

**H5:** In countries where women are more involved in education and labor market activities there will be less polarization in work-related gender attitudes between different educational and professional groups; also between male and female, and low-income and high-income groups.



## Research model

The research model of the current research is as follows (Figure 1). The main idea of the paper is to reveal the impact of job and educational characteristics –upon work-related gender attitudes of the employed on both an individual and country level. We assume that values and attitudes are formed and transmitted during the processes of education and labor activity.

Bolzedahl and Myers have demonstrated that having a current job and having worked in the past have more of an impact on female gender attitudes than upon male (Bolzendahl, Myers 2004). However, the authors did not distinguish the influence of the occupational status and the type of work done. We narrow our sample to the employed and self-employed in order to disclose the effect of specific work on gender attitudes.

On the individual level, we include into our analysis several job characteristics such as occupational status, employment type and the type of work done.

First, we include the level of education as a control variable. The highly educated are the first to accept egalitarian gender attitudes (Guiso et al. 2003).

Furthermore, we control for a number of variables that are likely also to be significant predictors of gender attitudes. The first group includes gender and family characteristics (marital status and presence of children in the household). It was shown that men have less tolerant attitudes towards women (Guiso et al. 2003; Bolzendahl, Myers 2004). Divorced and childless tend to have less egalitarian gender attitudes (Bolzendahl, Myers 2004). We assume that the situation in the family should have an impact upon gender attitudes. In the married couples with children, for instance, more traditional gender attitudes should be prevalent.

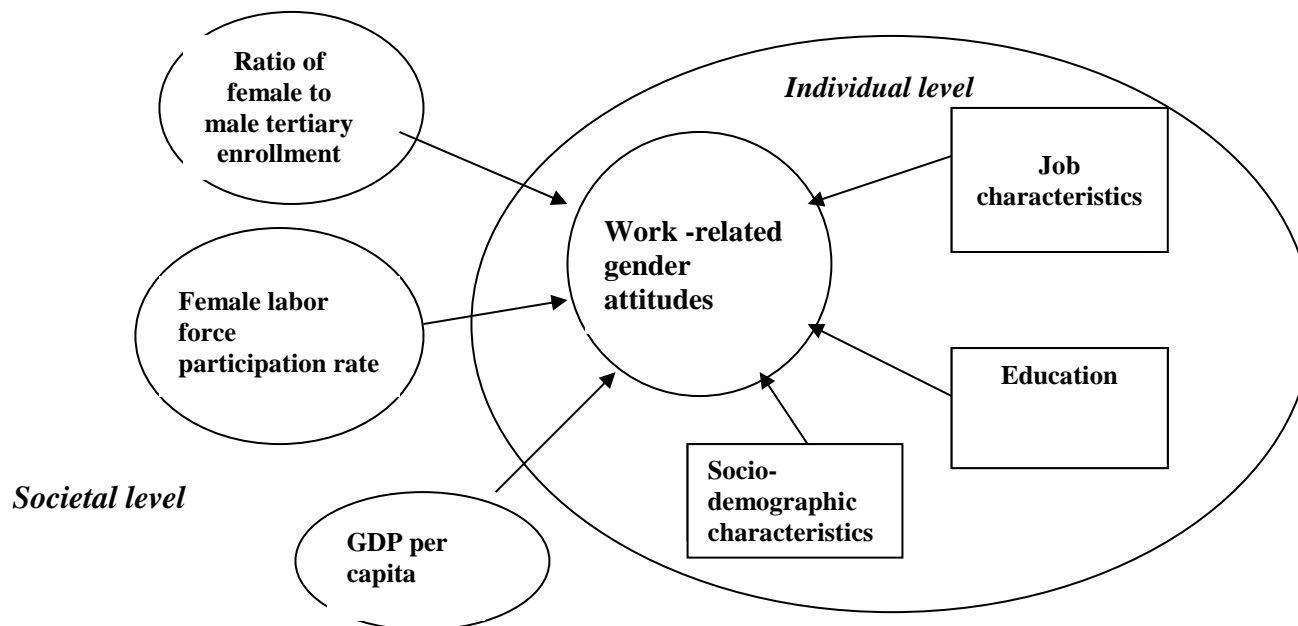
Age also is likely to be a predictor of gender attitudes. The older generation should have more traditional gender attitudes (Guiso et al. 2003). This could be explained by both age effect (when people get older, they begin value tradition more) and cohort effect (younger people were brought up in different epochs when self-expression values were more spread).

The degree of religiosity is one of the most important determinants of value system. Religious people tend to share more traditional values (Guiso et al. 2003; Bolzendahl, Myers 2004). Following the previous research (Guiso et al. 2003), we include the degree of religiosity as a control variable.

Finally, we included household income in the model. Unfortunately, the World Values Survey does not have data about individual income. As Guiso has shown, higher income leads to more progressive gender attitudes (Guiso et al. 2003). But household income can also affect gender attitudes. On the one hand, the wealthiest strata of society are likely to share the most egalitarian work-related gender attitudes because they are likely to be the first to adopt a new value system in general. On the other hand, the poorer families have to pursue a dual breadwinner model as a must.

On the country level, we test the impact of ratio of female to male tertiary enrollment and female labor force participation rate. The ratio of female to male tertiary enrollment reflects the involvement of women in education and their representativeness in higher education. We chose tertiary education because it gives us a better variance. Access to primary and secondary education is very high. The female labor force participation rate gives an insight into the engagement of women in labor market activities. This indicator demonstrates the share of women who are either employed or willing to be employed.

We control for gross domestic product (GDP) per capita as a level of economic development and the modernization of the country.



**Figure 1. Research model**

## Data and methods

### Data and sample

The fifth wave of the World Values Survey (WVS) serves as a database. This wave was conducted between 2005 and 2008.

The WVS is the largest non-commercial, cross-national and longitudinal academic study of values and attitudes. The WVS covers a full range of countries and cultural zones from the poorest to the richest. The six waves of the WVS include around 100 countries where almost 90 percent of world population lives. It currently comprises interviews with almost 400,000 respondents. Moreover, the WVS is the only academic study covering the full range of global variations, from very poor to very rich countries, in all of the world's major cultural zones.

