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Abstract

This study investigates the complex relationship between parenthood and life satisfaction using integrated (individual-level) data from the European Value Surveys (EVS) and the World Value Surveys (WVS), covering respondents from 102 countries from 1989 to 2020. It hypothesizes that welfare regimes influence the relationship, categorizing countries into eight welfare regimes, including social democratic, conservative, liberal, former socialist, productivist, liberal-informal, Middle East and North Africa, and insecure welfare regimes. Results suggest that, overall, parenthood is positively associated with life satisfaction. The positive relationship is more evident in countries with social democratic, productivist, and insecure welfare regimes than the others. Age and gender sub-sample analyses reveal that the association between parenthood and life satisfaction among women is more sensitive to welfare regimes than men. This study is the first to use the above welfare-regime categorization. It demonstrates that welfare policies are essential to life satisfaction and argues that they should be tailored to specific area-based needs of the target population.

Keywords

Life satisfaction; parenthood; welfare regimes

Introduction

Defined as a positive appraisal of one's life (Hall, 2014), life satisfaction is a multi-faceted concept. It is influenced by a host of factors, including, for example, socioeconomic status, health conditions, and the presence of children (i.e., parenthood) (Angeles, 2010; Daukantaite & Zukauskiene, 2006; Frey & Stutzer, 2000; Hansen et al., 2009). The focus of this study lies in the association between parenthood and life satisfaction, which may be positive or negative. Children can fulfill the quest for the meaning of life and bring joy to parents (Hansen, 2012). They may also grow up to provide monetary and time transfers and improve the quality of life of parents in old age (Pimpawatin & Witvorapong, 2022). Nevertheless, having children is associated with a number of stressors, which may decrease the emotional rewards of parenthood. It can lead to, for example, sleep deprivation (Nelson et al., 2014), work-family conflicts (Begall & Mills, 2011), financial strain (Nelson et al., 2014), and disruption of parents' retirement plans (Fingerman et al., 2012). The direction of the life satisfaction—parenthood nexus reflects whether the benefits of having children outweigh the costs.

The association between parenthood and life satisfaction is not uniform across countries. Most studies in low- and middle-income countries (LMICs) have observed a positive relationship between parenthood and life satisfaction (Mu & Xie, 2016; Terrazas-Carrillo et al., 2016), while those based in high-income countries (HICs) have produced mixed results (Daukantaite & Zukauskiene, 2006; Frey & Stutzer, 2000; Hansen et al., 2009), with the majority finding a negative relationship (Frey & Stutzer, 2000; Glass et al., 2016). The difference suggests that the relationship between life satisfaction and parenthood is influenced by a factor that is not common among LMICs and HICs, and that the factor is unlikely to be at the individual level, as individual-level factors have already and comprehensively been controlled for in the literature.

A plausible explanation is that the relationship between parenthood and life satisfaction is context-dependent. Single-country studies provide important insights. For example, studies in the United States have found that working-age parents have lower self-efficacy and a higher level of depression than their childless counterparts (Alesina et al., 2004; Di Tella et al., 2003; Nomaguchi & Milkie, 2003). The results are explained by heightened levels of preoccupation and stress associated with childrearing, which are disproportionately felt by poorer people who cannot afford paid help or daycare (Alesina et al., 2004). On the other hand, studies in Nordic countries have demonstrated that the relationship between parenthood and life satisfaction can be positive, especially among mothers (Daukantaite & Zukauskiene, 2006; Hansen et al., 2009; Kohler et al., 2005). As these studies control for a similar set of personal and household attributes and are based on countries with well-functioning markets and comparable levels of economic development, the difference likely stems from contextual disparities, which include, most notably, welfare policies.

Cross-country studies offer a richer understanding from a worldview perspective (Terrazas-Carrillo et al., 2016). In addition to differences in terms of norms and economic performance, welfare regimes have been shown to play a critical role in explaining the relationship between parenthood and life satisfaction. More specifically, welfare regimes on which family policies in each country are based can potentially change the net benefits of having children and consequently influence how parenthood impacts life satisfaction throughout the life course. A

general conclusion is that the difference in life satisfaction between parents and non-parents is smaller in countries with more family support or work-life compatibility (Aassve et al., 2012; Glass et al., 2016; Hansen, 2012).

Nevertheless, there remain knowledge gaps. Existing studies have focused on a subset of countries, e.g., Europe (Aassve et al., 2012) and OECD countries (Glass et al., 2016), except for Margolis and Myrskylä (2011). They included respondents from all regions of the world in their sample. Also, only a broad categorization of welfare regimes has been considered. For example, Margolis and Myrskylä (2011) classified welfare regimes in OECD countries into several groups, yet they placed all LMICs under a single category, even though they may have been different.

This study analyzes the effect of parenthood on life satisfaction and explores the role of welfare regimes in explaining cross-country variations in the relationship. There are three hypotheses. The first hypothesis is that welfare regimes play a role in explaining the association between parenthood and life satisfaction. The second hypothesis is that welfare regime typologies impact the empirical association between parenthood and life satisfaction. The final hypothesis is that the gap in the level of life satisfaction between parents and non-parents is smaller in countries that provide greater support for families. This study uses Integrated Values Surveys, combining the European Value Surveys (EVS) with the World Value Surveys (WVS) from 1989 to 2020. The sample contains more than 250,000 person-year observations, covering 102 countries in all of the world's major cultural zones. This study improves upon the literature by using a more recent and larger sample covering both HICs and LMICs and exploiting a more detailed categorization of welfare regimes.

Literature review

Welfare regimes refer to regulatory frameworks under which social policies, including those pertaining to fertility decision-making, are implemented (Esping-Andersen, 1990). Welfare regime typologies refer to groupings of countries based on the commonality of welfare regimes, which allow for a cross-country assessment of welfare policies. Different categorizations exist. Countries may be grouped according to the size of welfare benefits, using, for example, the percentage of GDP dedicated to public welfare programs (Hicks & Swank, 1992; Wood & Gough, 2006). Alternatively, the categorization may be based on criteria that are not directly quantifiable. The main criterion underpinning Esping-Andersen's (1990) typology, which is most extensively used in the literature, is labor decommodification, i.e., the extent to which individuals are able to enjoy an acceptable living standard, independent of market participation. According to Esping-Andersen (1990), countries can be classified into three groups: social democratic, liberal, and conservative welfare states. The first group, social democratic countries, are those countries providing universal and generous social security benefits such as pensions, subsidies for the ill or disabled, and unemployment benefits. The second group, liberal countries, are those countries resorting to market solutions for risks and offering limited state involvement. The third and final group, conservative welfare states, are those countries using a combination of state support and family support, where social security benefits are provided only to a selected group of people. The typology demonstrates that welfare policies involve the state's deliberate decision to

distribute labor-related risks (and costs of such risks) among the market, families, and the state itself.

