



LUND UNIVERSITY  
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*Master in Economic Development and Growth*

## **The diversity of characteristics in strong and weak family ties and its implication in the differences in the time people spend in childcare activities.**

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### **Abstract**

In general, what affects the time allocation of people is well researched area. But when we think about the time engaged in childcare activities in terms of the differences between strong and weak family ties nations, we come across to less researched field that need more analysis. Using the Multinational Time Use Surveys information for Germany, United Kingdom, Italy and Spain for years between 2000 and 2002, the aim of this study is to examine if there are differences between what influence the families in the strong and in the weak ties countries when it comes to allocating time to children. The results suggest that there are variations between the two groups in terms of time, gender equality, demographic and social economic characteristics of the people. While those differences affect the family relations, they also have implications on the economic policies and situation of the country.

*Key words: Time allocation, childcare, strong and weak family ties, Germany, United Kingdom, Italy, Spain*

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## 1. Introduction

*“The strength of a nation derives from the integrity of the home.”– Confucius*

The family is quite complex unit and differs significantly among the countries. It is always a topic of interest for researchers. Moreover, it is in the center of the nation’s development. Reher stresses that the specifics of the relationships between the family members influence the direction of the function of the society. Public planners and politicians should consider the nature of those patterns when they design social policies (Reher 1998). Not only that, but they also influence the process of nuptiality, fertility and mortality among the population, which on the other hand affect the relations among the members in the house and the allocation of time between them. Since we could see how complex system this is, it is important to be aware of the development of the family ties, which could also be used as a basic for future prediction.

As Reher comments, there are regions where the family unit has a priority over the individual traditionally, and there are others where the individual’s attitude prevails over everything else. The author continues that the European households were characterized for centuries with these diversities and today there are actually some indications toward convergence. He divides the family system to two types-strong and weak ones. The first could be observed in the Central and North Europe and the second in the Mediterranean regions (Reher 1998). When we talk about family relations here, we are going to focus on the ones between parents and children. It is important to observe the time they spend together and what has influence on it, in order to understand the values and views of the households and consequently of the nation. The development of this connection has economic and social implications on the country and its policies.

Many authors conduct researches to examine the relation between parent and spouse and what has an effect on the time they spend together (Gauthier et al. 2004). There are also other that are focused on explaining the variations between the demographic and socio economic differences among the nations (Ruggles 2009; Micheli 2012). Being both interested in the theory for the division of families into strong and weak and the time spend in childcare, I noticed that

there is no research for combination of both. To my knowledge that kind of a study was not conducted, so I decided to investigate this merger myself.

In order to do that I used data from the Multinational Time Use Studies for four countries. They were not randomly chosen, but as a common representatives of the two groups in Reher's theory. For better quality of the cross-sectional analysis, was used information for the same or as close as possible years. This gave better comparison of the results since the participants were influenced more or less by the same global trends. At the end, was analyzed data for Germany in 2001 and United Kingdom in 2000 as cases of weak family ties, and on the other hand were Italy in 2002 and Spain in 2002 as examples of strong family ties.

The aim of this thesis is to observe the differences in the time people spend in childcare activities when the countries are divided according to Reher's family theory. Using various surveys, datasets and programs, the goal is to detect if there is a pattern of specific behavior among the demographic and socio economic characteristics of the parents toward their spouses, when we divide the families to strong and weak ones. And last but not in importance, the research wants to observe the differences between the gender ratios in the countries for the time men and women engage in childcare activities. I agree with Reher that it is important to distinguish the various natures and attitudes among the regions, especially when designing and implementing social policies among the nations. And this is why answers from that kind of studies could be vital.

### **1.1. Outline of the thesis**

The next parts of the thesis are organized as a way to clarify the observed problem and to explain the path of reaching the set of goals earlier. The literature review gives a detailed description for the development of the family relationships from before the First Demographic Transition to nowadays. It also tries to track the roots of the theory for the strong and weak family ties and suggests a comprehensive analysis for the different characteristics between them. The literature review reports and some of the findings of other researchers on the topic of the time distribution to childcare and its implications. Based on the presented information, three hypotheses are formulated which later will be discussed. The countries profiles part adds knowledge for various measurements for the four countries under observation in terms of their education profiles, employment statistics and family orientation views. This gives awareness for

the diversity between them and better understanding of the results later. The data and method parts contributed to the thesis with describing the used model for proving the validity of the hypotheses. They also stress on the specifics of the used information and explain in details the variables chosen for the regression analysis. The results part analyzes the outcomes of the conducted research. Based on the discussion in it, the hypotheses are confirmed or rejected. The final part summarizes everything that has been done and gives light to the limitations and possible future research on the topic. It contains concluding remarks and thoughts.