The WVS contains nationally representative samples of the adult population in each country. Data is collected in standardized face-to-face interviews. The questionnaire is developed in English and then translated to the other languages. In many cases back translation is used afterwards in order to improve the accuracy of the questionnaire. In each country interviews are conducted in a country's major national language or several.

The surveys are performed by an international network of social scientists. Each country and wave has a principal investigator responsible for the survey conducted in his or her country. After the expansion to non-European economies, the WVS became a decentralized structure in order to allow social scientists from countries throughout the world to participate in

the design, execution and analysis of the data, and in the publication of the findings. The representatives of the WVS network have produced over 1000 publications in 20 languages and secondary users have produced several thousand additional publications. The database of the WVS is available for free from the official WVS website. The official archive of the World Values Survey is located in Madrid, Spain [ASEP/JDS]. The data from different countries are cleaned, integrated, archived and made publically available<sup>3</sup>.

The fifth wave of the WVS contained 82,922 respondents and covered 57 countries<sup>4</sup>. However, we had to restrict our sample to those countries where all the necessary questions were asked and for which the macro data was available. In the end the following 36 countries were included into our analysis: Australia, Brazil, Bulgaria, Burkina Faso, Chile, China, Cyprus, Egypt, Finland, France, Georgia, Ghana, India, Indonesia, Italy, Japan, Malaysia, Mali, Mexico, Moldova, Morocco, the Netherlands, Norway, Poland, Romania, Russia, Rwanda, Slovenia, Sweden, Thailand, Trinidad and Tobago, Turkey, Ukraine, United Kingdom, Uruguay and Vietnam. They cover quite a wide range of world economies representing different cultural zones. This range of countries allows us to run a multilevel analysis, revealing cross-country tendencies. For the purpose of the current study, only the working population (employed and self-employed) was included into the analysis.

### **Variables and methodology**

A multilevel regression model with maximum likelihood estimation serves as the main research method.

The main **dependent variable** is the index of work-related gender attitudes. This index consists of three indicators: “A university education is more important for a boy than for a girl”, “On the whole, men make better business executives than women do” and “On the whole, men make better political leaders than women do”. Each of the variables was measured by a four item scale. The indicators were standardized from 0 to 10, summed up and then the index was divided by three. For the testing of measurement invariance, we ran exploratory and confirmatory analysis. These items form a single factor.

First, we will characterize the individual level measures. To test our hypotheses the following **independent variables** were used. Occupational status was measured by the profession in which the respondent did for most of his or her work. Six categories were pointed out: employers/managers of an establishment with 10 or more employees; professional workers lawyers, accountants, teachers; office workers (supervisory or not); skilled manual workers (supervisory or not); semi-skilled manual workers, farm or agricultural workers, and unskilled manual workers (base category). By type of employment respondents were divided into full-timers, part-timers and self-employed. Full-time employment served as a base category.

Finally, we included three indicators of the nature of tasks at work. The first indicator is whether an individual performs mainly manual or cognitive tasks (1 – mostly manual tasks, 10 – mostly cognitive tasks). The second indicator refers to the degree of creativeness. The respondents had to assess the tasks performed at work with a 10-point scale (1 – mostly

---

<sup>3</sup> Further detailed information can be found on the website of the World Values Survey: <http://www.worldvaluessurvey.org/wvs.jsp>.

<sup>4</sup> Andorra, Argentina, Australia, Brazil, Bulgaria, Burkina Faso, Canada, Chile, China, Colombia, Cyprus, Egypt, Ethiopia, Finland, France, Georgia, Germany, Ghana, Guatemala, Hong Kong, India, Indonesia, Iran, Iraq, Italy, Japan, Jordan, Malaysia, Mali, Mexico, Moldova, Morocco, Netherlands, New Zealand, Norway, Peru, Poland, Romania, Russia, Rwanda, South Africa, South Korea, Serbia, Slovenia, Spain, Sweden, Switzerland, Taiwan, Thailand, Trinidad and Tobago, Turkey, Ukraine, United Kingdom, Uruguay, USA, Vietnam and Zambia.

routine tasks, 10 – mostly creative tasks). By the third question the respondent had to evaluate the degree of independence in performing his or her tasks at work (1 – no independence at all, 10 – complete independence).

The following **control variables** were used. First, we included the individual level of education. The respondents were divided into three educational groups by their highest level of education attained. The low-educated are those who had no formal education or incomplete or complete primary schooling. The second group are the respondents with a middle secondary school of technical/vocational type (incomplete or complete) and those who have a university-preparatory type of education (incomplete or complete). Respondents with a university-level education, with and without a degree, comprise the third group. The low-educated serve as a base category.

Household income was measured by the following question: “On this card is an income scale on which 1 indicates the lowest income group and 10 the highest income group in your country. We would like to know in what group your household is. Please, specify the appropriate number, counting all wages, salaries, pensions and other incomes that come in.” So respondents were divided into 10 income groups.

Furthermore, gender (male as a base category) was included into the analysis. The respondents were divided into two groups by marital status. Married and living together as being married were united into one category – “married”. All the others (single, divorced, separated and widowed) were coded as “not married”. Having at least one child was also included as a control variable (no children served as a baseline). The respondents were divided into three age groups (below 29, 30 – 49, above 50 years old). The degree of religiosity was measured by the importance of God in the respondent’s life (10 – very important, 1 – not at all important).

On the **country level**, two indicators were used for the involvement of women in education and labor market activities. A ratio of female to male tertiary enrollment reflects if it is common for women to get tertiary education. We chose tertiary education because the first stages of education are obligatory for everyone in many countries and do not really reflect female involvement in the educational process (low deviation). Female labor force participation rate reflects if women are ready to be employed. All the indicators were taken in 2005 from the World Bank data (only ratio of female to male tertiary enrollment was taken for Rwanda in 2004, for Indonesia in 2006 and for Mali in 2007). GDP per capita was used as a control variable.