Welfare regimes impact life satisfaction and the decision to enter parenthood, having implications for class and gender stratifications (Niedzwiedz et al., 2014; Pacek & Radcliff, 2008). Based on Esping-Andersen's (1990) typology, social democratic states promote egalitarianism in all aspects of life and encourage dual-earner families, whereby both husbands and wives join the labor market and contribute to household chores, including childrearing. Their family policies consist of a package of benefits with a view to ensuring women's return to work after childbirth, e.g., a substantially long paid maternal and paternal leave and the provision of state-subsidized daycare for young children. On the other hand, conservative welfare states uphold the idea of familism and promote single-earner families, where husbands and wives have clearly defined roles and employment for mothers is not fully supported. Their family policies involve, for instance, shorter maternal leave, limited paternal leave, and the provision of daycare only for older children. Finally, liberal welfare states minimize state-induced class and gender stratification, offering support only to vulnerable families and relying on market mechanisms to resolve family-related issues (Esping-Andersen, 1999; Schleutker, 2014). Clearly, family policies affect the reconciliation of work and family (Schleutker, 2014). In their decision to have children, women consider their post-childbirth prospects in the labor market, whether they receive adequate support from their husband and the state, and whether market solutions to their maternal burden (e.g., hired help) represent a viable option. In countries where support for women is limited (e.g., no paid leave and no childcare subsidies), women may choose not to have children at all, and those that do decide to have children may find themselves in distress, which may be manifested in lower life satisfaction relative to their childless counterparts (Aassve et al., 2012; Glass et al., 2016; Hansen, 2012).

While the typology by Esping-Andersen (1990) is useful in demonstrating the importance of welfare regimes to the life satisfaction-parenthood nexus, it is limited in scope, as it addresses only a selected group of developed countries. Cross-country studies have extended the typology. Two studies, in particular, are central to the discussion here. Aassve et al. (2012) combined Esping-Andersen's (1990) typology with those of Ferrera (1996) and Trifiletti (1999) and classified European countries into social democratic, conservative, liberal, former socialist, and Mediterranean welfare states. Using global data from the World Values Surveys, Margolis and Myrskylä (2011) similarly extended the typology by Esping-Andersen (1990) and created three additional categories. Their categorization consisted of social democratic, conservative, liberal, former socialist, and southern European welfare states and developing countries.

Categorization by Aassve et al. (2012) was arguably a subset of Margolis and Myrskylä (2011). In addition to social democratic, conservative, and liberal welfare states, discussed earlier in reference to Esping-Andersen (1990), the two studies included the Mediterranean and southern European welfare states, which referred to the same group of countries and shared the category of former socialist welfare states. In the Mediterranean or southern European welfare states, families are expected to solve labor-related problems with minimal public welfare support. On the other hand, former socialist states may be grouped in light of their shared experiences of political upheavals and economic transitions (Aassve et al., 2012).

The distinction between Aassve et al. (2012) and Margolis and Myrskylä (2011) lies in the fact that the latter included developing countries in their sample. Nevertheless, Margolis and Myrskylä (2011) grouped all developing countries together in a single category, despite their differences. Within the context of LMICs, neighboring countries have deep economic, genetic, and cultural bonds that are distinct from countries that are further away, and their welfare policies are closer to each other, owing to their resemblance in a societal and cultural environment (Brulé & Veenhoven, 2015; Headey et al., 2022). For example, countries in the Middle East and those in the Far East likely have different welfare policies, even though they are all developing countries. This limitation calls for a re-investigation of existing welfare state typologies and a test as to whether alternative welfare state typologies differentially impact the relationship between life satisfaction and parenthood.

Methods

Data

This study utilizes repeated cross-sectional individual-level data from the 1989–2020 waves of the nationally-representative Integrated Values Surveys, constructed from the combination of the European Value Surveys (EVS) and the World Value Surveys (WVS). After excluding observations with missing data on key variables, the final sample contains 259,856 person-year observations from 102 countries. Countries with the smallest and the largest samples are Dominican Republic (280 respondents in 1996) and South Africa (12,273 respondents in 1990, 1996, 2001, 2006, and 2013), respectively. The age range of respondents in the sample was between 15 and 99 years old.

Measures

Outcome variable: Life satisfaction

The outcome variable in this study is a continuous measure of self-rated life satisfaction. It is based on the following question: "All things considered, how satisfied are you with your life as a whole these days?" It is measured on a 1–10 scale, where 1 means "completely dissatisfied" and 10 means "completely satisfied."

Main explanatory variable 1: Parenthood

The main explanatory variable is parenthood. It is a dummy variable where the value of 0 represents not having any child, and 1 represents being a parent. This study does not use the number of children because the information is less complete than the binary measure. Also, the results are unlikely to be importantly affected by the choice of the variable representing parenthood; existing studies have shown that (1) the emotional benefit of parenthood does not depend significantly on the number of children (Nomaguchi & Brown, 2011; Pollmann-Schult, 2014) and (2) the marginal contribution of later-born children to life satisfaction of parents is

small, even when additional childrearing costs are accounted for (Nomaguchi & Brown, 2011; Pollmann-Schult, 2014).

Main explanatory variable 2: Welfare regimes

The focus of the analysis lies in the role of welfare regimes in explaining the relationship between life satisfaction and parenthood. This study combines the typology of welfare regimes by Esping-Andersen (1990) and Wood and Gough (2006) and places countries into eight groups. The first group refers to Nordic countries, which are social democratic states that value egalitarianism, providing comprehensive social benefits and risk coverage to all groups of people. The second group consists of continental European countries. They represent conservative states that provide social benefits based on social insurance contributions and attempt to preserve traditional families, where women are encouraged to be stay-at-home mothers. The third group includes English-speaking countries, e.g., Australia, Canada, and the United States. They are liberal states that provide the minimum welfare level necessary for a healthy economy and rely heavily on market mechanisms. The fourth group refers to former socialist countries or the former Soviet Union, e.g., Armenia, Georgia, and Ukraine. Their welfare systems are characterized by the fact that an ideological transition from a communist model with universal social insurance and public services to a privatized model is not complete (Babajanian, 2008), giving room for the informal sector to compensate for the malfunctioning of state actors.

The fifth group includes countries in East Asia and Southeast Asia. Their welfare systems are governed by productivist capitalism, defined as the subordination of social policies to economic policies. The states focus on social investment (including health and education) rather than social protection to maintain economic growth. The sixth group comprises Latin American countries with a liberal-informal welfare regime. As a response to the economic crises in the 1980s and early 1990s, the regime involved an intensified level of trade, investment, and financial liberalization and the scaling down of employment protection, with social insurance having been replaced with private insurance and education and health care services funded through private, rather than public, financing mechanisms (Barrientos, 2004). The seventh group includes countries in the Middle East and North Africa (MENA). Their welfare benefits are generous (Eibl, 2020); extensive social insurance systems are established and cover large population segments. However, the quality of social services may be compromised as countries in the region have been engaged in conflicts, prioritizing military and defense expenditures over welfare spending. The final group refers to sub-Saharan African countries and some countries in South Asia. They have been characterized as weak states with an insecure welfare regime. They rely heavily on international aid, and their institutions are often unstable such that they are not able to provide social welfare consistently and adequately. The list of countries in each welfare regime is included in Appendix 1.

The above categorization has not been used and is more detailed than what has been used in existing studies, most notably Margolis and Myrskylä (2011), which, similarly to this study, covered all regions in the world. The first three categories, i.e., social democratic, conservative and liberal welfare states, correspond exactly to Esping-Andersen's (1990) typology. In this study, the Mediterranean/ southern European welfare regime, which was used by Aassve et al. (2012) and Margolis and Myrskylä (2011), is collapsed into the conservative welfare regime, following the fact that southern European countries have significantly expanded

public welfare benefits in the past decade and have relied less heavily on families for labor-related problems. The fourth category (former socialist welfare states) was also present in Aassve et al. (2012) and Margolis and Myrskylä (2011), and, in this study, it refers to the same group of countries. The last four categories, including productivist, liberal-informal, MENA, and insecure welfare states, represent this study's attempt to differentiate developing countries beyond what has already been done in the literature.

