

**Family solidarity in context: filial obligation and family support in  
a cross-national comparison perspective.**

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Version: November 2023

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## **Abstract**

**Background:** Unlike prior cross-cultural comparisons, our study analyses variations in family solidarity between countries on both aggregate and individual levels.

**Objective:** We re-examine the associations between adherence to filial obligation and family support. Comparing "traditionalist" to "individualist" countries across four types of daily needs, we ask whether in the latter adherence to filial obligation and family support practices are weaker.

**Methods:** Using International Social Survey Programme microdata from 29 countries worldwide, we described the link between adherence to filial obligation and family support. Second, we applied a meta-analytical to investigate the moderating role of cultural values on variations in the effect of filial obligation on family support.

**Results:** At country-level, we find that the higher traditional values, the stronger the filial obligation, and the greater the reliance on family for help with feeling down, or advice for family problems. However, for care in case of illness or domestic help, the family is the first source of support whatever the degree of traditional values and the strength of filial obligation in the country concerned. At individual level, we show that, while weaker in individualist contexts, filial obligation remains predictive of family support for all needs in each cultural context; it is even more binding for emotional needs in individualist contexts.

**Contribution:** Our results suggest that family remains prominent as a support source in all societies, but family for support depends on both the types of need and cultures. We confirm and extend previous cross-cultural work on family solidarity.

**Keywords:** cross-national comparison, family solidarity, family support, filial obligation, individualism.

## **1. Introduction**

Family relationships play a key role in the support provided to individuals throughout the life course, but in ways that vary across different contexts (Spini, Bernardi and Oris 2017). Numerous studies have examined how support practices vary across cultures, whether measured in terms of cultural values or family solidarity norms. Studies stress that family support is less frequent in individualist countries where family norms are weak (Bordone 2012; Conkova, Fokkema and Dykstra 2018; Haberkern and Szydlik 2010; Verbakel 2018). More specifically, researchers have shown that family solidarity norms are weaker in northern and western Europe, and in countries of European immigration (e.g., Australia and the United States) than in the rest of the world. Some authors support the idea of networked individualism in these countries, i.e., greater personal autonomy in the organization of support (Wellman et al. 2003). It has been shown that these cultural disparities are themselves underpinned by major structural differences across countries in terms of economic development or social policy (Esping-Andersen 1990).

Some researchers have challenged this opposition between societies with “weak” and “strong” family solidarities, however, for two reasons. First, comparisons at national or regional levels have concluded that in all societies, the family continues to play a predominant role in providing support for certain needs (Goodson and Hayes 2021; Finsveen and Oorschot 2008; Pichler and Wallace 2007). Second, at the individual level, adherence to filial obligation norms remains positively linked to family support in countries with both a weak family culture (Klaus 2012; Lowenstein and Daatland 2006) and a strong family culture (Lin and Yi 2013; Yeh et al. 2013).

To shed light on these apparent contradictions, a fine-grained analysis of links between family solidarity norms and reliance on family support, and their interactions with country-level dominant values, seems necessary to understand the functioning of families according to the

cultural context (Aboderin 2004; Esteve et al. 2020). Therefore, this paper analyses, using the family practices perspective (Morgan 2011; Rossier et al. 2023), variations in family solidarity patterns between countries on two levels. We first describe at the aggregate level the association between adherence to the filial obligation (our proxy for the family solidarity norms) and family support by examining various daily needs (Messeri, Silverstein and Litwak 1993), in countries from all cultural regions of the world. We ask ourselves whether, on average and for diverse types of needs, family support is less frequent in countries that are more individualistic and where adherence to the filial obligation is weaker. We then study at the individual level, still for diverse needs, the link between adherence to the filial obligation and family support. We examine whether individuals who adhere to the filial obligation do indeed select their family more often in times of need and whether this association varies by type of need and by degree of individualism (and of socioeconomic development) in each country.

To answer these questions, we used data from the Social Networks and Social Resources module of the International Social Survey Programme (Sapin, Joye and Wolf 2020). Yet, this module is the only available source that provides relevant data, distinguishing diverse needs, for detailed analysis of these cross-country cultural differences in family solidarity practices. These data were collected in 29 countries, representing the full range of cultural contexts (Inglehart and Welzel 2005) and all major family systems (Therborn 2014). In this article, the degree of individualism is measured using the Inglehart-Welzel index (2005), which will be described later.

The article begins with a presentation of the theoretical framework and a literature review of cultural differences in family solidarity. The data, methods and analysis strategy are then described before a presentation and discussion of results.

## **2. Theoretical framework: links between cultural context and family support**

Family support is considered here as a social practice (Morgan, 2011; Rossier et al, 2023) i.e., a set of habitual actions performed by individuals, in this case soliciting family members or someone else to satisfy a need. These practices are “social” because they are underpinned by socially defined meanings and constraint-opportunity structures. But practices are also performed by individual actors, which exert a degree of autonomy in the organization of their support network: individuals reinvent and adapt to shared meanings and constraints via their actions as situations dictate.

The dimensions of the macro context that shape family support practices are dominant cultural values, economic structure, and social policies. These dimensions are strongly interrelated at the national level and tend to influence family solidarity in the same way (Mair et al. 2016). We focus here on cultural differences between countries and, more specifically, their degree of individualism, as culture is particularly relevant when studying social practices (Daatland, Herlofson and Lima 2011). But in addition to countries' degrees of individualism, our analysis models also consider the level of human development, which reflects economic performance and social policies.

To relate these macro factors to micro level family support practices, we developed a careful conceptualization of the hierarchy of cultural factors (Portes 2006; Taras, Rowney and Steel 2009). Most of the prior comparative work on the impact of cultural context on family solidarity patterns used a qualitative approach, equating culture with geographical areas. This approach struggles to distinguish societal values (degree of individualism) from norms relating more specifically to family solidarity, although filial obligation has been shown to be the first cultural factor in choosing family support. The geographical approach also fails to capture differences in values and norms between countries in the same region (Conkova, Fokkema and Dykstra

2018; Inglehart and Welzel 2005; Nauck and Becker 2013). In the global North, researchers have revealed substantial differences in family norms between countries within the same geographical area, such as the regions of Europe (Daatland, Herlofson and Lima 2011; Jappins and Van Bavel 2012; Klaus 2012; Marckmann 2017), and within a single country (Liefbroer and Billari 2010). Family norms and values also diverge across “traditional” societies (Campos and Kim 2017), and across countries and regions in Asia (Lin and Yi 2013; Yeh et al. 2013; Yeung, Desai and Jones 2018). Here, we consider the collectivism/tradition–individualism/modernity distinctions common to the three most influential cross-cultural studies to measure dominant values at country level (Sagiv and Schwartz 2021), and aggregated responses on filial obligation norms (defined just below) to capture diversity in family solidarity norms at country level.

At the micro level, we consider two dimensions. Adherence to *filial obligation* is defined as the commitment to fulfil family roles and respect family obligations (Bengtson and Roberts 1991). Research has shown that this factor is a predictor of family support at individual level in both weak family cultures, (Klaus 2012; Lowenstein and Daatland 2006) and strong family cultures (Lin and Yi 2013; Yeh et al. 2013). Then, the "optimal source of support model" (Messeri, Silverstein and Litwak 1993) outlines the social characteristics of interpersonal relationships that assume specific roles, and therefore specific tasks, depending on need in a given group. This model enables us to describe the differentiated support roles expected from and usually played by the family according to *type of need*. The use of this hierarchical conceptualization of culture is justified by the fact that cultural values (degree of individualism) transcend specific actions and situations, while norms and roles refer to specific domains of life such as the family and are linked directly to the actions of individuals (Portes 2006; Schwartz 2012). Adherence to family norms and roles varies considerably according to the concrete situations shared by groups of individuals in countries with the same cultural valence or degree of individualism

(Liefbroer and Billari 2010), even though it has been shown that cultural values are globally linked to adherence to family solidarity norms and roles (Mair et al. 2016).

Diverging from prior practices of applying cross-cultural comparison, our study analyses variations in family solidarity between countries on both aggregate and individual levels. At the aggregate level, we describe the adherence to the filial obligation (our proxy for the family solidarity norms) and its correlation to choosing family support across a range of everyday needs in countries from all cultural regions of the world. At the individual level, we study the link between adherence to the filial obligation and reliance on family in different countries and for different needs and assess the moderating effect of country-level individualism on this link.

### **3. Hypotheses: the literature on family solidarity across cultural contexts**

In comparative studies of family solidarity, the countries of the North are systematically ranked at the bottom of the scale and those of the South at the top. Applying the modernity theory, researchers have shown that family support decreases in countries whereas the traditions, values and norms that sanctify family bonds grow weaker (Bordone 2012; Conkova, Fokkema and Dykstra 2018; Haberkern and Szydlik 2010; Verbakel 2018), and as societies become increasingly individualised (Daatland, Herlofson and Lima 2011; Jappens and Van Bavel 2012). Moreover, members of individualist societies place less value on family ties (Alesina and Giuliano 2015) than on friendship ties (Lu, Leahy and Chopik 2021). Therefore, in highly modernized countries, people are described as being more independent of the family in the organisation of their support network (Wellman et al. 2003). Likewise, certain authors argue that family solidarity norms no longer have any significant impact on individual choices there (Inglehart and Welzel 2005).