We also tested the interaction effects between indicators reflecting the situation for female in education and labor activities on individual and country levels. Our purpose was to observe how the impact of occupational type, employment type, job characteristics, education and gender differs in countries with higher and lower female labor force participation rate and ratio of female to male tertiary enrollment.

### **Model specification**

For our research, multilevel regression modeling is a relevant method because we have to distinguish two levels of analysis (Albright, Marinova 2010). In our case, individuals are nested in countries. Hence, we point out level 1 (individual level) and level 2 (country level). We estimate a number of models that increase in complexity.

First, we run a multilevel model that includes only control variables and does not comprise our main tested individual level variables (job characteristics) and country variables. The purpose of running such a model is to reveal the contribution of our main variables to the explanation of gender attitudes index. The first of our models (Model 1) is as follows:

$$\text{Level 1: } GA_{ij} = \beta_0_j + \beta_2 * \text{Controls}_{ij} + r_{ij}.$$

$$\text{Level 2: } \beta_0_j = \gamma_{00} + u_{0j}.$$

$GA_{ij}$  is the gender attitudes index for every individual. Controls is the set of control variables on an individual level and  $\beta_2$  comprises corresponding coefficients;  $\beta_0$  stands for a global constant;  $r$  is a conventional error term reflecting random variation across individuals. On the level 2,  $\gamma_{00}$  is the average gender attitudes index for the whole sample and  $u_{0j}$  describes the variance explained by differences across countries.

In Models 2-5 we add our main individual independent variables. First, we include them separately: occupational status in Model 2, employment type in Model 3, and type of work done in Model 4; then we test all the effects simultaneously in Model 5. The following equation stands for these models:

$$\text{Level 1: } GA_{ij} = \beta_0_j + \beta_1 * JCH_{ij} + \beta_2 * \text{Controls}_{ij} + r_{ij}.$$

$$\text{Level 2: } \beta_0_j = \gamma_{00} + u_{0j}.$$

Here only job characteristics are added: JCH signifies job characteristics (on the whole, we do not differentiate between different types in the equation) and  $\beta_1$  reflects the corresponding coefficients.

On the next stage we add country level predictors (Model 6). We have two main variables such as female labor force participation rate (FLPR<sub>j</sub>) and ratio for female to male tertiary enrollment (EDR<sub>j</sub>) and one country level control variable, GDP per capita (GDP<sub>j</sub>). The equation for the next model is below:

$$\text{Level 1: } GA_{ij} = \beta_0_j + \beta_1 * JCH_{ij} + \beta_2 * \text{Controls}_{ij} + r_{ij}$$

$$\text{Level 2: } \beta_0_j = \gamma_{00} + \gamma_{01}(\text{FLPR}_j) + \gamma_{02}(\text{EDR}_j) + \gamma_{03}(\text{GDP}_j) + u_{0j}$$

Finally, we add interaction effects to our model. First, in models 7-9 we test the interaction effects between our main country level variables (gender in Model 7, education level in Model 8, and income in Model 9). In the equation below, FLPR<sub>j</sub>\*Controls and EDR<sub>j</sub>\*Controls stand for these effects.

$$GA_{ij} = \gamma_{00} + \gamma_{01}(\text{FLPR}_j) + \gamma_{02}(\text{EDR}_j) + \gamma_{10}(JCH_{ij}) + \gamma_{20}(\text{Controls}_{ij}) + \gamma_{21}(\text{FLPR}_j * \text{Controls}_{ij}) + \gamma_{22}(\text{EDR}_j * \text{Controls}_{ij}) + \beta_0_j + u_{0j} + r_{ij}.$$

Applying the same logic we do the same for our main individual level variables and the main country variables. In Model 10 we tested interactions of female labor force participation rate and ratio of female to male tertiary enrollment with occupational status and in Model 11 we included the interaction between the same macro variables with type of employment.

$$GA_{ij} = \gamma_{00} + \gamma_{01}(\text{FLPR}_j) + \gamma_{02}(\text{EDR}_j) + \gamma_{10}(JCH_{ij}) + \gamma_{20}(\text{Controls}_{ij}) + \gamma_{11}(\text{FLPR}_j * JCH_{ij}) + \gamma_{12}(\text{EDR}_j * JCH_{ij}) + \beta_0_j + u_{0j} + r_{ij}.$$

## Results

### Descriptive statistics

First, it is important to cover briefly the descriptive statistics. The average value of gender attitudes index is 5.76 with standard deviation of 2.64. Gender attitudes vary considerably by country, ranging from 8.86 in Norway, 8.65 in Sweden and 8.26 in France to 3.87 in India, 3.01 in Mali and 2.28 in Egypt (Table 2). These results reflect the cultural differences between countries. In some countries emancipative values are prevalent and shared by the majority of the population, whereas in many others the overwhelming majority of population still share traditional values.

In Table 1 we also look into descriptive statistics on other variables used in our analysis. Forty-two percent of the respondents are women and 71% are married. About half of the sample is 30-49 year old; there is the same share of those who are younger than 29 and older than 50 years old. Around half of the respondents have middle education; others are distributed almost equally between having low education and high education. The average self-assessment of household income is 5.07. The mean for the degree of religiosity is 7.39. Nine percent are the employers or managers, 15% are the professionals, 19% refer to office workers, 18% belong to skilled manual workers, 10% to semi-skilled manual workers, 11% to unskilled manual workers and 17% are farmers. The majority are full-time employed. The share of part-time employed is 12% and the share of self-employed is 26%. The average evaluation of the cognitive nature of the tasks at work is 4.59; of creativeness, 4.41; and of independence, 6.67. The means of gender attitudes index by our variables are presented in Table 1 of the Appendix.