Individual-level control variables

Other individual-level explanatory variables include gender, age, religiosity, marital status, health, education, employment, and income. Religion is not included because it is not available in the data. The inclusion of these variables corresponds to the literature, which has demonstrated that tangible personal attributes determine life satisfaction, e.g., employment and income, as well as non-tangible attributes, e.g., marital status and health (Easterlin, 2002; Ferrer-i-Carbonell & Frijters, 2004) and that life satisfaction is based on three life domains: family relationships, financial well-being, and health (Margolis & Myrskylä, 2013; Pimpawatin & Witvorapong, 2022). Religiosity is also a determinant of life satisfaction as it has been shown to capture spiritual rewards and benefits of social integration (Gundlach & Opfinger, 2013).

Country-level contextual variables

The role of contextual factors in the relationship between life satisfaction and parenthood is also explored. More specifically, country-specific fertility levels, income levels, and welfare regimes are controlled for in the regression specification. Retrieved from the World Development Indicators database maintained by the World Bank, total fertility rates (TFR) for each country in the sample are time-varying. In cases where TFR data are missing in a given year, a linear interpolation method using available data from prior and later years is employed to fill in the blanks. Based on year-specific country classifications by the World Bank, countries are also classified based on their GDP per capita into one of the following four groups: low, lower-middle, upper-middle, and high-income countries. The classification corresponds to the fact that the relationship between life satisfaction and parenthood differs between LMICs and HICs (Terrazas-Carrillo et al., 2016). It should be noted that the analyses produce qualitatively similar results (not shown but available upon request), regardless of whether TFR and income levels are operationalized as continuous or categorical measures.

Existing studies provide testable hypotheses. They suggest that people who are married or partnered (Dolan et al., 2008; Easterlin, 2002) are employed, have a higher income (Easterlin, 2002), and have a better health status (Mirowsky, 2017) are generally happier than their respective counterparts. Nevertheless, the effects of these variables vary across countries with different levels of economic development (Easterlin, 2002; Margolis & Myrskylä, 2013) and different welfare policies (Aassve et al., 2012; Glass et al., 2016; Hansen, 2012).

Empirical framework

Specification

In this study, the following empirical specifications are explored:

$$LS_{ijt} = \beta_0 + \beta_p Parenthood_{ijt} + Z'_{jt}\beta_z + \alpha_t + \varepsilon_{ijt}; \qquad \text{Model I}$$
$$LS_{ijt} = \beta_0 + \beta_p Parenthood_{ijt} + X'_{ijt}\beta_x + Z'_{jt}\beta_z + \alpha_t + \varepsilon_{ijt}; \qquad \text{Model II}$$
$$LS_{ijt} = \beta_0 + \beta_p Parenthood_{ijt} + X'_{ijt}\beta_x + Z'_{jt}\beta_z + E'_j\beta_e + \alpha_t + \varepsilon_{ijt}; \qquad \text{Model III}$$
$$LS_{ijt} = \beta_0 + \beta_p Parenthood_{ijt} + X'_{ijt}\beta_x + + Z'_{jt}\beta_z + N'_j\beta_n + \alpha_t + \varepsilon_{ijt}. \qquad \text{Model IV}$$

LS_{ijt} is the level of life satisfaction of individual i in country j at time t. $Parenthood_{ijt}$ represents parenthood, which is the main explanatory variable. X_{ijt} denotes a vector of individual-level and household-level control variables. Z_{jt} refers to a vector of time-varying, country-specific total fertility rates (TFR), and income levels. The terms E_j and N_j represent different welfare-regime typologies, with the former referring to the (existing) typology used in Margolis and Myrskylä (2011) and the latter to the newly proposed typology discussed in the *Main Explanatory Variable 2: Welfare Regimes* section. These welfare regimes are almost analogous to region fixed effects as (most) countries in each group are geographically close. This study assumes that welfare regimes were unchanged over the period of 1989 to 2020 (hence, the absence of the t subscript). The term α_t denotes time (survey-wave) fixed effects, and ε_{ijt} is the idiosyncratic error term. The subscripts i and t do not indicate the use of panel data but instead refer to the nature of repeated cross-sectional data employed here.

The four models are used to test this study's hypotheses. The comparison between Model I and Model II can be used to test the importance of individual-level control variables. The comparison between Model II, on the one hand, and Models III and IV, on the other, can be used to test whether welfare regimes are essential to the relationship between life satisfaction and parenthood. Comparing Model III against Model IV reveals whether welfare state typologies matter. β_p is the coefficient of interest and is expected to vary across welfare regimes.

Regression model

Given that the outcome variable is defined on a 1–10 scale, this study estimates Models I–IV above using OLS. Although an ordered response model (e.g., ordered logit) may alternatively be used, existing studies show that insignificant differences are observed when life satisfaction scores are treated as an ordinal measure vis-à-vis a cardinal measure (Ferrer-i-Carbonell & Frijters, 2004; Margolis & Myrskylä, 2011; Pimpawatin & Witvorapong, 2022; Stanca, 2012).

Econometric concerns

An important econometric concern is that the main explanatory variable of parenthood may be endogenous, leading to biased estimates. It is possible that happier individuals are more likely to have children than those who are less happy. It is also possible that parents and non-parents are so markedly different in their unobserved characteristics (e.g., career perception, childbearing

ability, and social skills) that their happiness levels are likely to differ regardless of the presence of children. Few existing studies have addressed endogeneity bias either by using an instrumental-variable (IV) approach or by adopting an identification strategy that circumvents the problem. For example, Kohler et al. (2005) estimated the effect of the number of children on parental happiness, using twin data to control for unobserved social and genetic differences, and found that either twins or non-twins samples produce similar results. As another example, Stanca (2012) used the ideal number of children as the IV and found robust effects of parenthood on happiness. However, most existing studies using cross-country data do not address endogeneity bias (Aassve et al., 2012; Glass et al., 2016; Margolis & Myrskylä, 2011). This study also does not tackle endogeneity bias due to the lack of appropriate IVs.

Results

Descriptive statistics

Table 1 shows summary statistics of personal and household characteristics in this study. The first column displays the means and standard deviations of the full sample (n = 259,856). The second column pertains to observations that were non-parents (n = 73,090) and the third column to parents (n = 186,766, or 71.87%). The final column reports test statistics from Pearson's chi-squared tests of independence for dummy or categorical variables and mean-difference t-tests for continuous variables (i.e., age and life satisfaction).

Table 1 shows that the mean value of life satisfaction was 6.605 (out of the maximum of 10). While parents reported a lower level of self-rated life satisfaction in general (6.603 vs. 6.611), the difference between parents and non-parents was not statistically significant. There were more female than male respondents (51.7%). Given the range of 15–99 years, the average age of respondents was 42.149 years. Most respondents attained secondary education (42.8%) and were religious (69.0%). On average, parents in the sample were statistically older, less educated, and more religious. The majority of the non-parent sample (74.3%) was single, while that of the parent sample (80.7%) reported being married or in a cohabitation arrangement. Most respondents reported having good or very good health, and the non-parent group showed statistically better self-rated health. With regard to economic status, 56.1% of the sample were employed, and most respondents reported being in the second to sixth deciles of household income in their own countries, with non-parents being placed in higher income deciles in general. Descriptive statistics by welfare regimes are shown in Appendix 2.