However, as already pointed out, other researchers have challenged this categorization of societies by the strength of family solidarity. In countries of the global North, the family



continues to play a primary role in providing social support for some needs (need for money, need for health care) (Finsveen and Oorschot 2008; Höllinger and Haller 1990; Ogg and Renaut 2006; Pichler and Wallace 2007). Family support when needing money is weaker in certain countries of Eastern Europe compared to countries of Northern Europe (Finsveen and Oorschot 2008; Pichler and Wallace 2007). In countries of the global South, non-family relationships (friends, neighbours, colleagues, and others) are also important sources of support for certain needs (Goodson and Hayes 2021; Lambert et al. 2017). We therefore postulate that *the higher the degree of individualism in a country, the weaker the adherence to filial obligation and the less frequent the reliance on family support, but only for certain types of needs (Hypothesis 1).*

At micro level, although adherence to family norms appears to be relatively less frequent in some "individualist" countries and more frequent in some "traditional" countries, family norms are nonetheless key determinants for predicting family support in both the global North (Klaus 2012; Lowenstein and Daatland 2006) and the global South (Lin and Yi, 2013; Yeh et al., 2013). Warranting a study of individuals' adherence to family solidary norms and their effect on family support practices in each of the countries across regions of the world. Based on these various findings, we expect that *the stronger an individual's adherence to filial obligation, the more frequently he or she will turn to the family for support in times of need, independently of the country-level dominant cultural values (Hypothesis 2a).*

However, compared to less individualist societies that attach strong importance to tradition and family values, more individualist societies place value on personal autonomy. Social norms, especially filial obligation, may thus be less binding and poorer predictors of individual behaviours (Markus and Kitayama 2010). Certain authors argue that behaviours are more strongly influenced by norms in collectivist than individualist societies (Eom and Kim 2015; Feng 2015). Consequently, we postulate that *the stronger the degree of individualism in a*

*country, the weaker the influence of adherence to filial obligation on family support (Hypothesis 2b).*

#### **4. Data and methods**

To test these hypotheses, we used the original datasets from the social networks and social resources module of the International Social Survey Programme<sup>1</sup> collected in 2017. They include information on diverse forms of support obtained from varied sources and on norms of solidarity (Sapin, Joye and Wolf 2020). Our analysis includes 29 countries (Suriname was excluded due to a lack of data on certain variables) from the 10 regions and subregions of the world: Africa (South Africa), Asia (China, India, Japan, Philippines, Taiwan and Thailand), Latin America (Mexico), North America (United States) eastern Europe (Croatia, Hungary, Slovakia, Slovenia Czech Republic and Russia), northern Europe (Denmark, Finland and Sweden), western Europe (Germany, Austria, France, Great Britain, Iceland, and Switzerland) southern Europe (Spain), Middle East (Israel) and Oceania (Australia and New Zealand). The data were collected from adults aged 15 and older. The sample sizes range from 1,002 in Mexico to 4,219 in China (ISSP Research Group 2019).

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<sup>1</sup> The ISSP is an international programme set up in 1985 to conduct annual surveys on a variety of social science themes, such as the networks and social resources studied here. Today, the ISSP has nearly 50 member countries covering diverse cultures around the world. Data are collected from representative random samples of adults identified within a household, in most cases using the Kish grid method. The data collection methods include face-to-face interviews (standard, CAPI and PAPI), postal or telephone interviews, and online self-administered questionnaires. Further information on survey design, response rates, questionnaires, etc. The 2017 data from the Social Networks and Resources module are available at: [https://search.gesis.org/research\\_data/ZA6980](https://search.gesis.org/research_data/ZA6980).

#### **4.1. Dependent variables**

Four dependent variables were used to measure who is solicited first for the following needs: *i*) “support when feeling a bit down or depressed and wanting to talk about it”; *ii*) “advice about family problems”; *iii*) “help around the home in case of sickness and having to stay in bed for a few days”; and *iv*) help with a household or a garden job that the respondent can’t do him/herself. The relative simplicity of these questions limits the problem of differences in translation or interpretation from one country to another. In addition, equivalence measures were used to confirm their quality and comparability across countries (Joye, Sapin and Wolf 2019). In terms of types of support, the first two items (feeling down and family problems) correspond to emotional support, and the last two items (care and domestic tasks) to instrumental support.

Respondents could choose from the following response categories: a close relative, a more distant relative (grouped here as “family”); a close friend (“friend”); a neighbour, colleague, or someone else (grouped here as “other”); “no one” and “can’t choose”. These last two response categories were excluded from our analysis as they were chosen by only 11% of respondents at most in South Africa for the question on being sick, 6% in France for the question on domestic tasks, 12% in Taiwan for feeling down, and 13% in Russia for family problems. According to Long and Freeses (2014), the multinomial logit model can be applied when choices are very distinct and non-substitutable as the principle of independence of irrelevant alternatives is respected. Omitting “no one” and “can’t choose” as alternative choices should therefore not affect our estimates.

#### **4.2. Independent variables**

##### **4.2.1. Filial obligation and control variables**

In this article, we focus on the association between adherence to filial obligation and the choice of family support at individual and national levels. Adherence to filial norms is measured by the degree of agreement with the statement “Adult children have a duty to look after their elderly parents”. Respondents expressed their adherence to this norm on a 5-point scale, with a score of 5 representing the strongest level of adherence. At the national level, the strength of the norm is measured by the mean filial norm adherence score. It ranges from 2.98 in Sweden to 4.61 in the Philippines. The higher the national score, the stronger or more dominant the norm in the country concerned.

Our model of the individual-level net effect of filial obligation on family support included several control variables: sex, age (in years), marital status (married/cohabiting or not), number of co-resident family members, years of education, employment status (employed/unemployed), place of residence (urban/rural) and religiosity measured by frequency of attendance at religious services. We also included adherence to the friendship norm, quality of family relations, and family pressure, all of which are provided in the ISSP 2017 datasets. Previous results have shown that these covariates are determinants of family support (Conkova, Fokkema and Dykstra 2018; Klaus 2012; Lowenstein and Daatland 2006). The descriptive statistics of individual characteristics by country are in Table 1 of the Appendix 1.

#### **4.2.2. Cultural values**

National cultural values are captured by the Inglehart-Welzel indices (2005). Inglehart and Welzel assert that there are two major dimensions of cross-cultural variation<sup>2</sup> in the world. They

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<sup>2</sup> On the WVS website, a description of the cultural variation defines these values as follows: “*Traditional values* emphasize the importance of religion, parent-child ties, deference to authority and traditional family values. People who embrace these values also reject divorce, abortion, euthanasia and suicide. These societies have high levels of national pride and a nationalistic outlook. *Secular-rational values* have the opposite preferences to the traditional values. These societies place less emphasis on religion, traditional family values and authority. Divorce,

provide a means to characterise individuals or societies and to explain the basic beliefs that underlie attitudes and behaviours (Inglehart and Welzel, 2005). The values of these indices were obtained by principal component analysis applied to World Values Survey (WVS) data (<https://www.worldvaluessurvey.org>). High values signify a prominent level of individualism or modernity. On the **Traditional vs. Secular** axis, the indices range from –1.40 (Philippines) to 1.66 (Japan). For **Survival vs. Self-expression**, the indices range from –0.82 (India) to 3.11 (Sweden). The country scores for each indicator are available in Appendix 2.

The WVS data are collected from probabilistic samples. They are of better quality than other data sources, notably those of Hofstede and Schwartz, constructed from non-random samples (Taras, Roney and Steel 2009). Moreover, our examination of the questionnaires for these three major approaches showed that the WVS data accord greater importance to family dimensions.

The conceptualization of the dimensions underpinning this distinction – collectivism or tradition versus individualism or modernity – corresponds closely to our theoretical framework,<sup>3</sup> and despite their theoretical and statistical differences, the three major theories of cultural values – Hofstede, Inglehart, and Schwartz – (Sagiv and Schwartz, 2022) have more

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abortion, euthanasia and suicide are seen as relatively acceptable. (Suicide is not necessarily more common.). Survival values place emphasis on economic and physical security. It is linked with a relatively ethnocentric outlook and low levels of trust and tolerance. Self-expression values give high priority to environmental protection, growing tolerance of foreigners, gays and lesbians and gender equality, and rising demands for participation in decision-making in economic and political life.” (Retrieved from <https://www.worldvaluessurvey.org/WVSContents.jsp> on 26/09/2022).

<sup>3</sup> The "*Traditional* values versus *Secular-rational* values" dimension (Tradition) contrasts countries on the values of tradition and modernity. In this dimension, there are traditional family ideals, that are measured by questions on the importance of making one's parents proud, the importance of always loving and respecting one's parents regardless of their behaviour, and the idea that parents should do their best for their children even at the expense of their own well-being. These ideals are valued in so-called traditionalist societies, where the emphasis is on conforming to the group rather than achieving personal goals. In so-called modern societies, on the other hand, little value is placed on these family ideals. The "Survival values versus Self-expression values" dimension (Individualism), contrasts two other sub-dimensions. "survival" (economic and physical security) is valued in cultures that prioritize the exchange of resources based on mutual, especially family, obligations, while, "self-expression" reflects values of autonomy and personal motivation, for which exchanges of resources (and the family norms that regulate them) are less important.

similarities. Schwartz's autonomy, Hofstede's individualism, and Inglehart's self-expression are all strongly correlated and measure individualism in an equivalent manner (Inglehart and Welzel, 2005). Moreover, Inglehart's two cultural dimensions are sub-dimensions of both Schwartz's autonomy (Dobewall et al., 2014) and Hofstede's individualism (Kaasa et al., 2021). Moreover, economic, and social policy development, measured jointly by the Human Development Index (HDI) are positively associated with individualist values and negatively associated with traditionalist values (Dülmer, Inglehart and Welzel 2015). To take this into account, we first used the HDI to check whether the cultural and structural dimensions act in the same direction. The HDI was included in the statistical analyses as a factor to control for the moderating effect of the cultural dimensions. The HDI<sup>4</sup>, a summary measure of average achievement in life expectancy, gross domestic product, and education, is a reliable indicator of a country's level of socioeconomic development.