**Table 1. Descriptive Statistics on Individual (Level-1) and Country (Level-2) Variables, WVS 2005-2008**

Variables	N	Mean	Std. Dev.
<i>Individual level</i>			
Index of gender attitudes (0 - traditional gender attitudes, to 1 - egalitarian gender attitudes)	23226	5.76	2.64
Female (0 - male, 1 - female)	25758	0.42	0.49
Married (0 - not married, 1 - married)	25716	0.71	0.46
Children (0 - no children, 1 has children)	25444	0.74	0.44
15-29 age group (1, other - 0)	25705	0.24	0.43
30_49 age group (1, other - 0)	25705	0.52	0.50
50_98 age group (1, other - 0)	25705	0.24	0.43
How important is god in your life (from 1 - not religious, to 10 - very religious)	25094	7.39	3.15
Scale of incomes (from 1 - first decile, to 10 - tenth decile)	24105	5.07	2.32
Low education (1, other - 0)	25616	0.27	0.45
Middle education (1, other - 0)	25616	0.47	0.50
High education (1, other - 0)	25616	0.25	0.43
Employer/ manager of establishment (1 , other - 0)	25099	0.09	0.29
Professional worker lawyer, accountant, teacher, etc (1, other - 0)	25099	0.15	0.35
Office worker (1, other - 0)	25099	0.19	0.39
Skilled manual and foreman (1, other - 0)	25099	0.18	0.39
Semi-skilled manual worker (1, other - 0)	25099	0.10	0.30
Unskilled manual worker (1, other - 0)	25099	0.11	0.31
Farmer and agricultural worker (1, other - 0)	25099	0.17	0.38
Full time employed (1, other - 0)	25774	0.62	0.49
Part-time employed (1, other - 0)	25774	0.12	0.33

Self-employed (1, other - 0)	25774	0.26	0.44
Nature of tasks: manual vs. Cognitive (from 0 - manual, to 10 - cognitive)	25045	4.59	3.19
Nature of tasks: routine vs. Creative (from 0 - routine, to 10 - creative)	24907	4.41	2.94
Nature of tasks: independence (from 0 - no independence at all, to 10 - full independence)	24957	6.67	2.78
<i>Country level</i>			
Female labor force participation rate	36	52.10	13.91
Ratio of female to male tertiary enrollment	36	109.52	32.02
GDP per capita	36	13434.71	16707.24

Our country level variables also show a huge variation. The female labor participation rate ranges from 20.6% in Egypt and 23.8% in Turkey to 85.7% in Rwanda and 73.5% in Vietnam. The ratio of female to male tertiary enrollment varies from 152.3 in Norway and 154.01 in Sweden to 45.2 in Burkina Faso and 52.59 in Ghana. The highest GDP per capita is in Norway and the lowest in Burkina Faso and Mali (see Table 2).

**Table 2. Descriptive statistics on country variables by country**

Country	Index of gender attitudes		Female labor force participation rate	Ratio of female to male tertiary enrollment	GDP per capita
	Mean	Std. dev.			
Norway	8.86	1.63	60.4	152.3	65767.02
Sweden	8.65	1.33	59.3	154.01	41040.67
France	8.26	1.88	50.2	126.64	33818.97
Netherlands	7.74	1.80	56.8	107.27	39122.29
Finland	7.66	1.79	56.8	120.63	37318.8
Britain	7.48	1.74	55	139.06	38121.56
Australia	7.46	1.86	57	124.64	33947.56
Slovenia	7.40	1.90	52.8	144.43	17854.64
Trinidad and Tobago	7.15	2.00	54.2	127.9	12405.06
Italy	7.08	1.79	37.7	136.17	30478.85
Uruguay	7.00	1.84	52.8	174.37	5221.67
Bulgaria	6.80	2.06	44.9	114.91	3733.26
Brazil	6.71	2.07	58.9	129.43	4739.31
Cyprus	6.51	2.13	53.6	113.23	22430.61
Romania	6.33	2.37	48	125.61	4572.05
Mexico	6.25	2.04	41	98.67	7666.7
Poland	6.23	2.45	47.5	140.23	7963.02
Japan	5.98	2.56	48.4	88.93	35781.23
Chile	5.77	2.00	38.2	95.67	7614.52
Moldova	5.62	2.27	46.9	145.62	831.16
Turkey	5.54	2.19	23.8	73.76	7129.58
Vietnam	5.46	2.21	73.5	70.67	642.25
Thailand	5.43	2.09	65.7	113.79	2689.95
China	5.36	2.50	69.1	91.09	1731.13
Indonesia	5.22	2.34	50	91.43	1273.47
Ukraine	5.21	1.96	51.7	122.78	1828.72
Rwanda	5.00	2.46	85.7	62.41	273.75
Morocco	4.84	2.16	27.9	80.49	1948.2
Russia	4.82	2.72	54.6	136.52	5337.07
Georgia	4.48	2.26	55.4	103.21	1469.97

Burkina Faso	4.35	2.34	77.4	45.2	407
Malaysia	4.20	2.33	58.6	130.25	5553.94
Ghana	4.08	2.32	67.7	56.1	501.86
India	3.87	2.28	37	70.62	740.12
Mali	3.01	2.16	36.4	52.59	444.28
Egypt	2.28	1.82	20.6	82.17	1249.49

### Multilevel analysis: individual-level predictors

After observing the descriptive statistics we will analyze and compare the predictors of gender attitudes of the employed across countries. In Table 1 multilevel regression models without country-level variables are displayed.