Table 1: Descriptive Statistics

Variables	Mean (SD)			Chi-2 Tests of Independence
	Full Sample	**Non-Parents**	**Parents**	
Life satisfaction	6.605 (2.358)	6.611 (2.289)	6.603 (2.384)	t = 0.838
Gender				1.80E+03***
Female (excluded)	0.517 (0.500)	0.450 (0.498)	0.543 (0.498)	
Male	0.483 (0.500)	0.550 (0.498)	0.457 (0.498)	
Age	42.149 (16.327)	30.432 (13.719)	46.734 (14.916)	t = -2.60E+02***
Religiosity				1.30E+03***
Convinced atheist (excluded)	0.056 (0.231)	0.074 (0.261)	0.049 (0.217)	
Not a religious person	0.254 (0.435)	0.286 (0.452)	0.241 (0.428)	
Religious person	0.690 (0.463)	0.640 (0.480)	0.709 (0.454)	
Marital status				1.40E+05***
Single/ Never married (excluded)	0.242 (0.428)	0.743 (0.437)	0.046 (0.208)	
Married/ cohabitation	0.640 (0.480)	0.212 (0.409)	0.807 (0.395)	
Divorced / Separated	0.059 (0.236)	0.027 (0.163)	0.071 (0.257)	
Widowed	0.060 (0.237)	0.017 (0.131)	0.076 (0.266)	
Subjective health status				4.90E+03***
Very poor (excluded)	0.008 (0.087)	0.005 (0.068)	0.009 (0.093)	
Poor	0.061 (0.239)	0.038 (0.192)	0.069 (0.254)	
Fair	0.262 (0.440)	0.196 (0.397)	0.288 (0.453)	
Good	0.430 (0.495)	0.452 (0.498)	0.422 (0.494)	
Very good	0.239 (0.427)	0.309 (0.462)	0.212 (0.409)	
Education level				5.60E+03***
Less than Primary (excluded)	0.107 (0.309)	0.049 (0.216)	0.129 (0.335)	
Primary	0.243(0.429)	0.201 (0.401)	0.259 (0.438)	
Secondary	0.428 (0.495)	0.475 (0.499)	0.410 (0.492)	
Tertiary or higher	0.223 (0.416)	0.275 (0.446)	0.202 (0.402)	
Employment status				75.534***
Unemployed (excluded)	0.439 (0.496)	0.452 (0.498)	0.433 (0.496)	
Employed	0.561 (0.496)	0.548 (0.498)	0.567 (0.496)	
Income deciles				402.493***
Lower (excluded)	0.093 (0.290)	0.087 (0.282)	0.095 (0.294)	
Second	0.103 (0.304)	0.093 (0.291)	0.107 (0.309)	
Third	0.127 (0.333)	0.118 (0.322)	0.131 (0.337)	
Fourth	0.142 (0.349)	0.138 (0.345)	0.143 (0.350)	

Variables	Mean (SD)			Chi-2 Tests of Independence
	Full Sample	Non-Parents	Parents	
Fifth	0.168 (0.374)	0.171 (0.377)	0.167 (0.373)	
Sixth	0.126 (0.331)	0.134 (0.341)	0.122 (0.328)	
Seventh	0.099 (0.299)	0.109 (0.311)	0.096 (0.294)	
Eighth	0.069 (0.253)	0.074 (0.262)	0.067 (0.250)	
Ninth	0.037 (0.189)	0.038 (0.192)	0.037 (0.188)	
Tenth	0.037 (0.188)	0.037 (0.188)	0.037 (0.188)	
Number of observations	**259,856**	**73,090**	**186,766**	

Notes: ***, **, * denote statistical significance at the 1, 5, and 10% levels, respectively. Test statistics in the last column refer to chi-2 tests of independence, unless otherwise stated.

Regression results

Full-sample analyses

Table 2 shows results from OLS regressions where the outcome variable is life satisfaction. Four models are performed. In Model I, explanatory variables include parenthood, country-specific TFR levels, country-specific income groups, and time fixed effects. Model II adds to Model I the other personal and household characteristics shown in Table 1. Model III additionally includes the classification of welfare regimes by Margolis and Myrskylä (2011). Model IV replaces the Margolis and Myrskylä (2011) classification with the more detailed classification explained in the *Main Explanatory Variable 2: Welfare Regimes* section.

The four models can be compared. Model I is nested within Model II, and both Models I and II are nested within Models III and IV, while Models III and IV themselves are non-nested models. As reported in the last five rows of Table 2, likelihood ratio tests are used to assess goodness of fit of the nested models. They show that Models III and IV are more well-specified than Models I and II. Also, according to adjusted R2 values and AIC and BIC scores (unreported), Model IV outperforms Model III and is the preferred model. The exercise suggests omitted variable bias in Models I–II and confirms the importance of accounting for a detailed categorization of welfare regimes.

The results suggest that the relationship between parenthood and life satisfaction is robust. It is positive and statistically significant, regardless of whether other individual characteristics or welfare regimes are controlled. Nevertheless, the magnitude varies. The preferred model (Model IV) produces the smallest effect, and parenthood is statistically significant at the 10% level, while it is significant at the 1% level in the other models. Compared to Models I and II, Model IV shows that welfare regimes represent statistically significant factors that influence the association between parenthood and life satisfaction. Comparing Model III with Model IV reveals that different operationalizations of welfare regimes can lead to very different results, emphasizing the importance of welfare state typologies. Considering Models III and IV in conjunction with

Model II, whose estimates are subjected to omitted variable bias, demonstrates that the operationalization of welfare regimes in Model IV is more strongly correlated with parenthood (and is better able to handle omitted variable bias) relative to Model III, as the difference between its parenthood coefficient and that of Model II is much larger than between Model III and Model II.

Results from the preferred model suggest that the gap in life satisfaction scores between parents and non-parents is around 0.028. Being female, being religious, being married or in a cohabitation arrangement, having a tertiary education, and having higher income are all positively associated with life satisfaction. Age has a non-linear effect, having a U-shaped relationship with life satisfaction. Health is found to be the strongest predictor of life satisfaction; having a very good health status is associated with an increase in life satisfaction scores of 2.857 units.

Controlling for personal and country-level characteristics, the preferred model suggests that the level of life satisfaction is highest in social democratic and liberal-informal states. This particular finding is consistent with the fact that, as shown in Appendix 2, the average life satisfaction scores (not accounting for personal and country-level characteristics) in social democratic and liberal-informal welfare states are higher than the other regimes. It is also consistent with existing studies which suggest that, despite poor socio-political and economic situations, people in Latin American countries (representing the liberal-informal regime) often identify themselves as happy (Helliwell et al., 2015) as they place a high value on family warmth and supportive social relationships (Rojas, 2018). They also have the habit of giving themselves a full score for life satisfaction (Brulé & Veenhoven, 2017) and not using midpoints (Culpepper & Zimmerman, 2006), compared to the other races.