### **4.3. Analysis strategy**

We performed quantitative analyses to measure the association between filial obligation and family support for a set of everyday needs. At the aggregate level, we plotted the correlations between cultural values and the filial norm, and the correlations between the filial norm and the frequency of family support for the four needs.

At the individual level, we studied the effects of adherence to the filial norm on the choice of family support and how these effects vary according to societal values. First, multinomial logistic regressions (Appendix 3) were used to estimate the average marginal effects (AME) of

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<sup>4</sup> HDI data for 2017 were obtained from the UNDP website (<https://hdr.undp.org/data-center/documentation-and-downloads>). The HDI of Taiwan was retrieved from the government website (<https://www.dgbas.gov.tw/public/Data/02416246DBUFVVDH.pdf>).

adherence to the filial norm on the choice of family support. These models were estimated separately for each type of support in each national sample.

Next, a two-stage meta-analytic approach (Bryan and Jenkins, 2016) was used to estimate the variation in these effects of adherence to filial obligation on family support for different societal values. This approach made it possible to analyse (i) whether a link exists between adherence to the filial norm and family support at the individual level; (ii) if the link between adherence to the filial norm and choosing the family for support varies across countries; and (iii) whether this variation can be explained by Inglehart's cultural dimensions. In general, multilevel models are used to make estimations of this kind, but the meta-analytic approach has the advantage of providing reliable estimates of the overall strength of the effect of interest and its variability across countries, and of analysing the moderating role of a factor by regressing country effects on country-level predictors (Liefbroer and Zoutewelle-Terovan 2021). It also provides a better graphical display of results.

First, we ran a meta-analysis based on a random effects model, in which all estimates of each country's AMEs and standard errors (SE) obtained by multinomial logistic regressions were included, to test for an association between adherence to filial obligation and family support, and for any variation in this association across countries. Following the recommendations of Harrer, Cuijpers and Ebert (2021), we assessed effect heterogeneity by the variance of the true effect sizes underlying our data ( $\tau^2$ ), the ratio of observed to sampling variance ( $H$ , with 95% CI), the percentage of variability in effect sizes not due to sampling error ( $I^2$ , with 95% CI) and the difference between observed effect sizes and the estimated effect size of the fixed-effect model ( $Q$ ). The first three statistics were estimated using the  $Q$  measure. It is generally considered that there is heterogeneity if at least one of the two following criteria is verified:  $I^2$  is above zero ( $\geq 25\%$  weak heterogeneity,  $\geq 50\%$  moderate heterogeneity and  $\geq 75\%$  strong

heterogeneity),  $H$  is greater than 1, if the P-value of ( $Q$ ) is below 0.10 (Harrer, Cuijpers and Ebert 2021).

If significant heterogeneity between countries was observed, then a meta-regression was performed in which the effects of adherence to filial obligation on family support in each country were regressed on country-level indicators (Liefbroer and Zoutewelle-Terovan 2021). All models were estimated with STATA 17, using metan version 4.05 for meta-analyses and metareg version v2.6.1 for meta-regressions. The sample size of the meta-analysis sample corresponds to 29 countries.

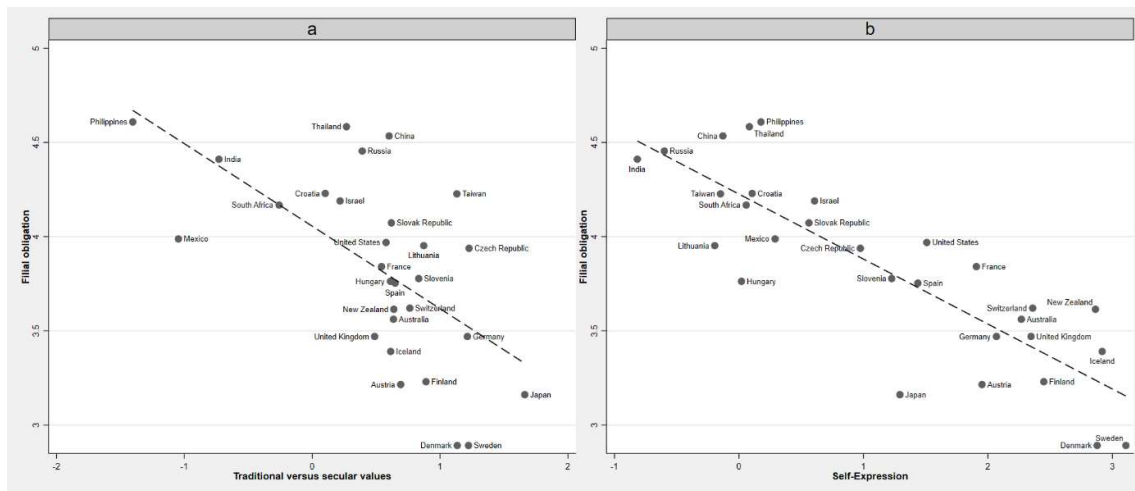
## **5. Results**

### **5.1. Cross-country differences in family support**

Figures 1a and 1b show that traditional and survival values, at the country level, are positively related to the average score for adherence to filial obligation. This average score for adherence to filial norms ranges from 2.98 in Sweden (northern Europe) to 4.61 in the Philippines (Asia), but notable differences are observed across countries within certain cultural areas. Filial obligation is strong throughout Asia, except in Japan, a country remarkably like those classically known to be more individualistic (Denmark, Finland, and Sweden) and where filial obligation is weak. Mexico (Latin America) and the United States (North America) have a similar level of filial obligation. By contrast, within the regions of Eastern and Western Europe, as well as in Oceania, differences between countries are small.



**Figure 1 : Associations between adherence to filial obligation and the cultural dimensions.**



Figures 2a and 2b show that, overall, in countries where filial obligation is stronger, most people turn first to family members for emotional support. This is the case in the Philippines and Thailand, for example, for support when feeling down or for family problems. Conversely, in countries where filial obligation is weaker, such as Denmark, Japan, and Sweden, fewer than half of individuals give priority to the family for obtaining emotional support.

Recourse to the family for emotional support varies within cultural areas, however. When feeling down (Figure 2a) most adults prefer family support in 23 countries across all cultural areas. But the proportion varies from 37% in Taiwan to almost 80% in the Philippines, even though both countries have strong family norms. Disparities in the level of recourse to the family for this problem are greatest in Asia. Moreover, the proportion of respondents who solicit a relative when feeling down varies from 45% (France) to 65% (Germany and Iceland) in Western Europe, from 47% (Czech Republic) to 70% (Russia) in Eastern Europe, and from 44% (Finland) to 51% (Sweden) in Northern Europe. Variations are small between countries in America (Mexico and USA) and Oceania (Australia and New Zealand), probably due to the small number of countries concerned.

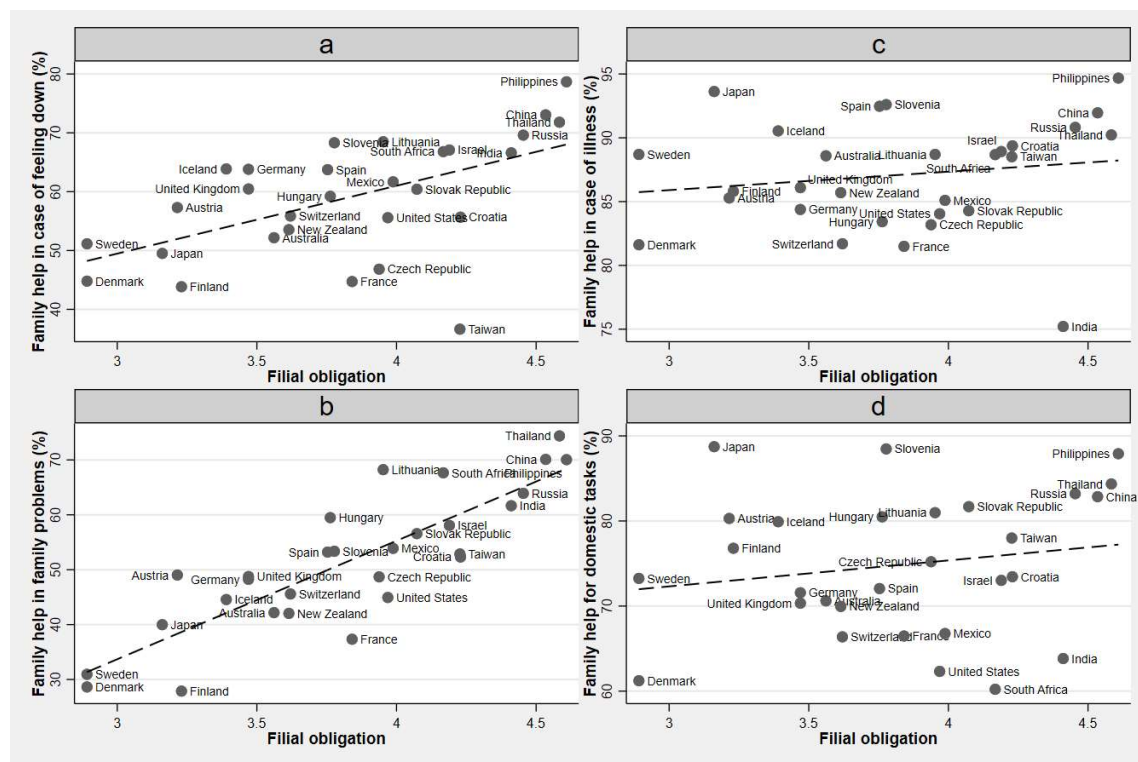
As Figure 2b shows, more than half of all people turn to a family member to resolve family problems in 15 countries belonging to all cultural areas, except for Northern Europe (Denmark, Finland, and Sweden), Western Europe (Germany, Austria, France, Great Britain, Iceland, and Switzerland) and Oceania (Australia and New Zealand). In these three regions, where a minority of people solicit the family in this situation, variations in the rate of recourse are also small. However, in other contexts (Asia and Eastern Europe), there are considerable differences in recourse to a relative in the event of family problems. As an illustration, the percentages vary from 40% (Japan) to 74% (Thailand) in Asia and from 49% (Czech Republic) to 68% (Lithuania) in Eastern Europe.