**Table 3. Results of multilevel regressions for gender equality attitudes, WVS 2005-2008**

	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	5.111***	5.228***	5.197***	4.945***	5.119***
<b>Control variables</b>					
Female (base category – male)	0.981***	0.952***	0.981***	0.975***	0.960***
Married (base category – not married)	-0.039	-0.030	-0.036	-0.035	-0.027
Children (base category – no children)	-0.089	-0.086	-0.083	-0.090	-0.084
Age: 30-49 (base category 15-29)	0.079	0.069	0.084*	0.071	0.067
Age: 50 and more	-0.008	-0.014	0.005	-0.023	-0.017
Degree of religiosity	-0.020**	-0.021**	-0.020**	-0.020**	-0.020**
Household income	0.029***	0.020**	0.027***	0.016*	0.011
<b>Educational level (base category – low education)</b>					
Middle education	0.494***	0.387***	0.460***	0.455***	0.366***
High education	0.843***	0.614***	0.798***	0.714***	0.553***
<b>Occupational status (base category – unskilled manual worker)</b>					
Employer/ manager		0.105			0.068
Professional worker, lawyer, accountant, teacher,		0.280***			0.168*
Office worker		0.177**			0.076
Skilled manual worker		0.025			-0.010
Semi-skilled manual worker		-0.094			-0.102
Farmer or agricultural worker		-0.232***			-0.200**
<b>Type of employment (base category – full-time employed)</b>					
Part-time			-0.107*		-0.095*
Self-employed			-0.209***		-0.170***
<b>Nature of tasks at work</b>					
Manual vs. Cognitive				0.035***	0.024***
Routine vs. Creative				0.011	0.012*
Independence				0.011	0.015**
<b>Model fit</b>					
AIC	85111	85050	85087	85054	85008
Log likelihood	-42543	-42507	-42530	-42512	-42481
Intraclass correlations (ICC)	0.251	0.250	0.248	0.248	0.245
N (individuals)	19914	19914	19914	19914	19914
N (countries)	36	36	36	36	36

Note: \*\*\*p-value<0.01, \*\* p-value<0.05, \* p-value<0.1 (2-tailed tests). Unstandardized coefficients are presented.



In the Model 1 no job characteristics are taken into account. We can see that both education and household income have an impact on gender attitudes. The higher the level of education and income, the more egalitarian gender attitudes are. As it was expected, gender turned out to be the largest predictor. Having middle education increases gender attitudes index by 0.494 units, and having higher education results in a 0.843 unit increase holding other variables constant. A one unit increase of household income leads to a 0.029 unit growth of gender attitudes index. Being religious is associated with more traditional gender attitudes. A one unit augmentation in degree of religiosity decreases the gender attitudes index by 0.02 of a unit. Surprisingly, age, being married and having children does not have an impact upon gender attitudes.

In Model 2 we added occupational status. Gender attitudes vary by occupational status. Professional workers, lawyers, accountants and teachers as well as office workers (to a lesser extent) have more egalitarian work-related attitudes than unskilled manual workers. Being a professional worker, lawyer or accountant leads to a 0.28 unit increase in gender attitudes holding other variables constant. Being an office worker leads to a 0.177 unit increase in gender attitudes. This finding is in line with the idea that cultural specialists are more likely to possess tolerant beliefs and values, including work-related gender attitudes (Guveli, Need, De Graaf; Van de Werfhorst, Kraaykamp 2007). At the same time, being an employer or manager does not contribute to egalitarian work-related gender attitudes. In this respect it is possible to conclude that it is not mainly the prestige of the status but the type of activity that is likely to shape gender attitudes. Gender attitudes of farmers and agricultural workers are the most traditional. Being a farmer or agricultural worker results in a 0.232 unit decrease in gender attitudes holding other variables constant. This could be explained by the fact that farmers have a more traditional lifestyle and hence attitudes in general tend to change more slowly. The effect of other occupational statuses turned out to be insignificant.

In Model 3 we observe the effect of the type of employment without taking into account other job characteristics. Non-standard employment is associated with more traditional work-related gender attitudes. Being a part-time worker decreases the gender attitudes index by 0.107 of a unit and being self-employed leads to a 0.209 decrease holding other variables constant. Contrary to the original hypothesis, self-employed people usually possess more traditional work-related gender attitudes. It is possible to explain this by the fact that out of the two tendencies, the second one is dominant. The self-employed quite often live in small towns and villages and in less modernized areas where more traditional attitudes are prevalent. Furthermore, self-employment includes more small enterprises as well as family businesses. Such an atmosphere is likely to contribute to more traditional work-related gender attitudes.

In Model 4 we tested the impact of type of work done on work-related gender attitudes<sup>5</sup>. Type of work done also plays a role in shaping work-related gender attitudes. When we include all job characteristics simultaneously, the effects of having creative and independent jobs blend. One unit increase in performing cognitive tasks at work leads to 0.035 units growth of gender attitudes index.

In Model 5 we included all the job characteristics simultaneously. Most of the predictors remain significant (with the exception of being an office worker), but the effects become a little bit weaker. Being a professional leads to a 0.168 increase in the gender attitudes index, and being a farmer leads to a 0.2 decrease in gender attitudes. Having part-time employment reduces the gender attitudes index by 0.095 of a unit, and being self-employed leads to a 0.17 unit decrease holding all of the

---

<sup>5</sup> We have tested separately all job characteristics and separately they all turned out to be significant predictors of gender attitudes.

other variables constant. A one unit increase in performing an intellectual job leads to a 0.024 growth in the gender attitudes index, one unit increase in performing creative tasks results in a 0.012 unit growth and a one unit increase in having a more independent job augments gender attitudes index on 0.015 units.

To sum up, job characteristics play a role in shaping gender attitudes. Different components of the work environment have an impact on gender attitudes. First, it could be connected with the economic benefits gained for those who have a higher occupational status, more stable and higher qualified jobs. Second, employed in the more qualified jobs, and especially in jobs with higher cultural status, have a different process of socialization and are more likely to develop self-expression values. Our results demonstrate that the second explanation is more plausible.

### Multilevel analysis: country-level predictors

On the next stage we built models that take into account macro-indicators that characterize the situation in education and in the labor market (Table 4).