Table 2: Effects of Parenthood on Life Satisfaction: Full Sample

Variables	Model I	Model II	Model III	Model IV
Parenthood	0.034*** (0.011)	0.087*** (0.015)	0.088*** (0.015)	0.028* (0.015)
Male		-0.128*** (0.010)	-0.128*** (0.010)	-0.121*** (0.009)
Age		-0.047*** (0.002)	-0.048*** (0.002)	-0.043*** (0.002)
Age^2		0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Not religious		0.110*** (0.020)	0.146*** (0.020)	0.089*** (0.020)
Religious		0.321*** (0.020)	0.400*** (0.020)	0.334*** (0.020)
Married/cohabitation		0.238*** (0.017)	0.237*** (0.017)	0.283*** (0.017)
Divorced /Separated		-0.160*** (0.025)	-0.144*** (0.025)	-0.166*** (0.025)
Widowed		-0.163*** (0.028)	-0.106*** (0.027)	-0.068** (0.027)
Poor health status		0.637*** (0.071)	0.620*** (0.070)	0.592*** (0.069)
Fair health status		1.697*** (0.068)	1.630*** (0.067)	1.557*** (0.067)
Good health status		2.392*** (0.068)	2.290*** (0.067)	2.218*** (0.067)
Very good health status		3.030*** (0.069)	2.926*** (0.068)	2.857*** (0.067)
Primary education		0.024 (0.019)	0.037** (0.019)	0.009 (0.019)
Secondary education		-0.022 (0.018)	0.059*** (0.018)	0.019 (0.018)
Tertiary or higher education		0.008 (0.020)	0.063*** (0.020)	0.044** (0.020)
Employed		0.077*** (0.011)	0.064*** (0.011)	0.031*** (0.011)
Second income decile		0.150*** (0.025)	0.173*** (0.024)	0.178*** (0.024)

Variables	Model I	Model II	Model III	Model IV
Third income decile		0.187*** (0.023)	0.219*** (0.023)	0.249*** (0.023)
Fourth income decile		0.435*** (0.023)	0.459*** (0.022)	0.482*** (0.022)
Fifth income decile		0.579*** (0.023)	0.606*** (0.023)	0.625*** (0.023)
Sixth income decile		0.742*** (0.023)	0.760*** (0.022)	0.791*** (0.022)
Seventh income decile		0.869*** (0.024)	0.901*** (0.023)	0.946*** (0.023)
Eighth income decile		1.027*** (0.025)	1.057*** (0.025)	1.100*** (0.024)
Ninth income decile		0.995*** (0.028)	1.038*** (0.028)	1.098*** (0.028)
Tenth income decile		1.144*** (0.029)	1.175*** (0.029)	1.179*** (0.028)
Conservative			-0.203*** (0.019)	-0.370*** (0.018)
Liberal			-0.519*** (0.021)	-0.528*** (0.021)
Former socialist			-1.147*** (0.025)	-1.082*** (0.026)
Productivist				-0.399*** (0.025)
Liberal-informal				0.354*** (0.025)
MENA				-0.966*** (0.030)
Insecure				-1.053*** (0.036)
Southern European countries			-0.591*** (0.025)	
Developing countries			-0.264*** (0.022)	
Year-specific income level		Yes		
Year-specific TFR		Yes		
Year FE		Yes		
Number of Observations	259,856	259,856	259,856	259,856
Adjusted R2	0.082	0.192	0.207	0.224
Likelihood ratio tests				
I vs. II		33,355.15***		
I vs. III			38,244.82***	
II vs. III			4,889.67***	
I vs. IV				43,806.93***
II vs. IV				10,451.79***

Notes: ***, **, * denote statistical significance at the 1, 5, and 10% levels, respectively. Heteroskedasticity-adjusted standard errors are in parentheses.

Sub-sample analyses

To further investigate the role of welfare regimes, sub-sample analyses are undertaken. Table 3 shows the associations between parenthood and life satisfaction by welfare regime. While Table 2 shows that, globally, parenthood positively influences life satisfaction, Table 3 illustrates that the positive relationship does not occur uniformly. Being a parent in social democratic, productivist, and insecure welfare states is statistically associated with an increase in life satisfaction scores of 0.078, 0.108, and 0.027 units, respectively. Parenthood in the other regimes is found to be statistically insignificant.

The results can be contextualized. Among HICs, compared to conservative, liberal, and former socialist welfare states, social democratic states support families more generously, implementing a variety of policies to encourage fathers to participate in childrearing activities and mothers to return to work (Aassve et al., 2012; Glass et al., 2016). The positive and statistically significant relationship between parenthood and life satisfaction in social democratic states is consistent with existing studies (Aassve et al., 2012; Glass et al., 2016; Hansen, 2012).

Comparative studies based on LMICs are sparse, and there is not enough evidence to gauge the relative generosity of family support across different groups of LMICs. This study refers to region-specific studies in order to explain the positive relationships between parenthood and life satisfaction in productivist and insecure welfare states. Countries with productivist welfare regimes have a strong ideology of familism, and children provide positive emotional values. In China, Mu and Xie (2016) found that the burden of childrearing did not adversely affect parental happiness. In fact, the process was associated with higher subjective well-being among mothers and a stronger sense of confidence regarding career paths among fathers. Chao and Glass (2020) used data from 10 East Asian countries and found that the association between life satisfaction and parenthood was positive, controlling for work-life balance policies. In countries with insecure welfare regimes and weak social security systems, children provide instrumental (rather than emotional) values, which may lead to increased life satisfaction. More specifically, it has been shown that children contribute to family finances once they become old enough (Conzo et al., 2017; Peiró, 2006; Priebe, 2020).

The absence of statistical associations between parenthood and life satisfaction in liberal-informal and MENA welfare states is also consistent with existing studies. In Latin America (which represents liberal-informal welfare states), traditional gender roles are usually assumed, with men serving as breadwinners and women as homemakers. The presence of social inequalities and high poverty levels in the region means that fathers alone may not be able to satisfy the financial needs of the family and that mothers may need to enter the labor market, leading to dissatisfaction as gender role expectations are not fulfilled (Blanco Castro et al., 2020; Campaña et al., 2018). In fact, Peiró (2006) investigated the happiness-parenthood nexus in the region. Consistent with this study, the relationship was either negative or statistically insignificant, depending on which country was considered. Finally, studies based on countries with MENA welfare regimes provide conclusions that are consistent with this study. There seems to be no clear evidence that the presence of children contributes to parental happiness in Turkey (Caner, 2016) or in the United Arab Emirates (Lambert et al., 2020).

Table 3: Effects of Parenthood on Life Satisfaction: Sub-Samples Based on Welfare Regimes

Variables	Types of welfare states							
	Social democratic	Conservative	Liberal	Former socialist	Productivist	Liberal-informal	MENA	Insecure
Parenthood	0.078** (0.038)	0.025 (0.035)	-0.011 (0.042)	0.040 (0.033)	0.108** (0.046)	-0.046 (0.036)	-0.027 (0.073)	0.027* (0.054)
Country FE				Yes				
Year-specific income level				Yes				
Year-specific TFR				Yes				
Year FE				Yes				
Number of Observations	18,534	29,374	31,575	58,887	32,232	40,440	20,726	28,088
Adjusted R2	0.242	0.219	0.264	0.233	0.150	0.153	0.153	0.224

Notes: ***, **, * denote statistical significance at the 1, 5, and 10% levels, respectively.
Heteroskedasticity-adjusted standard errors are in parentheses.

Table 4 further investigates the issue. Here, the sample is split into gender and age groups. In addition to the fact that the relationship between parenthood and life satisfaction is context-specific, the literature suggests that it is also gender- and age-specific (Conzo et al., 2017; Hansen et al., 2009; Kohler et al., 2005), and the results are shown in Table 3 may be driven by certain sub-groups rather than the entire population.