Figures 2c and 2d show that most people turn first to the family for practical support in the event of illness or for domestic help, independently of their adherence to the filial norm and the prevailing cultural values at a societal level. In case of illness (Figure 2c), most individuals in all countries turn first to their family. But here too, the rates of recourse to the family vary considerably from one context to another. In Asia, for example, reliance on the family for care when bedridden due to illness varies from 75% in India to 95% in the Philippines. For domestic work, Figure 2d shows that the family's role in providing support is predominant in all the countries studied. Family support for domestic tasks ranges from 60% in South Africa to around 89% in Japan. The largest variation between countries is observed in Asia, where it ranges from 64% in India to 89% in Japan.

In short, the variability of reliance on the family for support depends primarily on the type of need. In all countries, while the role of the family remains preponderant for practical support (care in case of bedrest due to illness and domestic work), its role for emotional support (comfort when feeling down and advice in case of family problems), is more marked only in so-called traditionalist countries. These findings support our first hypothesis.

That said, for all types of needs, substantial differences exist between countries in the same region and with comparable cultural indexes: family support is lower in India (75%) in case of illness and in South Africa (60%) for domestic tasks, compared to other traditionalist countries, while in China, the Philippines, and Thailand, for example, more than 80% of people solicit the family for these two forms of instrumental support. A more detailed analysis of the data shows that in places where family support is weak, neighbours (in India) and other people, notably domestic servants (in South Africa) play a key role in providing support.

**Figure 2: Associations between family support and adherence to filial obligation.**



Notes: (a) Association between family support when feeling down and adherence to filial obligation; (b) Association between family support in case of family problems and adherence to filial obligation; (c) Association between family support in case of illness and adherence to filial obligation; (d) Association between family support for domestic tasks and adherence to filial obligation.

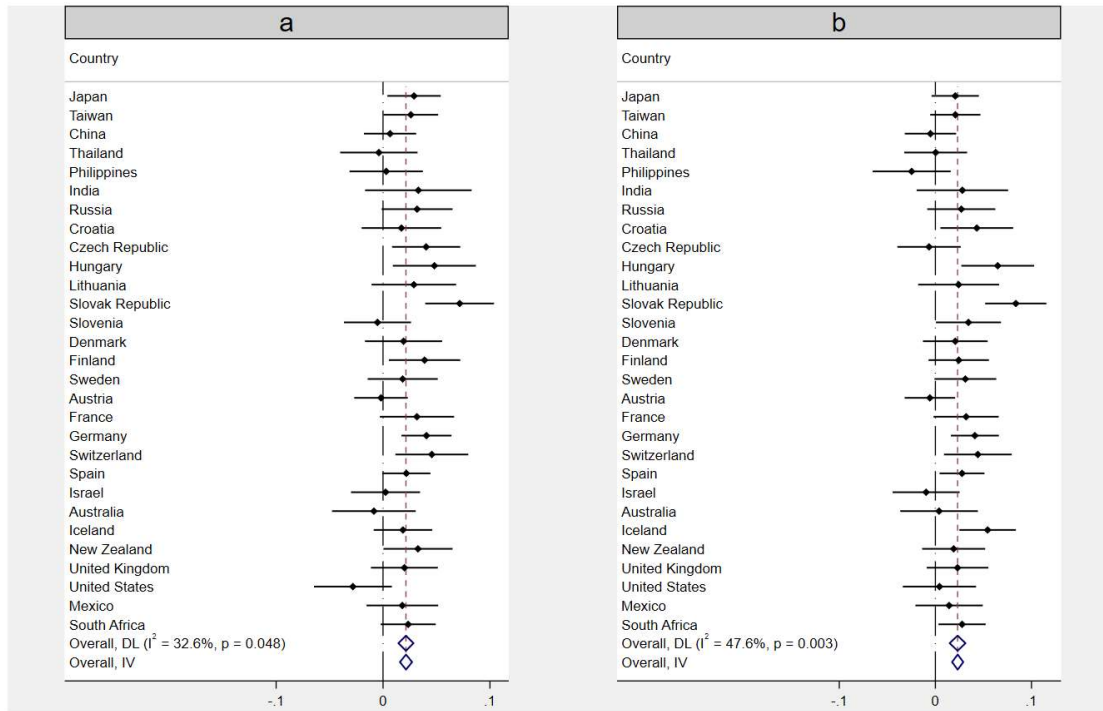
## 5.2. Effect of adherence to filial obligation on choice of family support

Figures 3a, 3b, 4a, and 4b present the results of the meta-analyses. They show the effect of adherence to filial obligation on the choice of family support by type of need at the individual level in each country. The dotted straight line (red) represents the overall effect of adherence to filial obligation on the choice of the family in the case of the need in question.

For emotional needs, the meta-analysis results are presented in Figures 3a and 3b. Figure 3a shows an overall positive effect of adherence to filial obligation on the choice of family support when feeling down ( $AME = 0.023$ ,  $P = 0.00 < 0.05$ ): The stronger the adherence to filial obligation, the higher the frequency of recourse to the family. More specifically, effects of filial obligation are observed in both the traditionalist model (Hungary, Japan, Czech Republic, and Slovakia) and the individualist model (Germany, Finland, and Switzerland). In short, whatever the cultural context, the stronger the adherence to filial obligation, the greater the priority given to family members for soliciting support when feeling down. Moreover, a moderate variation of this effect is observed between countries ( $Q = 41.55$ ;  $P = 0.04 < 0.1$ ). However, the three other indicators show that this heterogeneity is sensitive to sample variations ( $H = 1.21$  [1.00-1.53];  $I^2 = 32.6\%$  [0-57.7];  $\tau^2 = 0.0001$ ).

As shown in Figure 3b, the positive effects of adherence to filial obligation on the choice of family support in case of family problems are observed in both individualist cultures (Germany, Iceland, Switzerland) and traditionalist cultures (Croatia, Hungary, Slovakia, South Africa, and Spain). The overall positive effect of adherence to filial obligation on the choice of family support for this need is estimated at 0.023 ( $P = 0.00 < 0.05$ ). According to the meta-analysis statistics, the heterogeneity of effects between countries is moderate ( $H = 1.38$  [1.01-1.74];  $I^2 = 47.6\%$  [3.3-67.2];  $\tau^2 = 0.0003$ ;  $Q = 53.47$  with  $P = 0.003 < 0.1$ ).

**Figure 3 : Meta-analyses of the average marginal effects of filial obligation on reliance to family when needing emotional help.**



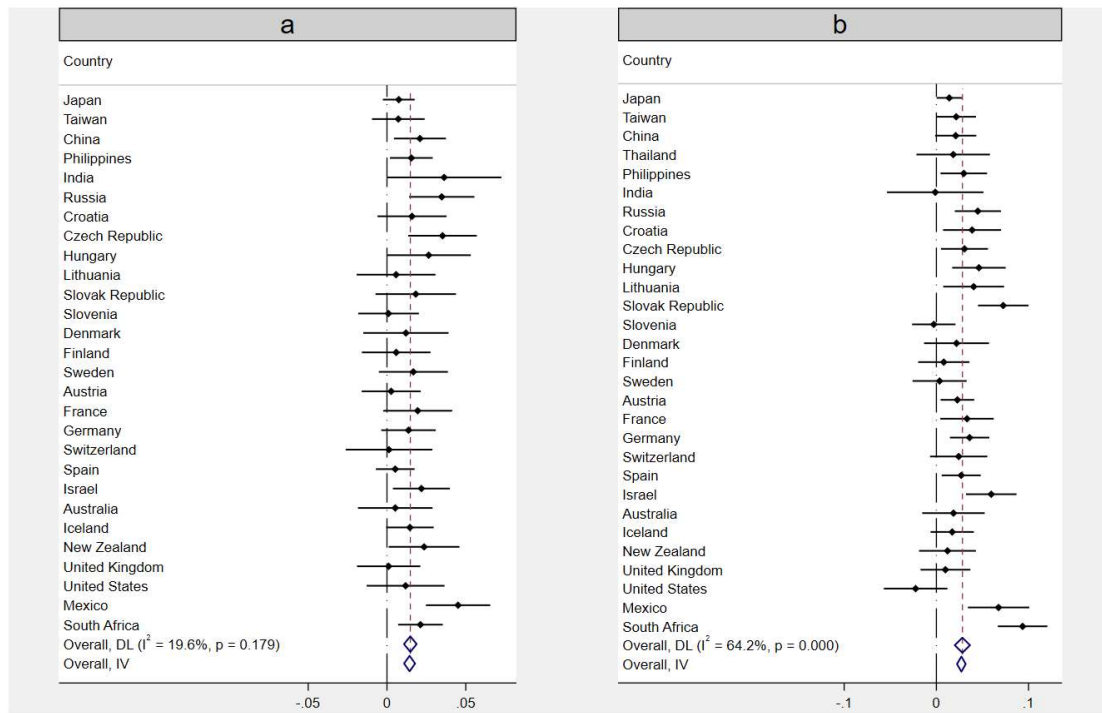
Notes: (a) Meta-analyses of the average marginal effects of filial obligation on the choice of family support when feeling down. (b) Meta-analyses of the average marginal effects of filial obligation on the choice of family support for family problems.