**Table 4. Results of multilevel regressions for gender equality attitudes with country level variables, WVS 2005-2008<sup>6</sup>**

	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11
Intercept	2.389***	2.091***	1.872**	1.565*	1.994**	2.514***
<b>Individual level</b>						
<b>Control variables</b>						
Female	0.958***	1.889***	0.958***	0.953***	0.954***	0.961***
Degree of religiosity	-0.018**	-0.018**	-0.019**	-0.019**	-0.019**	-0.018**
Household income	0.011	0.009	0.009	0.185***	0.009	0.010
<b>Educational level</b>						
Middle education	0.362***	0.358***	1.042***	0.345***	0.339***	0.353***
High education	0.547***	0.542***	1.574***	0.528***	0.522***	0.54***
<b>Occupational status</b>						
Professional worker lawyer, accountant, teacher,	0.17*	0.158*	0.15*	0.16*	1.057***	0.176*
Office worker	0.076	0.071	0.061	0.069	1.012***	0.087
Farmer or agricultural worker	-0.199**	-0.188**	-0.205**	-0.2**	-1.841	-0.198**
<b>Type of employment</b>						
Part-time	-0.095*	-0.10*	-0.10*	-0.103*	-0.103*	0.199
Self-employed	-0.168***	-0.164***	-0.17***	-0.173***	-0.183***	-0.804***
<b>Nature of tasks at work</b>						
Manual vs. Cognitive	0.024***	0.024***	0.025***	0.024***	0.025***	0.024***
Routine vs. Creative	0.011*	0.012*	0.013*	0.012*	0.013*	0.011
Independence	0.015**	0.016**	0.015**	0.015*	0.016**	0.016**
<b>Country level</b>						
Female labor participation rate (FLP)	0.015	0.021*	0.02*	0.023**	0.02*	0.014
Ratio of female to male tertiary enrollment (tert_enrol)	0.013**	0.013**	0.016***	0.017***	0.014***	0.013**
GDP per capita	0.00004***	0.00004***	0.00004***	0.00004***	0.00004***	0.00004***
<b>Interactions</b>						
Female*FLP		-0.018***				
Middle education*FLP			-0.007**			
High education*FLP			-0.009**			
Middle education*tert_enrol			-0.003*			
High education*tert_enrol			-0.005**			

<sup>6</sup> Only significant effects and interactions are presented.

Income*FLP						-0.002***	
Income*tert_enrol						-0.0008***	
Professional worker, lawyer, accountant, teacher*FLP							-0.012**
Office worker*FLP							-0.014***
Self-employed*FLP							0.005*
Self-employed*tert_enrol							0.003**
<b>Model fit</b>							
AIC	84975	84910	84956	84953	84968	84968	
Log likelihood	-42462	-42427	-42448	-42448	-42446	-42454	
Intraclass correlations (ICC)	0.097	0.097	0.095	0.095	0.098	0.098	
N (individuals)	19914	19914	19914	19914	19914	19914	
N (countries)	36	36	36	36	36	36	

Note: \*\*\*p-value<0.01, \*\* p-value<0.05, \* p-value<0.1 (2-tailed tests).  
Unstandardized coefficients are presented.

In Model 6 we add female labor force participation rate, the ratio of female to male tertiary enrollment and GDP per capita. We can see that adding the country variables improves the quality of the model (ICC=0.097 compared to ICC=0.245 in Model 5). In the countries with higher female to male tertiary enrollment and GDP per capita, work-related gender attitudes are more egalitarian, confirming our initial hypothesis. A by unit increase in ratio of female to male tertiary enrollment leads to a 0.013 unit growth of gender attitudes index holding other variables constant. However, contrary to our initial hypothesis, the female labor force participation rate does not affect gender attitudes significantly.

Furthermore, it is worth noting that adding country-level characteristics blurs the effect of household income. It could be easily explained by the fact that it is more macro-level differentiation in economic wealth than individual household income influences work-related gender attitudes.

In the next models we can see that there are significant interaction effects between individual and country variables. In most of these models, female labor force participation rate becomes a significant predictor of work-related gender attitudes. The higher the female labor force participation rate is, the more egalitarian the gender attitudes in a country. A by unit increase in female labor force participation rate leads to a 0.02-0.23 unit increase of gender attitudes index holding other variables constant (Models 7-10).

To check our hypotheses, we ran the models testing interaction effects with the female labor force participation rate and the ratio of female to male tertiary enrollment and with the following micro-level variables: gender (Model 7), education (Model 8), household income (Model 9), occupational status (Model 10), type of contract (Model 11) and job characteristics. In all the models, we tested the interaction of the individual-level variable with both the female labor force participation rate and the ratio of female to male tertiary enrollment. In the tables presented we show only significant interactions and individual-level predictors and drop all the insignificant ones. No interactions were found between job characteristics and the female labor force participation rate or the ratio of female to male tertiary enrollment, so we did not include this model.

In countries with a higher female labor force participation rate, there is a lesser difference between gender attitudes of women and men (Model 7). A by unit increase in female labor force participation rate leads to a weaker effect of gender upon the index of gender attitudes by 0.018 of a unit holding other variables constant. It could be explained by the fact that in these

countries both men and women have adopted egalitarian work-related gender attitudes. At the same time, the involvement of women in education (ratio of female to male tertiary enrollment) does not significantly affect the discrepancy of female and male gender attitudes.

As expected, in countries with a higher ratio of female to male tertiary enrollment and female labor force participation rate, education has a weaker impact on work-related gender attitudes (Model 8). A by unit growth in female labor force participation rate results in a weaker effect on the dependent variable of middle education by 0.007 and of higher education by 0.009 holding other variables constant. A percentile augmentation in the ratio of female to male tertiary enrollment leads to a drop in the impact of the gender attitudes index by 0.003 for middle educated and by 0.005 for higher educated. In this case, it also could be explained that in such countries, not only the most progressive groups share the more egalitarian gender attitudes.

In Model 9 we tested the interaction effect between household income and involvement of women in educational and labor market activities. Here household income becomes a significant positive predictor of egalitarian work-related gender attitudes. As we expected, in countries with a higher female labor force participation rate and ratio of female to male tertiary enrollment, household income has a lesser impact on gender attitudes. A one percent growth in the female labor force participation rate weakens the effect of household income by 0.002 of a unit and a one unit increase in the ratio of female to male tertiary enrollment leads to a drop in the impact of household income on the gender attitudes index by 0.0008 of a unit holding other variables constant.