Among HICs, the relationship between parenthood and life satisfaction varies across population sub-groups. In social democratic welfare states, where the relationship is positive and statistically significant overall, being a working-age mother (25–39 years), being a working-age father (25–39 years), and being an older father (aged 60+) are associated with higher life satisfaction. A similar pattern emerges in HICs with conservative, liberal, and former socialist welfare regimes, where the relationship between parenthood and life satisfaction is not statistically significant overall. Becoming a parent at a young age (15–24 years) is negatively associated with life satisfaction, while older parenthood is positively associated with life satisfaction. The negative effect of young parenthood is likely attributable to stress (Hansen, 2012; Nomaguchi & Milkie, 2003), which is heightened when state-funded support is low. However, it is drastically alleviated when support for young parents is available, as is the case in social democratic welfare states (Aassve et al., 2012; Hansen, 2012; Margolis & Myrskylä, 2011). The positive effect of older parenthood is consistent with the findings of Margolis and Myrskylä (2011). Interestingly, in conservative welfare states, the life satisfaction gap between fathers and childless men is not statistically significant at all ages. This could be due to the presence of conservative family values, where, compared to women, men bear a disproportionately low burden of childrearing (Leitner & Wroblewski, 2006) and therefore are not significantly affected by parenthood.

Among LMICs, the relationship between parenthood and life satisfaction is positive and statistically significant in countries with productivist and insecure welfare regimes. In productivist welfare states, the positive effect of parenthood is observed throughout the life course, with the exception of the older population. This is surprising since filial piety is an important value, and it has been shown that children represent a reliable source of old-age security in the region (Margolis & Myrskylä, 2011; Pimpawatin & Witvorapong, 2022; Witvorapong et al., 2022). In insecure welfare states, the positive effect of parenthood shows up at a later stage of the life course, consistent with the fact that adult children provide financial help to older parents in the region (Conzo et al., 2017; Peiró, 2006; Priebe, 2020). On the contrary, the effect of parenthood is either negative or statistically insignificant throughout the life course in countries with liberal-informal and MENA welfare regimes. The burden of childrearing is high, relative to the cost of living, and falls disproportionately on women with limited assistance from the state (Blanco Castro et al., 2020; Campaña et al., 2018; Moghadam, 2015).

Table 4: Regression Parenthood and Life Satisfaction by Regime, Age Group, and Gender

Regimes	Age 15–24		Age 25–39		Age 40–59		Age 60 and above	
	Women	**Men**	**Women**	**Men**	**Women**	**Men**	**Women**	**Men**
Social democratic								
Parenthood	-0.161 (0.186)	0.222 (0.331)	0.147* (0.084)	0.215** (0.085)	0.022 (0.093)	-0.083 (0.097)	0.031 (0.110)	0.245** (0.113)
Number of Observations	856	803	2,497	2,294	3,319	3,221	2,738	2,806
Adjusted R2	0.261	0.253	0.271	0.301	0.237	0.254	0.174	0.266
Conservative								
Parenthood	-0.474** (0.207)	0.013 (0.237)	0.046 (0.085)	-0.038 (0.074)	0.026 (0.083)	0.072 (0.084)	0.316*** (0.117)	-0.038 (0.106)
Number of Observations	1,679	1,543	4,285	3,863	5,369	4,893	4,083	3,659
Adjusted R2	0.176	0.138	0.191	0.214	0.211	0.247	0.274	0.264
Liberal								
Parenthood	-0.375*** (0.144)	0.021 (0.200)	0.168* (0.087)	0.148 (0.093)	-0.028 (0.114)	-0.060 (0.097)	0.002 (0.164)	0.286* (0.158)
Number of Observations	2,207	2,343	5,698	4,656	5,534	4,997	3,006	3,134
Adjusted R2	0.290	0.244	0.288	0.292	0.279	0.297	0.251	0.275
Former socialist								
Parenthood	0.085 (0.104)	-0.283** (0.133)	0.045 (0.075)	0.099 (0.075)	0.015 (0.089)	0.078 (0.096)	0.212** (0.108)	-0.034 (0.136)
Number of Observations	4,122	3,570	9,391	8,113	11,479	9,592	7,212	5,408
Adjusted R2	0.214	0.198	0.239	0.229	0.250	0.241	0.247	0.240
Productivist								
Parenthood	-0.081 (0.207)	0.644*** (0.222)	0.266** (0.110)	-0.044 (0.104)	0.020 (0.114)	0.302** (0.130)	-0.287 (0.249)	0.044 (0.232)
Number of Observations	2,252	2,107	5,616	4,979	6,197	6,280	2,305	2,496
Adjusted R2	0.118	0.171	0.146	0.165	0.147	0.164	0.159	0.160
Liberal-informal								
Parenthood	-0.181* (0.095)	-0.002 (0.120)	-0.069 (0.077)	-0.045 (0.076)	0.117 (0.110)	0.065 (0.117)	0.000 (0.189)	0.037 (0.198)
Number of Observations	4,085	4,158	7,628	6,612	6,671	6,023	2,704	2,559
Adjusted R2	0.166	0.179	0.176	0.163	0.165	0.158	0.151	0.170
MENA								
Parenthood	0.209 (0.210)	0.187 (0.280)	-0.173 (0.152)	-0.024 (0.141)	-0.451** (0.191)	0.051 (0.260)	0.219 (0.431)	0.275 (0.344)
Number of Observations	2,378	2,377	4,043	3,846	3,201	3,153	652	1,076
Adjusted R2	0.156	0.149	0.172	0.176	0.186	0.173	0.205	0.172

Regimes	Age 15–24		Age 25–39		Age 40–59		Age 60 and above	
	Women	**Men**	**Women**	**Men**	**Women**	**Men**	**Women**	**Men**
Insecure								
Parenthood	0.090 (0.140)	-0.045 (0.163)	0.143 (0.113)	-0.006 (0.088)	0.037 (0.225)	0.384* (0.221)	1.026** (0.523)	-0.285 (0.467)
Number of Observations	3,180	2,985	6,266	6,810	3,016	4,095	617	1,119
Adjusted R2	0.227	0.254	0.259	0.267	0.292	0.295	0.290	0.313

Notes: ***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively.

Heteroskedasticity-adjusted standard errors are in parentheses.

The specification for all sub-samples is the same and, in addition to personal and household characteristics, it includes country and year fixed effects, year-specific total fertility rates, and dummies representing year-specific income groups.

Conclusions and discussion

This study investigates the relationship between parenthood and life satisfaction, using a sample of 259,856 person-year observations from 102 countries obtained from the 1989–2020 Integrated Values Surveys. The relationship is complex and is conditional not only on individual (socio-demographic) characteristics but also on country-specific attributes. This study focuses on welfare regimes and their role in determining the relationship between parenthood and life satisfaction. The categorization of welfare regimes in this study is modified from the typologies put forth by Esping-Andersen (1990) and Wood and Gough (2006), classifying countries into eight groups and capturing not only the generosity of welfare policies but also value orientations that are shared within each geographical region. This study is the first to use this categorization.