Figures 4a and 4b indicate the meta-analysis results for instrumental needs. Figure 4a shows an overall positive effect of adherence to filial obligation on the choice of family support in case of illness ( $AME = 0.014$ ,  $P < 0.00$ ). Adherence to filial obligation is thus associated with a high probability of turning first to the family. The effects of adherence to filial obligation on the choice of family support in case of illness are only observed in countries with a traditionalist culture: China, the Czech Republic, Israel, Mexico, the Philippines, Russia, and South Africa. We excluded Thailand because of the small sample sizes for certain categories of individual factors (place of residence). According to our heterogeneity statistics of meta-analysis ( $H = 1.11$  [1.00-1.41];  $I^2 = 19.6\%$  [0.0-49.9],  $\tau^2 = 0$ ;  $Q = 33.57$  with  $P = 0.17 > 0.10$ ), there is no difference in effects across the 28 countries.

Last, Figure 4b shows that adherence to filial obligation also has an overall positive effect ( $b=0.027$ ,  $P<0.00$ ) on the choice of the family for support with domestic tasks. The effects are observed in countries with both traditionalist cultures (e.g., South Africa, Mexico) and individualist cultures (e.g., Austria, France). In other words, whatever the cultural context, the stronger the adherence to filial obligation, the greater the priority given to family members for soliciting help with domestic tasks. Moderate heterogeneity in the effects is observed across countries ( $H=1.67$  [1.20-2.13];  $I^2=64.2\%$  [31.6-78.1];  $\tau^2=0.0003$ ;  $Q=78.29$ ;  $P=0.00<.01$ ).

Globally, the meta-analysis results show that adherence to filial obligation has a globally positive effect on recourse to family support in times of need, independently of the country's prevailing cultural values. Hypothesis 2a is thus generally confirmed. One exception is the need for support in case of bed rest due to illness (for which there is little variation, as the family is very often involved, and even more so in individualist countries), for which the effects of adherence to filial obligation on the choice of family support are only observed in countries with a traditionalist culture.

**Figure 4: Meta-analyses of the average marginal effects of filial obligation on reliance to family when needing instrumental help.**



Note: (a) Meta-analyses of the average marginal effects of filial obligation on the choice of family support in case of illness. (b) Meta-analyses of the average marginal effects of filial obligation on the choice of family support for domestic tasks.

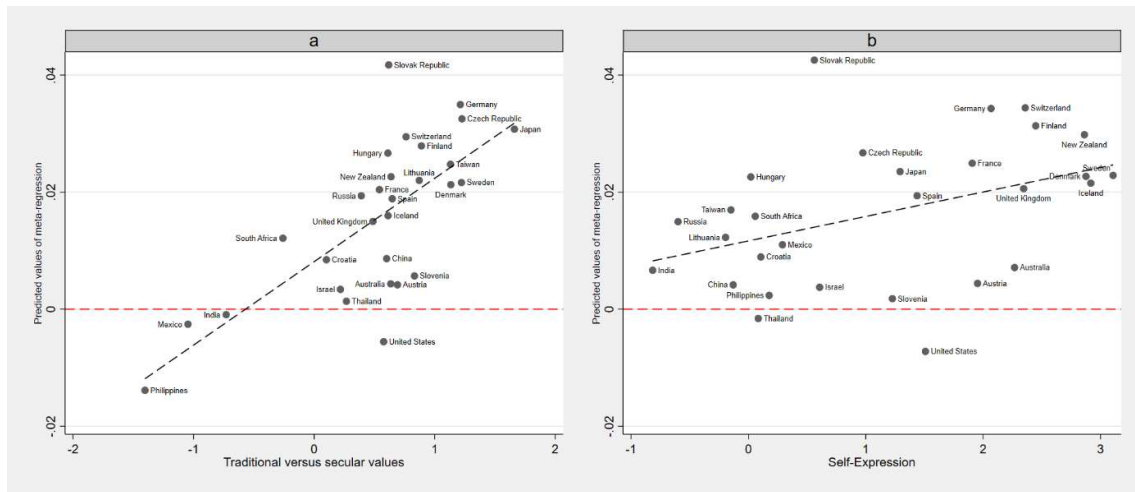
### 5.3. The moderating role of cultural context

In a final analysis stage, we ran meta-regressions (Appendix 3) to examine whether variations between countries in the effect of adherence to filial norms on the choice of family support can be explained by Inglehart and Welzel's cultural dimensions (2005). The results are only significant for the choice of family for emotional support. The moderating effects of cultural indicators are represented graphically in Figures 5a and 5b for support in case of family problems and in Figures 6a and 6b for support when feeling down.

Figure 5a shows that the traditional dimension is linked ( $b=0.0222$ ,  $P<0.00$ ) to the association between adherence to filial obligation and the choice of family support in case of family problems. The weaker the traditional values in a country, the stronger the effect of adherence

to filial obligation on the choice of family support in case of family problems. Figure 5b shows that the stronger the individualist values, the stronger the effect of adherence to filial obligation on the choice of family support ( $b=0.0110$ ;  $P<0.00$ ).

**Figure 5: Meta-regression: association between the cultural dimension and the effect of adherence to filial obligation on choice of family support in case of family problems.**

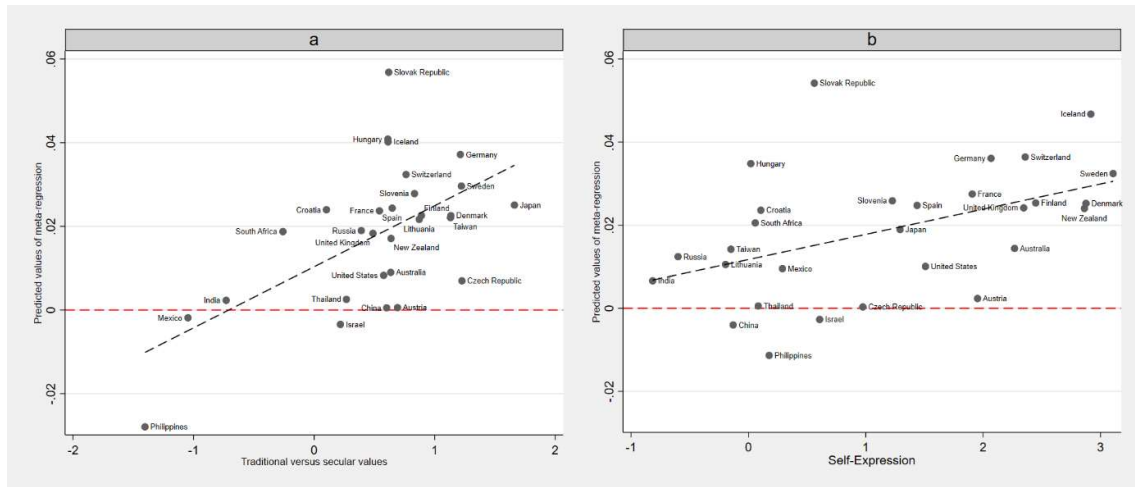


Note: (A) association between the tradition dimension and the effect of adherence to filial obligation on choice of family support; (B) association between the “self-expression” dimension and the effect of adherence to filial obligation on choice of family support.

In parallel, the meta-regressions show that cultural dimensions are positively linked to the effect of adherence to filial obligation on the choice of family support when feeling down (Figures 6a and 6b). The stronger the individualism in a country, the stronger the influence of adherence to filial obligation. We thus reject the hypothesis that the processes of individualization or modernization weaken the power of filial obligation to influence individual behaviours for emotional needs.



**Figure 6: Meta-regression: association between the cultural dimension and the effect of adherence to filial obligation on choice of family support when feeling down.**



Note: (a) association between the tradition dimension and the effect of adherence to filial obligation on choice of family support when feeling down; (b) association between the “self-expression” dimension and the effect of adherence to filial obligation on choice of family support when feeling down.

Last, the HDI influences the association between adherence to filial norms and the choice of family support in the same direction as cultural dimensions: its role is only confirmed for emotional needs. Moreover, when the HDI is introduced as a control in the models, the moderating effects of our cultural factors disappear (Appendix 4). More specifically, the HDI is a stronger determinant than the Inglehart-Welzel indices in explaining cross-country variations in the influence of adherence to filial obligation on the choice of family support. The higher the HDI in a country, the stronger the effect of adherence to filial obligation on the choice of family support for emotional needs, when feeling down, and for family problems. Our hypothesis 2b is rejected.

## 6. Discussion

Differences in family solidarity across cultures are a subject of controversy in comparative studies. Some authors point out the decrease in family solidarity with the individualization and

modernization of societies (Conkova, Fokkema and Dykstra 2018; Verbakel 2018) while others argue that family solidarity prevails even if differences exist between countries (Finsveen and Oorschot, 2008; Peterson and Ralston, 2017).

To shed light on these apparent contradictions, this study analysed variations in family solidarity between countries on two levels. Using data from ISSP 2017, we first described, at the aggregate level, the relationship between adherence to filial obligation (our proxy for the family solidarity norms) and family support across a range of everyday needs in 29 countries across all cultural regions of the world. We then studied in two stages the link at individual level between adherence to filial obligation in these countries and reliance on the family in case of need. First, we estimated the effect of filial obligation on the choice of family support for different types of needs in each country. We then applied a meta-analytical approach (Liefbroer and Zoutewelle-Terovan 2021) to investigate the moderating role of cultural values on variations in the effect of filial obligation on support practices.