After characterizing the differentiation of social groups (men and women, low-educated, middle-educated and high-educated, different income groups) we will turn to the interaction effects between female involvement in education and labor market activities and job characteristics.

As far as occupational status is concerned, the interactions were found only with the female labor force participation rate (Model 10). Professional workers, lawyers, accountants and teachers, and office workers have less egalitarian work-related gender attitudes compared to the unskilled manual workers in the countries with a higher female labor force participation rate. A one percent augmentation in female labor force participation rate leads to a 0.012 unit decrease in the effect for professionals and to a 0.014 unit decrease in the impact for office workers.

The impact of employment type also depends on the female involvement in education and labor market activities in different countries (Model 11). With adding the interaction effect, part-time employment becomes insignificant. As to the self-employment, although it has a negative impact on work-related gender attitudes in countries with a higher female labor force participation rate and ratio of female to male tertiary enrollment, the effect becomes positive. A one unit increase in the ratio of female to male tertiary enrollment leads to a 0.003 unit stronger effect for being self-employed upon gender attitudes index. One percent growth of female labor force participation rate in its turn results in a 0.005 units increase of the effect of self-employment upon gender attitudes index. No significant interaction effects were found between job characteristics and female involvement in education and labor market activities.

## Discussion

In the current study we revealed the impact of various job characteristics upon gender attitudes in countries with different levels of female involvement in education and labor market activities. Using the World Values Survey of 2005-2008 we tested this impact across 36 countries.

The article stresses the importance of cultural status and using cultural resources in one's job. It is in line with the research of Werhorst, Kraaykamp (2001) and Guveli, Need and de Graaf (2007), demonstrating the importance of cultural resources. Furthermore, this result corresponds with the exposure-based approach, according to which a person can change attitudes when he or she enters a different environment. Self-employed people and part-timers have more traditional gender attitudes although for part-timers the effect is less stable. Type of employment reflects, to a large extent, the nature of the work. Compared to unskilled manual workers, professionals (lawyers, accountants, teachers, etc.) and office workers have more egalitarian gender attitudes. The effect of office workers disappears when more characteristics are taken into account and being a manager or employer is insignificant. Farmers, on the contrary, have more traditional gender attitudes. Performing more cognitive and creative tasks and having a higher degree of independence leads to more egalitarian gender attitudes although the two last aspects play a weaker role. Hence, we can conclude that cultural status is more important than economic status.

The revealed effects of work-related characteristics allow us to conclude that gender attitudes are more shaped by culture than by official status, income and prestige. In other words, in this case the exposure-based perspective turns out to be more appropriate than the income-based perspective. Gender attitudes are more likely to be formed during the process of education and socialization (including the socialization in the work environment). External attributes of work, like income and status, play a weaker role.

This study adds to the previous research by comparing gender attitudes across countries with a different female labor force participation rate and ratio of female to male tertiary enrollment. The higher the ratio of female to male tertiary enrollment is, the more egalitarian the gender attitudes in a country. However, the impact of the female to male labor force participation rate turned out to be insignificant. The effect of women's labor force participation rate becomes significant only by including the interaction effect.

In general, in countries where women are more involved in education and labor market activities there is less polarization in gender attitudes of different education and income groups. Also, in countries with a higher female labor force participation rate, the effect of being a professional or an office worker is weaker. The self-employed in countries with more female involvement in education and the labor market have more egalitarian gender attitudes than the employed. This could be explained by the different nature of self-employment in such countries.

Hence, we can see that the difference in gender attitudes of different social classes becomes weaker in societies where women's participation in education and labor market activities is higher. This could signify that the differences between social classes somehow disappears.

To conclude, we would like to stress that using a huge set of countries is a limitation and an advantage at the same time. On one hand, it allows us to make international comparisons and reveal cross-cultural tendencies. On other hand, it

restricts the items that we are able to use both because of the limitations of the analysis of huge datasets and the comparability of items across countries. Occupational status, type of employment and type of work do not fully characterize the working environment and the nature of employment, although they give quite a comprehensive picture. A more detailed description of field of work, including profession as well as a more specific description of the working process, etc. in a smaller number of countries could be a relevant continuation of this research. One more substantial limitation of the World Values Survey is the absence of data on partner's employment, education and income – all of which affect gender attitudes.

## References

- Albright, J. J., Marinova, D.M. (2010) Estimating multilevel models using SPSS, Stata, SAS, and R. Retrieved from <http://www.iub.edu/~statmath/stat/all/hlm/hlm.pdf>.
- Alesina, A., Giuliano, P., Nunn, N. (2010) The origins of gender roles: women and the plough. NBER Working paper series.
- Alesina, A., Giuliano, P. (2010) The power of the family. *Journal of Economic Growth*, 15, 93-125.
- Aycan, Z. (2008) Chapter 19. Cross-cultural perspectives to work-family conflict / in K. Korabik and D. Lero (Eds.) *Handbook of Work-Family* (359-371). London: Cambridge University Press.
- Bolzendahl, C., Myers, D. J. (2004) Feminist attitudes and support for gender equality: opinion change in women and men, 1974-1998. *Social Forces*, 83, 2, 759-790.
- Bourdieu, P. (1984) *Distinction: A Social Critique of the Judgement of Taste*. London, Routledge.
- Braun, M., Gloekner-Rist, A. (2011) Perceived consequences of female labor-force participation. A multilevel latent-class analysis across 22 countries. *Obets. Revista de Ciencias Sociales*, 6, 2, 163-184.
- Campa, P., Casarico, A., Profeta, P. (2009) Gender culture and gender gap in employment. Università Commerciale Luigi Bocconi, Econpubblica Centre for Research on the Public Sector Working Paper, 143.
- Cunningham, M. (2008) Family model: influences of women's employment and education over the life course. *Social Forces*, 87, 299-323.
- De Luis Carnicer, M.P., Martinez Sanchez, A., Perez Perez, M., Vela Jimenez, M.J. (2004) Work-family conflict in a southern European country: The influence of job-related and non-related factors. *Journal of Managerial Psychology*, 19, 5, 466-489.
- Eagly, A. H., Karau, S. J. (2002) Role congruity theory of prejudice toward female leaders. *Psychological Review*, 109, 573-598.
- Fortin, N. M. (2005) Gender role attitudes and the labour-market outcomes of women across OECD countries. *Oxford Review of Economic Policy*, 21, 3, 416-438.
- Francois, P., Van Ours, J. C. (2000) Gender wage differentials in a competitive labor market: The household interaction effect. IZA DP, 202.
- Guiso, L., Sapienza, P., Zingales, L. (2003) People's opium. The effect of religion on economic attitudes. *Journal of Monetary Economics*, 50, 225–282.