Several models are performed, and they all illustrate that parenthood is positively associated with life satisfaction. In the preferred model, where welfare regimes are accounted for, parents are found to have higher life satisfaction than non-parents. The positive association between parenthood and life satisfaction observed in this study is consistent with Beja (2015), Ashton-James et al. (2013), and Nelson et al. (2013). Nevertheless, it is different from Margolis and Myrskylä (2011) and Stanca (2012), which found a negative relationship between parenthood and happiness overall, using the same data source (i.e., WVS). However, it is argued that the results of this study are valid. The fact that evidence in the literature is mixed implies that the relationship between parenthood and happiness may be time-sensitive. It depends on the period when data used for empirical analyses are collected. It also implies that previous life satisfaction studies may be subjected to specification bias, not adequately addressing all potential confounding factors. This study includes an extensive array of explanatory variables and is based on a long panel of data.

This study suggests that welfare regimes play an important role in shaping the relationship between parenthood and life satisfaction. It demonstrates that excluding welfare regimes in cross-country analyses would lead to non-negligible omitted variable bias. It also shows that welfare regime typologies matter, and the more detailed categorization of welfare regimes employed in this study provides a better model fit. The subsample analyses show that parenthood in social democratic, productivist, and insecure welfare states is significantly associated with increased life satisfaction scores by 0.078, 0.108, and 0.027 units, respectively. In contrast, parenthood in the other regimes is statistically insignificant. The findings confirm that the relationship between parenthood and life satisfaction is context-dependent (Aassve et al., 2012; Hansen, 2012; Margolis & Myrskylä, 2011). Among HICs, the findings in this study are consistent with existing studies, suggesting that parents in countries with more generous state-provided family support are happier. The results for LMICs are more difficult to explain, as the level of state-provided support is irregular, and the extent to which one welfare regime in LMICs is more generous than another is ambiguous. The fact that parenthood is positively associated with life satisfaction in productivist and insecure welfare states when it is insignificant in the other welfare regimes could also reflect differences in value orientations across regions globally. The sub-sample analyses also show that the relationship between parenthood and life satisfaction is gender- and age-specific. Life satisfaction among women is markedly affected by welfare regimes; in HICs, motherhood is negatively associated with life satisfaction when state support is less generously provided, demonstrating the necessity of offering assistance for mothers.

This study has certain limitations. Although several factors are controlled, the data used here do not include information on unobserved endowments that may simultaneously affect fertility preferences and life satisfaction, e.g., personality traits (Kohler et al., 2005). They do not contain information on children and living arrangements. These data are needed to identify stages of parenthood and investigate whether the relationship between parenthood and life satisfaction depends on such stages. Also, this study does not address endogeneity bias and, therefore, cannot establish a causal relationship between parenthood and life satisfaction.

This study has the following implications. First, using an extensive categorization of welfare regimes, this study highlights the importance of institutional contexts – more specifically, welfare regimes – in understanding the relationship between parenthood and life satisfaction. It shows that welfare regimes significantly affect the relationship, affecting how parents and non-parents perceive the burden and benefits of having children. Social programs that ease the burden of childbearing and/or childrearing and promote work-life compatibility are likely to encourage parenthood and be a source of life satisfaction for both parents and non-parents. Second, this study demonstrates that cultural differences play an important role in the relationship between parenthood and life satisfaction (Veenhoven, 2012). This is reflected in the fact that parents in different regions have markedly different levels of life satisfaction, even when welfare regimes are controlled. The implication is not that one culture is more amenable to happiness than others but rather that social welfare programs should be designed within the cultural context of each country. Finally, this study shows that different age and gender groups respond differently to social welfare programs. Mothers are most affected by social welfare programs because they bear a larger burden of childbearing and childrearing. It is important to design social welfare programs based on gender-specific needs, targeting women specifically, e.g., the provision of childcare services and the encouragement of paternal involvement in childcare responsibilities. Future research should expand on the discussion in this study and explores more deeply the role and the typology of welfare regimes in developing countries.

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Appendices

Appendix 1: List of Countries Based on Welfare Regimes

Country lists by Welfare Regimes (Number of observations)							
Social Democratic	**Conservative**	**Liberal**	**Former socialist**	**Productivist**	**Liberal-informal**	**MENA**	**Insecure**
Denmark (2,696)	Andorra (1,513)	Australia (3,991)	Albania (2,575)	China (4,341)	Argentina (2,213)	Algeria (1,701)	Bangladesh (2,123)
Finland (2,947)	Austria (2,203)	Canada (4,470)	Azerbaijan (2,969)	Hong Kong (2,378)	Bolivia (1,048)	Egypt (2,664)	Burkina Faso (1,019)
Iceland (1,337)	Belgium (1,372)	Ireland (841)	Armenia (3,280)	Indonesia (4,169)	Brazil (6,159)	Iran (4,734)	Ethiopia (1,804)
Netherlands (4,334)	Cyprus (1,227)	New Zealand (2,385)	Bosnia Herzegovina (2,987)	Japan (2,278)	Chile (3,282)	Jordan (1,898)	Ghana (888)
Norway (3,584)	France (2,755)	South Africa (12,273)	Bulgaria (2,420)	Macau (399)	Colombia (5,484)	Lebanon (1,985)	India (5,076)
Sweden (3,636)	Germany (5,935)	United Kingdom (2,659)	Belarus (1,889)	Malaysia (2,213)	Dominican Rep. (280)	Libya (1,689)	Iraq (1,508)
	Greece (550)	United States (4,956)	Croatia (720)	Myanmar (706)	Ecuador (1,876)	Saudi Arabia (1,155)	Mali (776)
	Italy (2,991)		Czech Rep. (2,762)	Philippines (2,971)	El Salvador (957)	Tunisia (1,147)	Nigeria (4,750)
	Portugal (1,041)		Estonia (2,308)	South Korea (3,146)	Guatemala (1,135)	Turkey (3,252)	Pakistan (3,820)
	Spain (4,939)		Georgia (3,264)	Taiwan (3,770)	Haiti (1,590)	Yemen (501)	Rwanda (2,556)
	Switzerland (4,848)		Hungary (2,029)	Thailand (3,256)	Mexico (6,134)		Tanzania (930)
			Kazakhstan (442)	Vietnam (2,605)	Nicaragua (834)		Uganda (540)
			Kyrgyzstan (1,611)		Peru (2,749)		Zambia (1,036)
			Latvia		Puerto Rico		Zimbabwe

Country lists by Welfare Regimes (Number of observations)							
Social Democratic	Conservative	Liberal	Former socialist	Productivist	Liberal-informal	MENA	Insecure
			(1,392)		(2,276)		(1,262)
			Lithuania (1,682)		Trinidad and Tobago (937)		
			Moldova (2,364)		Uruguay (2,451)		
			Montenegro (1,118)		Venezuela (1,035)		
			Poland (2,154)				
			Romania (4,392)				
			Russia (4,148)				
			Serbia (3,479)				
			Slovakia (1,925)				
			Slovenia (2,762)				
			Ukraine (2,415)				
			Macedonia (1,800)				