We come to three important conclusions. First, while certain practices of family solidarity are specific to the prevailing norms and values of certain countries, others are universal. For emotional support (feeling down or family problems), we indeed observe that recourse to the family for support depends on prevailing norms and values. The stronger the “traditionalist” values in a country, the greater the sense of filial duty and the more frequent the recourse to family members for help with emotional needs. The opposite situation is observed in “individualist” countries. These findings corroborate conclusions on the weakening of family solidarity (Conkova, Fokkema and Dykstra 2018; Haberkern and Szydlik 2010; Verbakel 2018). These types of emotional needs can be dealt with rapidly and inexpensively (Messeri, Silverstein and Litwak 1993), and even sometimes remotely (by phone), so can readily be satisfied by friends in “individualist” countries and among people who do not adhere strongly to family solidarity norms. Our study thus partially supports the schematic vision whereby

family ties evolve as societies become more individualistic, i.e., that people in these societies have more freedom to choose support outside the family (Wellman et al 2003; Conkova, Fokkema and Dykstra 2018).

In case of illness or need for domestic help, however, individuals turn first to the family, independently of the cultural context and their personal degree of adherence to the norm of family solidarity. Needs of this kind have a high indirect cost in terms of time and energy. These results are consistent with the conclusions of previous studies, which show that the family is the main source of support for certain needs, even in “individualistic” countries (e.g., Lowenstein and Daatland 2006; Pichler and Wallace 2007). Our results suggest a need to nuance the idea of personal autonomy in the organisation of support, as theorised in the concept of networked individualism (Wellman et al., 2003). Litwak and Szelenyi (1969) have already shown that the family continues to play an important support role, and that various forms of progress, including technological advances, are changing, and facilitating family solidarity practices.

Whatever the cultural context, the family is still the main provider of practical support (care and domestic tasks), even more so in so-called individualist societies compared to certain societies reputed to be more traditionalist in this respect. For example, care needs in India or domestic needs in South Africa are satisfied outside the family network (neighbours or domestic servants). But this is not the case, as mentioned earlier, for emotional support (a shoulder to lean on when feeling down, advice for dealing with family problems). Like Dykstra and Fokkema (2011), we therefore argue that the opposition between strong and weak familialism is a simplistic vision of the diversity of family support mechanisms across different countries.

Second, we find that filial obligation is strongly associated with family support practices in all cultural contexts. The stronger the adherence to filial norms, the greater the tendency to turn

first to the family for support in case of need (feeling down, family problems, domestic tasks) except for illness in traditionalist countries because the family is omnipresent for that need there. This relation has also been found in other studies (Klaus 2012; Lin and Yi 2013; Lowenstein and Daatland, 2006; Yeh et al, 2013). These results show that adherence to family solidarity norms remains a key determinant of family support in all cultural contexts, as expected from a sociological perspective, since exchanges within the family are based on shared expectations of reciprocity (Barbalet 2020). At the same time, our study shows that these expectations, and the associated practices, vary substantially across countries within a single cultural area. The family practices perspective (Morgan 2011; Rossier et al 2023) accounts for both these regularities and diversity, highlighting how individuals and their groups are constantly adapting to their shifting local contexts.

Finally, our study shows that cultural values moderate the influence of filial obligation on the choice of family support for emotional needs but not for practical needs. Considering the structural dimension of the context measured by the HDI, the results go in the same direction. Moreover, contrary to expectation, we observe that with the spread of individualist and secular values, the filial obligation has an even stronger effect on family support for emotional needs. In other words, individuals who adhere to the filial norm in “individualist” countries, rely more strongly on the family for emotional support (feeling down or family problems) than individuals in the same situation in “traditionalist” countries. This may reflect the fact that, with the individualisation of advanced modern societies, family obligation is no longer seen as general and moderately binding prescriptions but tend to be strongly internalized by the people concerned through advice, recommendations, and persuasion (Déchaux 2011). These results provide evidence of a strengthening of the chains of interdependence as societies become more individualised, a process already highlighted by the sociologist Norbert Elias in his description of the society of individuals (1987).

We can think of two explanations for the fact that cultural values have no moderating effect on the relation between filial norms and family support in case of instrumental needs. At the individual level, recourse to instrumental family support may depend on the availability of a female close family member (Jacobson 1987) or social services. At the macro level, other dimensions, such as gender inequalities and certain social policies, may thus influence the association between adherence to filial norms and choice of family support (Mair et al. 2016).

Our study has several limitations. First, our data do not allow us to distinguish support providers by type of family relationship (parent, sibling, child, other relative) or gender. The Generations and Gender Survey captures this distinction (Dykstra et al. 2016), but it covers fewer than 20 countries, and none in Africa or Latin America, and only concerns support received (and not potential support, as here), thus restricting the number of cases that can be examined. Second, certain regions are underrepresented: the results for South Africa, Israel, and Mexico cannot be generalized to sub-Saharan Africa, the Arab countries, or Latin America, respectively. Third, filial obligation is our sole indicator of adherence to family support norms, when in fact, the family solidarity norms are multiple dimensional and multiple directional (Daatland, Herlofson and Lima 2011; Marckmann 2017). Fourth, as our analyses are based on cross-sectional survey data, the results obtained can only be interpreted in terms of the association between adherence to filial norms and the choice of family support. Fifth, the Inglehart-Welzel indices (2005) have certain shortcomings. For example, the traditional/secular dimension primarily measures values linked to religion and the security/survival dimension comprises heterogeneous items, some of which are linked to values (Haller 2002). Last, our contextual factors at the national level do not capture institutional dimensions such as the types of welfare state regimes developed by Esping-Anderson (1990). Our study focused on support practices concerning everyday needs that remain frequent, even in rich countries (Déchaux and Herpin 2006). The institutional context is more pertinent for analyses of greater needs in monetary terms, such as obtaining a

loan, finding a job, or a place to live, which can also be satisfied via the market, the state, or NGOs. Future research addressing whether inhabitants of different institutional contexts systematically differ in the way they perceive support to be available from state, market, and network sources can, therefore, further advance this field of inquiry. For example, Joye, Sapin, and Wolf (2019) conducted empirical work on this point.

Despite these limitations, our results suggest the need to avoid simplistic categorizations whereby family solidarity is “weaker” in certain societies than in others. It is the entire system of social organisation that provides the diverse types of support (family or otherwise, depending on the need) solicited by individuals. More specifically, individuals have systems of solidarity in all societies, but recourse to the family varies according to the type of need, the culture, and the practical feasibility of providing support. There is both more and less reliance on the family in “individualist” countries: more for instrumental support, but less for emotional support. Even in certain Southern countries where individualist values do not prevail, family support may nonetheless be weaker, especially when domestic workers (South Africa) or neighbours (India) can be readily solicited. Moreover, while fewer people adhere to filial obligation norms in individualised societies, the influence of these norms on recourse to the family in case of an emotional need is stronger for those who do.

## **7. Acknowledgments**

Supporting information: This paper received support from the Swiss National Centre of Competence in Research LIVES – Overcoming vulnerability: Life course perspectives, financed by the Swiss National Science Foundation (grant number: 51NF40-160590). Souleymane acknowledges support from the Federal Commission for Scholarships for Foreign

Students for the Swiss Government Excellence Scholarship (ESKAS No. 2020.0724) for the academic years 2020-2024.

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## Appendix 1: Description of individual characteristics by country

**Table 1 : Description of individual characteristics by country**

Country	Factor variables (%)				Quantitative variables (mean)							
	Male	Married	Employed	Urban	Age (years)	Education (years)	Religiosity (frequency)	Coresiding family members (number)	Family pressure	Family Conflict	Filial Obligation	Friend Norm
Australia	47.98	53.74	62.76	86.34	48.86	13.54	2.36	2.9	1.94	2.11	3.56	3.32
Austria	48.65	59.07	64.15	60.69	49.15	11.22	3.18	2.86	1.35	1.71	3.22	3.43
China	48.91	67.11	53.64	67.16	52.19	8.8	1.38	2.02	1.61	1.65	4.53	3.71
Croatia	47.27	52.45	56.14	61.6	44.91	12.36	3.94	3.04	2.03	2.19	4.23	3.96
Czech	41.46	40.76	57.05	79.66	48.86	13.09	2.01	2.19	1.98	2.1	3.94	3.32
Denmark	49.95	55.28	64.15	75.41	47.09	13.5	2.19	2.57	1.64	1.9	2.89	3.1
Finland	49.97	46.85	57.43	72.43	45.09	14.09	2.46	2.54	2.47	2.21	3.23	3.16
France	47.68	49.74	57.97	65.57	50.08	14.16	2.16	2.56	1.73	2	3.84	3.48
Germany	52.1	57.58	63.94	65.75	51.22	12.88	2.67	2.43	1.31	1.86	3.47	3.53
Hungary	46.76	41.55	65.29	71.63	48.03	12.18	2.24	2.09	1.85	1.64	3.76	3.66
Iceland	47.52	50.71	72.63	89.33	48.27	15.11	2.3	3.04	1.85	1.72	3.39	3.23
India	52.26	52.95	49.7	51.54	40.71	7.07	4.83	5.95	2.25	2.08	4.41	4.28
Israel	52.88	66.03	60.16	84.36	49.44	13.56	3.23	3.49	2.1	1.89	4.19	3.87
Japan	46.49	66.02	66.35	68.32	53.65	12.95	3.29	3.21	1.86	2.17	3.16	2.67
Lithuania	44.69	45.47	55.82	70.78	48.38	12.75	3.79	2.42	1.85	1.78	3.95	3.45
Mexico	48.6	48.82	61.88	95.93	41.08	12.18	4.18	4.53	2.22	2.47	3.99	3.49
NZ	46.91	66.48	64.68	83.46	50.86	13.76	2.47	2.95	1.85	2.03	3.61	3.32
Philippines	50	62.51	51.71	57.77	43.08	9.26	5.64	4.85	1.69	1.87	4.61	4.37
Russia	45.1	55.97	58.39	74.53	46.15	12.61	2.86	2.79	1.74	2.24	4.45	3.47
Slovakia	48.28	45.07	56.24	55.8	45.42	13.25	4.03	2.92	2.58	2.58	4.07	3.61
Slovenia	48.62	69.59	55.31	46.12	50.8	12.73	3.16	3.03	1.51	1.91	3.78	3.89
ZA	48.34	37.85	28.84	68.71	37.56	10.71	5.16	4.86	1.94	1.99	4.17	4.02
Spain	49.61	59.19	55.32	56.22	49.87	12.09	2.84	2.98	1.5	1.86	3.75	3.87
Sweden	44.89	57.3	59.23	70.29	53.27	13.32	2.12	2.45	1.67	1.91	2.89	3.14
Switzerland	51.22	57.45	65.35	44.36	49.12	13.78	2.77	2.75	1.43	1.76	3.62	3.67
Taiwan	49.31	57.04	69.47	78.3	47.08	12.4	2.53	4.08	1.83	1.77	4.23	3.43
Thailand	43.94	59.8	43.43	10.73	47.48	8.3	5.11	4.32	1.67	2.03	4.58	4
UK	47.01	52.06	55.13	78.78	49.07	13.42	2.17	2.59	1.84	2	3.47	3.23
USA	48.7	47.99	63.03	89.68	46.38	13.92	3.81	2.73	1.84	1.95	3.97	3.64