Guveli, A, Need, A, De Graaf. N. D. (2007) Socio-political, cultural and economic preferences and behaviour of the social and cultural specialists and the technocrats. *Social Indicators Research* 81, 597–631.

Inglehart, R, Norris, P. (2003) *Rising tide: gender equality and cultural change around the world*. New York: Cambridge University Press.

Inglehart, R, Welzel, C. (2010) Changing mass priorities: The link between modernization and democracy. *Perspectives on Politics*, 8, 2, 551-567.

Kroska, A. (1997) The division of labor in the home: a review and conceptualization. *Social Psychology Quarterly*, 60, 304-322.

Pampel, F. (2011) Cohort changes in the socio-demographic determinants of gender egalitarianism. *Social Forces*, 89, 961-982.,

Rizzo, H., Abdel-Latif, A.-H., Meyer, K. (2007) The relationship between gender equality and democracy: a comparison of Arab versus non-Arab Muslim societies. *Sociology*, 41, 6, 1151-1170

Steel, P., Taras, V. (2010) Culture as a consequence: A multi-level multivariate meta-analysis of the effects of individual and country characteristics on work-related cultural values. *Journal of International Management*, 16, 211–233.

Stickney, L., Konrad, A. M. (2007) Gender-role attitudes and earnings: A multinational study of married women and men. *Sex Roles*, 57, 801- 811.

Van de Werfhorst, H.G., Kraaykamp, G. (2001) Four field-related educational resources and their impact on labor, Consumption and Sociopolitical orientation. *Sociology of Education*, 74, 4, 296 – 317.

Voicu, M., Tufis, P.A. (2012). Trends in gender beliefs in Romania: 1993–2008. *Current Sociology*, 60, 1, 61-80.

World Bank indicators: <http://data.worldbank.org/indicator>.

## Appendix

Table 1. Descriptive statistics on index of gender attitudes by different groups, WVS 20005-2008

Variables	Items	N	Mean	Std. dev.
Gender	male	13474	5.18	2.65
	female	9737	6.57	2.42
Marital status	not married	6875	6.07	2.62
	married	16310	5.63	2.64
Children	no children	5972	6.08	2.63
	has children	16987	5.66	2.64
	Total	22959	5.77	2.64
Age	15 - 29	5631	5.78	2.60
	30 - 49	12137	5.80	2.65
	50 - 98	5399	5.67	2.68
How important is God in your life	1	2159	6.92	2.53
	2	878	7.08	2.29
	3	789	6.86	2.32
	4	559	6.47	2.34
	5	1605	6.10	2.61

	6	1163	5.95	2.44
	7	1492	5.91	2.51
	8	1984	5.88	2.46
	9	1605	5.64	2.51
	10	10546	5.22	2.66
Scale of incomes	1	1372	5.05	2.66
	2	1686	5.32	2.70
	3	2639	5.42	2.71
	4	2933	5.62	2.64
	5	4111	5.62	2.59
	6	3052	5.80	2.54
	7	2525	5.96	2.56
	8	1791	6.07	2.59
	9	856	6.71	2.49
	10	944	7.33	2.32
Education	low	6080	4.71	2.58
	middle	10954	5.84	2.53
	high	6061	6.69	2.53
Occupational status	Employer/ manager of establishment	2051	6.05	2.63
	Professional worker lawyer, accountant, teacher, etc	3461	6.43	2.57
	office worker (supervisory or not)	4446	6.43	2.57
	skilled manual worker (supervisory or not)	4220	5.82	2.55
	semi-skilled manual worker	2177	5.47	2.57
	unskilled manual worker	2389	5.18	2.77
	Farmer or agricultural worker	3546	4.60	2.36
Employment status	Full time employee (30 hours a week or more)	14423	5.96	2.66
	Part time employee (less than 30 hours a week)	2816	6.12	2.58
	Self employed	5987	5.13	2.53
Nature of tasks: manual vs. Cognitive	1	5944	5.18	2.70
	2	2202	5.28	2.63
	3	1954	5.40	2.61
	4	1357	5.73	2.55
	5	2695	5.86	2.57
	6	1438	5.99	2.50
	7	1319	6.07	2.46
	8	1776	6.52	2.45
	9	1393	6.72	2.41
	10	2551	6.63	2.53
Nature of tasks: routine vs. Creative	1	5355	5.24	2.66
	2	2357	5.38	2.55
	3	2461	5.53	2.54
	4	1794	5.73	2.53
	5	2799	5.81	2.60
	6	1559	5.93	2.56



	7	1604	6.54	2.51
	8	1985	6.69	2.53
	9	1061	6.50	2.65
	10	1591	6.26	2.68
Nature of tasks: independence	1	1564	4.93	2.70
	2	828	5.29	2.62
	3	1138	5.41	2.61
	4	1176	5.39	2.59
	5	2884	5.45	2.58
	6	1873	5.78	2.52
	7	2614	6.12	2.56
	8	3399	6.37	2.55
	9	2410	6.29	2.59
	10	4754	5.70	2.69

**Natalia Soboleva**

Candidate of Social Sciences (2013), research fellow at the Laboratory for Comparative Social Research, National Research University Higher School of Economics, Saint-Petersburg, e-mail: [nsoboleva@hse.ru](mailto:nsoboleva@hse.ru)

**Any opinions or claims contained in this Working Paper do not necessarily reflect the views of HSE.**

© Soboleva, 2014