## **2. Literature review**

The relationships in the families changed over time and this contributed to the more variety of the world. For most of the people today it would be hard to imagine that life was not like this not so long ago and to try to understand the believes and values of their ancestors. But no matter the changes, the links in the family determine the strength of the nation. They also influence the nuptiality, fertility and mortality processes in many ways. The relations among the family members are quite complex and are influenced from various effects. If people knew they are going to live until 35, they will probably not spend their time with their close ones in the same way as they do it today. If people are getting married later, working more or do not engage in the household activities so much, this could influence the number of the children they have and the quality of their relations. All of these together portrait the specifics of a nation and determine their policies. The focus of this thesis is to examine the differences between what influence the time people spend with their children in terms of the theory for strong and weak families. But to be able to comprehend those effects, first we need to explain the development of the relations in the household and how they evolved. We need to see how the gender roles changed overtime and how this influenced the parent-spouse connection. We also need to be aware of the differences between the strong and weak families, so we can understand the results from the analysis. In order to conduct this research, we need to be aware of the theory and the previous studies on the topic, so we can observe the importance of this information. And this is the aim of the next paragraphs.

### **2.1. Pre-transitional period**

For the demographers the family unit was constant for a long time when everything changed with the First Demographic Transition (FDT) and its fertility decline in France and

United States in the years of the beginning of the 19<sup>th</sup> century (Coale & Treadway 1986; Sanderson 1987). For understanding the pre-transitional period, it is usually used the Malthusian model. According to Clark, the model describes a system of conditions that explain the long-run stability in the population during those times. The author continues that it contains three basic assumptions: "...1. Each society has a birth rate, determined by customs regulating fertility, but increasing with material living standards. 2. The death rate in each society declines as living standards increase. 3. Material living standards decline as population increases." (Clark 2007 p.20). The pre-transitional period, also called the "Malthusian" economy, is characterized with high fertility and small growth in income per capita (Guinnane 2011). This view is also shaped by two comprehensive analyses from Knodel on German villages and from Wilson on England. Both authors report that the attitude toward limitation of the families existed in Europe but it was not very significant when it comes to patterns of marital fertility (Knodel 1978; Wilson 1984). Cleland and Wilson made a research on those "traditional" societies and report their findings about the relationships in the families. The authors comment that usually the children were seen as a labor force from an early age, which was beneficial for their parents. Moreover, they were support in old age, insurance for environmental risks, and security and political influence of the family. As a consequence from this, large numbers of them are either wanted or fertility control was not seen as quite beneficial. Cleland and Wilson continue that with the modernizations those views for the families were changed. The concept of having many children was eroded directly or with alternatives as advantages from education, new forms of insurance and investment, and the increased role of institutions with political functions (Cleland & Wilson 1987). So the transition was inevitable. When we talk about fertility and parent-spouse link, we should also acknowledge Becker's model. The idea behind it is to explore the demand for children through consumer choice for better understanding of the nature of the transition. Simply explained, the model contains household utility function  $U = U(n, Z)$ , where  $n$  represents the number of children and  $Z$  is a vector from all commodities. If there is a rise in the costs of children, this triggers substitution from children towards other commodities ( $Z$ ). The interest in the model of Becker puts focus on the trade-off between quantity and quality of the children or the "Q-Q" model. The "Q-Q" represents a household utility function  $U(n, q, Z)$  with  $q$  displaying the quality of the different children. Becker makes distinguish between three types of child costs. The first are connected directly with the number of children like costs during the pregnancy and delivery.

The second depends on the child's quality but not number like household goods. The last one reflects the development of the child (Becker 1981).

## **2.2. Theories for the decline of the fertility**

Now we continue with the theories and explanations behind the fertility decline in order to see what influenced the family relations in the past. The number of children has a direct impact on the quality of the connection between parent and spouse and on the time they spend together. Moreover, some of the changes that occurred during this period were crucial for the transformation of the gender roles in the family. Guinnane tries to examine them and give evidence in their support or not. He group them in six headings (Guinnane 2011).

**I. The role of declining mortality.** Notestein debates that in societies with high mortality, the couples will have more children so they can ensure their desirable family size. So when this precondition changes, there is no need of so many children. In the developing countries, after the World War II, the public health interferences reduced the child and infant mortality and in some places consequently the fertility declined too (Notestein 1945). During the 19<sup>th</sup> century, most of the European countries felt a reduction in mortality. The reasons behind this decline are debatable, but scholars like McKeown and Fogel see a potential in the combination of improvements in health and food supplies (Fogel 2004; McKeown 1976). Guinnane admits the relevance of the Notestein's argument, but argues that does not fit the time of the events and only partially explains the results. He supports his claim with evidence from Haines, who reports that the total fertility rates were decreasing from the early years of the 19<sup>th</sup> century, while sustained decline in the infant and child mortality rates was not observed until the 1890s (Haines 2000).