**Appendix 2 : contextual factors statistics****Table 1 : contextual factors statistics**

Country	Self expression values	Traditional values	HDI
Austria	1.95	0.69	0.92
Australia	2.27	0.64	0.94
Switzerland	2.36	0.76	0.95
China	-0.13	0.60	0.75
Czech Republic	0.97	1.23	0.90
Germany	2.07	1.21	0.94
Denmark	2.88	1.13	0.94
Spain	1.44	0.65	0.90
Finland	2.45	0.89	0.94
France	1.91	0.54	0.90
United Kingdom	2.35	0.49	0.93
Croatia	0.11	0.10	0.85
Hungary	0.02	0.61	0.85
Israel	0.61	0.22	0.91
India	-0.82	-0.73	0.64
Iceland	2.92	0.61	0.94
Japan	1.29	1.66	0.92
Lithuania	-0.19	0.87	0.87
Mexico	0.29	-1.05	0.77
New Zealand	2.86	0.64	0.93
Philippines	0.18	-1.40	0.71
Russia	-0.60	0.39	0.82
Sweden	3.11	1.22	0.94
Slovenia	1.23	0.83	0.91
Slovak Republic	0.56	0.62	0.86
Thailand	0.08	0.27	0.77
Taiwan	-0.15	1.13	0.91
United States	1.51	0.58	0.92
South Africa	0.06	-0.26	0.71



**Appendix 3: tables of net odds ratios for each type of support and by country**

**Table 2: Adjusted odd ratio of filial obligation effects on choosing source of support for instrumental help: reference source of support is family.**

Country	Domestic help							Illness						
	N	Friend			Other			N	Friend			Other		
		ORA	CI 95%	P value	ORA	CI 95%	P value		ORA	CI 95%	P value	ORA	CI 95%	P value
Australia	1013	0.90	[0.70;1.16]	(0.4151)	0.90	[0.73;1.12]	(0.3498)	999	0.96	[0.68;1.36]	(0.8208)	0.80	[0.52;1.22]	(0.2941)
Austria	1092	0.82	[0.70;0.96]	(0.0139)	0.90	[0.75;1.09]	(0.2831)	1099	1.00	[0.82;1.21]	(0.9801)	0.94	[0.72;1.23]	(0.6427)
China	4037	0.78	[0.62;0.99]	(0.0440)	0.92	[0.74;1.13]	(0.4035)	4102	0.59	[0.44;0.80]	(0.0005)	0.92	[0.65;1.30]	(0.6349)
Croatia	971	0.81	[0.66;1.00]	(0.0465)	0.81	[0.63;1.04]	(0.1000)	974	0.78	[0.59;1.02]	(0.0738)	0.98	[0.61;1.58]	(0.9456)
Czech Republic	1281	0.87	[0.73;1.04]	(0.1154)	0.79	[0.63;0.99]	(0.0421)	1296	0.72	[0.58;0.89]	(0.0020)	0.80	[0.61;1.05]	(0.1069)
Denmark	865	0.95	[0.79;1.15]	(0.6281)	0.86	[0.70;1.06]	(0.1625)	866	0.86	[0.68;1.09]	(0.2118)	1.02	[0.75;1.38]	(0.9201)
Finland	905	1.07	[0.85;1.35]	(0.5778)	0.85	[0.68;1.06]	(0.1431)	893	0.94	[0.73;1.20]	(0.6153)	0.96	[0.68;1.35]	(0.8245)
France	1152	0.91	[0.74;1.11]	(0.3534)	0.79	[0.66;0.94]	(0.0067)	1150	0.87	[0.69;1.10]	(0.2341)	0.85	[0.68;1.06]	(0.1552)
Germany	1466	0.83	[0.73;0.95]	(0.0066)	0.81	[0.69;0.96]	(0.0171)	1458	0.85	[0.73;1.01]	(0.0595)	1.00	[0.78;1.28]	(0.9917)
Hungary	822	0.76	[0.59;0.97]	(0.0283)	0.66	[0.45;0.95]	(0.0252)	851	0.84	[0.66;1.07]	(0.1617)	0.74	[0.50;1.10]	(0.1364)
Iceland	992	0.92	[0.75;1.13]	(0.4406)	0.86	[0.69;1.07]	(0.1840)	992	0.79	[0.61;1.03]	(0.0845)	0.87	[0.66;1.15]	(0.3356)
India	1188	0.64	[0.46;0.89]	(0.0078)	1.24	[0.92;1.67]	(0.1629)	1201	0.88	[0.65;1.19]	(0.4016)	0.59	[0.41;0.85]	(0.0051)
Israel	1051	0.66	[0.53;0.81]	(0.0001)	0.77	[0.63;0.94]	(0.0095)	1099	0.65	[0.52;0.81]	(0.0001)	1.00	[0.72;1.37]	(0.9789)
Japan	1097	0.91	[0.70;1.18]	(0.4830)	0.82	[0.67;1.00]	(0.0482)	1107	0.93	[0.65;1.34]	(0.7150)	0.79	[0.59;1.06]	(0.1144)
Lithuania	915	0.82	[0.60;1.11]	(0.2036)	0.67	[0.48;0.95]	(0.0234)	925	0.79	[0.53;1.17]	(0.2451)	1.10	[0.72;1.70]	(0.6515)
Mexico	837	0.70	[0.58;0.86]	(0.0005)	0.74	[0.60;0.92]	(0.0067)	856	0.66	[0.53;0.83]	(0.0003)	0.67	[0.50;0.90]	(0.0076)
New Zealand	1100	1.07	[0.88;1.30]	(0.5059)	0.79	[0.64;0.98]	(0.0306)	1089	0.88	[0.71;1.10]	(0.2767)	0.59	[0.41;0.84]	(0.0031)
Philippines	1138	0.81	[0.59;1.11]	(0.1883)	0.70	[0.50;0.96]	(0.0294)	1149	0.57	[0.42;0.78]	(0.0004)	0.86	[0.58;1.28]	(0.4535)
Russia	1328	0.72	[0.57;0.90]	(0.0047)	0.68	[0.49;0.95]	(0.0252)	1368	0.56	[0.41;0.76]	(0.0002)	0.76	[0.46;1.27]	(0.2944)
Slovak Republic	1371	0.61	[0.48;0.78]	(0.0001)	0.56	[0.40;0.78]	(0.0006)	1375	0.93	[0.73;1.19]	(0.5872)	0.72	[0.54;0.95]	(0.0200)
Slovenia	982	1.01	[0.71;1.42]	(0.9760)	1.06	[0.75;1.50]	(0.7373)	991	1.06	[0.69;1.62]	(0.7894)	0.90	[0.59;1.38]	(0.6215)
South Africa	2430	0.69	[0.59;0.82]	(0.0000)	0.64	[0.55;0.74]	(0.0000)	2669	0.88	[0.71;1.10]	(0.2589)	0.70	[0.59;0.83]	(0.0001)
Spain	1575	0.92	[0.80;1.06]	(0.2337)	0.80	[0.69;0.93]	(0.0031)	1584	0.94	[0.70;1.26]	(0.6773)	0.90	[0.69;1.17]	(0.4308)
Sweden	978	0.89	[0.71;1.12]	(0.3167)	1.06	[0.86;1.31]	(0.5720)	973	0.70	[0.50;0.98]	(0.0366)	1.00	[0.64;1.57]	(0.9969)
Switzerland	998	0.95	[0.79;1.15]	(0.6227)	0.83	[0.67;1.02]	(0.0694)	1006	0.95	[0.73;1.24]	(0.7245)	1.03	[0.78;1.35]	(0.8516)
Taiwan	1777	0.89	[0.76;1.04]	(0.1441)	0.86	[0.71;1.05]	(0.1347)	1824	1.01	[0.80;1.27]	(0.9473)	0.82	[0.64;1.04]	(0.0961)
Thailand	1110	2.57	[0.87;7.62]	(0.0882)	0.52	[0.41;0.65]	(0.0000)	1115	0.52	[0.32;0.86]	(0.0108)	0.37	[0.27;0.49]	(0.0000)
United Kingdom	1374	0.95	[0.80;1.14]	(0.5943)	0.95	[0.79;1.13]	(0.5567)	1370	0.98	[0.79;1.22]	(0.8611)	1.02	[0.74;1.39]	(0.9219)
United States	1113	1.06	[0.88;1.27]	(0.5434)	1.19	[0.95;1.50]	(0.1298)	1117	0.88	[0.72;1.09]	(0.2454)	1.01	[0.69;1.50]	(0.9480)