Appendix 2: Descriptive Statistics, by Welfare Regime

Variables	Mean (SD)							
	Social democratic	Conservative	Liberal	Former socialist	Productivist	Liberal-informal	MENA	Insecure
Life satisfaction	7.450 (1.679)	7.066 (1.915)	7.152 (2.198)	5.728 (2.403)	6.618 (2.123)	7.432 (2.275)	6.136 (2.565)	5.880 (2.527)
Parenthood								
Not having any child (excluded)	0.272 (0.445)	0.314 (0.464)	0.281 (0.450)	0.232 (0.422)	0.261 (0.439)	0.284 (0.451)	0.364 (0.481)	0.297 (0.457)
Being a parent	0.728 (0.445)	0.686 (0.464)	0.719 (0.450)	0.768 (0.422)	0.739 (0.439)	0.716 (0.451)	0.636 (0.481)	0.703 (0.457)
Gender								
Female (excluded)	0.508 (0.500)	0.525 (0.499)	0.521 (0.500)	0.549 (0.498)	0.508 (0.500)	0.521 (0.500)	0.499 (0.500)	0.466 (0.499)
Male	0.492 (0.500)	0.475 (0.499)	0.479 (0.500)	0.451 (0.498)	0.492 (0.500)	0.479 (0.500)	0.501 (0.500)	0.534 (0.499)
Age	48.297 (17.108)	46.693 (17.288)	43.233 (16.823)	44.374 (16.573)	42.211 (15.004)	39.369 (15.744)	38.233 (14.763)	35.034 (12.842)
Religiosity								
Convinced atheist (excluded)	0.095 (0.293)	0.091 (0.287)	0.048 (0.213)	0.039 (0.193)	0.150 (0.357)	0.021 (0.145)	0.025 (0.156)	0.010 (0.101)
Not a religious person	0.430 (0.495)	0.313 (0.464)	0.250 (0.433)	0.248 (0.432)	0.382 (0.486)	0.201 (0.401)	0.182 (0.386)	0.084 (0.277)
Religious person	0.475 (0.499)	0.597 (0.491)	0.702 (0.457)	0.713 (0.452)	0.468 (0.499)	0.778 (0.416)	0.793 (0.405)	0.906 (0.292)
Marital status								
Single/ Never married (excluded)	0.215 (0.411)	0.233 (0.423)	0.266 (0.442)	0.179 (0.384)	0.219 (0.414)	0.288 (0.453)	0.306 (0.461)	0.267 (0.443)
Married/ cohabitation	0.634 (0.482)	0.612 (0.487)	0.598 (0.490)	0.664 (0.472)	0.716 (0.451)	0.581 (0.493)	0.626 (0.484)	0.677 (0.467)
Divorced / Separated	0.100 (0.300)	0.079 (0.269)	0.074 (0.262)	0.063 (0.242)	0.026 (0.158)	0.080 (0.271)	0.026 (0.159)	0.024 (0.152)
Widowed	0.051 (0.221)	0.076 (0.265)	0.062 (0.241)	0.094 (0.292)	0.039 (0.194)	0.051 (0.219)	0.042 (0.200)	0.032 (0.175)
Subjective health status								
Very poor (excluded)	0.008 (0.087)	0.010 (0.099)	0.007 (0.083)	0.015 (0.123)	0.003 (0.056)	0.004 (0.059)	0.004 (0.062)	0.005 (0.074)

Variables	Mean (SD)							
	Social democratic	Conservative	Liberal	Former socialist	Productivist	Liberal-informal	MENA	Insecure
Poor	0.042 (0.201)	0.054 (0.227)	0.040 (0.196)	0.109 (0.311)	0.051 (0.220)	0.035 (0.184)	0.061 (0.240)	0.056 (0.229)
Fair	0.203 (0.402)	0.238 (0.426)	0.161 (0.367)	0.363 (0.481)	0.261 (0.439)	0.269 (0.443)	0.242 (0.428)	0.251 (0.433)
Good	0.438 (0.496)	0.454 (0.498)	0.402 (0.490)	0.379 (0.485)	0.487 (0.500)	0.462 (0.499)	0.442 (0.497)	0.411 (0.492)
Very good	0.309 (0.462)	0.244 (0.429)	0.391 (0.488)	0.133 (0.340)	0.198 (0.399)	0.231 (0.422)	0.251 (0.433)	0.277 (0.447)
Education level								
Less than Primary (excluded)	0.021 (0.145)	0.148 (0.355)	0.084 (0.278)	0.067 (0.250)	0.060 (0.237)	0.114 (0.318)	0.146 (0.354)	0.232 (0.422)
Primary	0.192 (0.394)	0.230 (0.421)	0.306 (0.461)	0.162 (0.369)	0.238 (0.426)	0.296 (0.457)	0.243 (0.429)	0.304 (0.460)
Secondary	0.421 (0.494)	0.391 (0.488)	0.413 (0.492)	0.526 (0.499)	0.452 (0.498)	0.408 (0.491)	0.381 (0.486)	0.337 (0.473)
Tertiary or higher	0.366 (0.482)	0.232 (0.422)	0.196 (0.397)	0.244 (0.430)	0.250 (0.433)	0.182 (0.386)	0.230 (0.421)	0.127 (0.333)
Employment status								
Unemployed (excluded)	0.376 (0.484)	0.433 (0.495)	0.438 (0.496)	0.458 (0.498)	0.342 (0.474)	0.450 (0.498)	0.527 (0.499)	0.468 (0.499)
Employed	0.624 (0.484)	0.567 (0.495)	0.562 (0.496)	0.542 (0.498)	0.658 (0.474)	0.550 (0.498)	0.473 (0.499)	0.532 (0.499)
Income deciles								
Lower (excluded)	0.079 (0.269)	0.075 (0.263)	0.092 (0.290)	0.087 (0.281)	0.081 (0.273)	0.138 (0.345)	0.084 (0.278)	0.091 (0.287)
Second	0.094 (0.292)	0.106 (0.307)	0.103 (0.304)	0.114 (0.317)	0.062 (0.240)	0.135 (0.342)	0.094 (0.291)	0.093 (0.291)
Third	0.101 (0.302)	0.135 (0.342)	0.104 (0.305)	0.143 (0.350)	0.113 (0.317)	0.124 (0.329)	0.126 (0.332)	0.152 (0.359)
Fourth	0.107 (0.310)	0.147 (0.354)	0.101 (0.301)	0.158 (0.365)	0.133 (0.339)	0.151 (0.358)	0.150 (0.358)	0.161 (0.368)
Fifth	0.110 (0.313)	0.156 (0.363)	0.130 (0.336)	0.175 (0.380)	0.241 (0.427)	0.162 (0.368)	0.170 (0.376)	0.173 (0.379)
Sixth	0.112 (0.315)	0.126 (0.332)	0.120 (0.325)	0.118 (0.323)	0.160 (0.367)	0.114 (0.318)	0.134 (0.341)	0.125 (0.330)
Seventh	0.109 (0.311)	0.104 (0.305)	0.119 (0.324)	0.088 (0.284)	0.113 (0.316)	0.073 (0.259)	0.112 (0.315)	0.100 (0.300)
Eighth	0.099 (0.299)	0.069 (0.254)	0.099 (0.298)	0.058 (0.234)	0.060 (0.237)	0.053 (0.224)	0.073 (0.260)	0.066 (0.248)
Ninth	0.085 (0.279)	0.043 (0.202)	0.066 (0.249)	0.031 (0.174)	0.021 (0.142)	0.020 (0.139)	0.035 (0.185)	0.024 (0.152)
Tenth	0.104 (0.305)	0.040 (0.195)	0.066 (0.249)	0.028 (0.166)	0.017 (0.130)	0.031 (0.174)	0.021 (0.143)	0.015 (0.122)
Number of Observations	18,534	29,374	31,575	58,887	32,232	40,440	20,726	28,088