**Table 3: Adjusted odd ratio of filial obligation effects on choosing source of support for emotional help: reference source of support is family.**

Country	Depression							Family problems						
	N	Friend			Other			N	Friend			Other		
		ORA	CI 95%	P value	ORA	CI 95%	P value		ORA	CI 95%	P value	ORA	CI 95%	P value
Australia	990	1.06	[0.89;1.27]	(0.5108)	0.85	[0.58;1.26]	(0.4188)	958	0.99	[0.82;1.19]	(0.9309)	0.93	[0.70;1.22]	(0.5910)
Austria	1080	1.01	[0.90;1.14]	(0.8259)	0.98	[0.77;1.24]	(0.8620)	1073	1.02	[0.91;1.15]	(0.7052)	1.04	[0.81;1.33]	(0.7647)
China	4015	1.00	[0.86;1.17]	(0.9812)	0.81	[0.58;1.12]	(0.2009)	4010	1.09	[0.93;1.27]	(0.2754)	0.85	[0.64;1.11]	(0.2307)
Croatia	955	0.94	[0.79;1.11]	(0.4797)	0.85	[0.61;1.18]	(0.3293)	952	0.86	[0.73;1.02]	(0.0904)	0.68	[0.51;0.91]	(0.0093)
Czech Republic	1268	0.86	[0.74;1.00]	(0.0469)	0.72	[0.56;0.93]	(0.0105)	1255	1.09	[0.94;1.26]	(0.2604)	0.80	[0.63;1.01]	(0.0596)
Denmark	868	0.96	[0.82;1.12]	(0.6289)	0.65	[0.46;0.93]	(0.0191)	858	0.93	[0.78;1.12]	(0.4566)	0.74	[0.56;0.97]	(0.0287)
Finland	879	0.86	[0.73;1.01]	(0.0726)	0.80	[0.65;0.97]	(0.0269)	840	0.89	[0.74;1.07]	(0.2239)	0.87	[0.72;1.04]	(0.1251)
France	1100	0.90	[0.77;1.05]	(0.1901)	0.75	[0.58;0.97]	(0.0269)	1084	0.90	[0.76;1.06]	(0.2173)	0.75	[0.61;0.92]	(0.0061)
Germany	1444	0.81	[0.72;0.92]	(0.0007)	0.89	[0.67;1.17]	(0.4071)	1440	0.84	[0.75;0.94]	(0.0035)	0.78	[0.60;1.00]	(0.0516)
Hungary	853	0.81	[0.68;0.97]	(0.0254)	0.78	[0.54;1.13]	(0.1912)	841	0.75	[0.63;0.90]	(0.0019)	0.73	[0.50;1.07]	(0.1035)
Iceland	976	0.88	[0.77;1.01]	(0.0689)	1.24	[0.99;1.55]	(0.0630)	963	0.81	[0.71;0.93]	(0.0030)	0.72	[0.59;0.88]	(0.0011)
India	1202	1.13	[0.80;1.59]	(0.4828)	0.51	[0.36;0.73]	(0.0002)	1200	0.94	[0.72;1.23]	(0.6524)	0.78	[0.59;1.03]	(0.0761)
Israel	1089	1.01	[0.85;1.20]	(0.8722)	0.87	[0.68;1.12]	(0.2764)	1080	1.12	[0.95;1.32]	(0.1938)	0.79	[0.61;1.03]	(0.0827)
Japan	1086	0.92	[0.82;1.03]	(0.1645)	0.74	[0.62;0.88]	(0.0008)	1068	0.95	[0.84;1.07]	(0.3635)	0.83	[0.71;0.97]	(0.0207)
Lithuania	915	0.85	[0.69;1.04]	(0.1130)	0.94	[0.57;1.55]	(0.8069)	874	0.86	[0.69;1.08]	(0.2042)	0.96	[0.64;1.44]	(0.8499)
Mexico	829	0.97	[0.83;1.14]	(0.7254)	0.74	[0.56;0.97]	(0.0267)	827	0.99	[0.84;1.16]	(0.8817)	0.78	[0.62;0.98]	(0.0349)
New Zealand	1074	0.88	[0.76;1.02]	(0.0880)	0.74	[0.52;1.07]	(0.1098)	1066	0.94	[0.81;1.10]	(0.4316)	0.82	[0.64;1.03]	(0.0934)
Philippines	1146	1.05	[0.81;1.36]	(0.7335)	0.81	[0.58;1.14]	(0.2312)	1146	1.20	[0.96;1.51]	(0.1169)	0.93	[0.67;1.29]	(0.6441)
Russia	1319	0.88	[0.74;1.06]	(0.1728)	0.66	[0.45;0.95]	(0.0251)	1247	0.90	[0.75;1.08]	(0.2696)	0.79	[0.56;1.10]	(0.1609)
Slovak Republic	1368	0.74	[0.63;0.87]	(0.0003)	0.69	[0.55;0.86]	(0.0013)	1364	0.71	[0.61;0.83]	(0.0000)	0.63	[0.50;0.80]	(0.0002)
Slovenia	963	1.06	[0.89;1.27]	(0.5288)	0.87	[0.60;1.26]	(0.4700)	935	0.87	[0.74;1.02]	(0.0757)	0.82	[0.61;1.10]	(0.1795)
South Africa	2657	0.92	[0.81;1.05]	(0.2100)	0.74	[0.61;0.91]	(0.0038)	2661	0.90	[0.79;1.02]	(0.1119)	0.79	[0.65;0.95]	(0.0139)
Spain	1559	0.90	[0.81;1.01]	(0.0802)	0.86	[0.64;1.15]	(0.3137)	1538	0.88	[0.78;0.98]	(0.0186)	0.92	[0.74;1.14]	(0.4348)
Sweden	946	0.91	[0.78;1.07]	(0.2578)	0.95	[0.76;1.18]	(0.6286)	954	0.88	[0.74;1.04]	(0.1251)	0.83	[0.67;1.01]	(0.0632)
Switzerland	981	0.83	[0.70;0.97]	(0.0178)	0.76	[0.55;1.05]	(0.0998)	976	0.82	[0.70;0.96]	(0.0125)	0.88	[0.68;1.14]	(0.3170)
Taiwan	1656	0.88	[0.78;1.00]	(0.0443)	0.93	[0.69;1.25]	(0.6135)	1670	0.90	[0.80;1.01]	(0.0854)	1.00	[0.77;1.28]	(0.9819)
Thailand	1098	1.10	[0.86;1.41]	(0.4464)	0.92	[0.71;1.20]	(0.5450)	1094	1.04	[0.81;1.34]	(0.7340)	0.95	[0.73;1.22]	(0.6697)
United Kingdom	1351	0.91	[0.79;1.05]	(0.1845)	0.99	[0.74;1.32]	(0.9306)	1346	0.93	[0.81;1.07]	(0.3056)	0.77	[0.59;1.01]	(0.0549)
United States	1107	1.13	[0.96;1.34]	(0.1422)	1.12	[0.83;1.51]	(0.4491)	1065	0.98	[0.83;1.15]	(0.7777)	1.03	[0.77;1.37]	(0.8673)

**Appendix 4: meta-regression results**

**Table 4: moderating role of contextual factors on the relationship between filial norm and choosing family support in case of depression.**

	M1	M2	M3	M4	M5
Traditional vs. Secular Values	0.0202			0.00543	
	[0.00972,0.0307]			[-0.00697,0.0178]	
Survival vs. Self-Expression		0.00914			-0.00154
		[0.00335,0.0149]			[-0.00872,0.00564]
HDI			0.0245	0.0207	0.0267
			[0.0160,0.0330]	[0.00843,0.0329]	[0.0132,0.0403]
I2	0.510	0.576	0.320	0.322	0.341

95% confidence intervals in brackets

**Table 5: moderating role of contextual factors on the relationship between filial norm and choosing family support in case of family problems.**

	M1	M2	M3	M4	M5
Traditional vs. Secular Values	0.0222			0.00528	
	[0.0103,0.0340]			[-0.00924,0.0198]	
Survival vs. Self-Expression		0.0110			0.000941
		[0.00488,0.0172]			[-0.00724,0.00912]
HDI			0.0267	0.0230	0.0253
			[0.0169,0.0365]	[0.00880,0.0372]	[0.00977,0.0409]
I2	0.615	0.614	0.461	0.474	0.478

95% confidence intervals in brackets

**Table 6 : moderating role of contextual factors on the relationship between filial norm and choosing family support for domestic help.**

	M1	M2	M3
Traditional vs. Secular Values	0.0138		
	[-0.00197,0.0295]		
Survival vs. Self-Expression		0.00780	
		[-0.000255,0.0159]	
HDI			0.0311
			[0.0203,0.0418]
I2	0.838	0.835	0.676

95% confidence intervals in brackets