**II. Innovation in contraception.** Evidence form researches of scholars like McLaren and Woycke, report that before the second half of the 19<sup>th</sup> century, the families understood fertility control as a restraining from sexual contacts and withdrawal (Woycke 1988; McLaren 1978). Guinnane notes that the beginning of the modern contraception relied on advances in medicine and the invention of vulcanized rubber, and appeared in the second half of 19<sup>th</sup> century. In the end, the author reports three useful surveys in support of his claim- Brown, German survey from the early 20<sup>th</sup> century (Brown 2009); David and Sanderson, American survey for women born in the 1850s and 1860s (David & Sanderson 1986); and Jütte, French survey from the 1890s (Jütte 2003). Based on their evidence, it is concluded that the restriction of sexual contact and

withdraw were the main approaches used from couples in the 19<sup>th</sup> and in the beginning of the 20<sup>th</sup> century. In conclusion, it is unlikely that the invention of modern methods had a significant role in the fertility transition.

**III. Growth in the direct costs of child.** If we go back to the Q-Q model, an increase in the first type of costs will lead to substitution toward other commodities or children's quality. So the observed from Guinnane statement is that the fertility declines due to rise in the costs of children and the change in the attitude of the couple to smaller family sizes. According to the author, the problem with this theory is that over the observed period the costs did not change in a way to support it. Guinnane reports that during the transitional time the prices of clothing had declined due to the technological advances of the Industrial revolution, the food prices were changing but overall also decreased. The direct costs that did increase were the one connected to urbanization. The author supports this statement with the researches of scholars like Knodel and Haines, who found that the fertility in the cities were lower than the one in the villages, despite not being able to determine exactly the reasons behind this process (Knodel 1974; Haines 1989). Another variation in the costs is the child labor. In the traditional societies the children managed to offset some of the direct expenditure through working in farms or in the labor market. This changed with the innovations in the industrialization that did not require so much physical work and with different regulations that the countries implemented in their policies. Theoretically the restriction of labor could be seen as an incentive to smaller families. But Guinnane reminds that they also had limitations in fields of agricultural work or household help (Guinnane 2011).

**IV. Rise in the opportunity costs of having a child.** There are different views on how, but undeniably the industrialization changed the role of women in the labor force. Goldin and Sokoloff report 20-30 percent of the labor force in the textile factories in New England in 1820 to be women and this number doubled in 1832 (Goldin & Sokoloff 1982). Saxonhouse and Wright estimated a 57.6 percent of female labor force in the cotton industry in the American South (Saxonhouse & Wright 1984). On the other hand, this could be seen as a trade-off, since the offered paid work could not be combined with child caring. Saxonhouse and Wright note that some industries refused to employ married women, which was an incentive for delaying marriage (Saxonhouse & Wright 1984). Guinnane describes different researches that present evidence for the connection between women employment and fertility. Based on data from

England and Wales, Crafts finds a negative correlation from -0.13 to -0.34 between women's employment opportunities and fertility in the family (Crafts 1989). Schultz acquires different approach and managed to explain quarter of the decline in the fertility in Sweden with the ratio between women's to men's salaries (Schultz 1985). Wanamaker comments that the earnings of women can affect and depress fertility in all stages of life not only through delayed marriages (Wanamaker 2010).

**V. Revision in the returns and costs of child quality.** Another idea Guinnane discusses is if the fertility declines as a response to higher quality of children. The author mentions that there are two aspects to look at this - education and returns. He comments that literacy differs across countries, but making primary education compulsory and universal is an individual decision. Nipperdey discusses the case of Prussia in 1816 as one of the first that made the attendance of school for children between five and thirteen years obligatory (Nipperdey 1994). Bruland reviews that compulsory education came some time later in France (1882), Germany (1872) and England and Wales (1893) (Bruland 2003). Mitch reports that around the time of 1860 the illiteracy rates among men were between 30-35 in France, USA, England and that the rates were higher for the women (Mitch 2004). Due to lack of information for the observed time it is hard to determine the returns from education like we are doing it today. Goldin and Katz managed to work with one of a kind Iowa census of 1915 and estimated a return of 10-12 percent per additional year of schooling for men (Goldin & Katz 2000). Guinnane ends the discussion on this idea that if we want to examine the connection between child's education and parental fertility, a lot of data problems will emerge and different interpretations are possible (Guinnane 2011).

**VI. Insurance and support at old age.** The last idea that Guinnane looks at is the view for the children as an insurance. In the traditional societies parents were investing in their children when they were young, so they could be taken care of in older age. The author continues that this statement influences the fertility in two directions. On the one hand, is the increased mobility that results in a migration from rural to urban places and the industrialization. This way it is harder for parents to keep their children close to them. On the other hand, is the development of different insurance policies and welfare states that substitute the child responsibilities to its family. Guinnane notes that the problem with this argument is the diversity of relationships between the families before the transitional period. Gaunt reports for practices in Central and

Northern Europe where formal documents were established containing obligations from the heirs to their parents (Gaunt 1983). MacFarlene discusses the case of England as an opposite. The rural laborer's children tend to leave their home in their early 20s and not being obliged to their families afterwards (MacFarlene 1986). Guinane concludes that the timing of those changes makes a remark that had an effect on the fertility transition, but not completely because the transition had begun in some countries while they were still not implemented (Guinnane 2011).

### **2.3. First Demographic Transition**

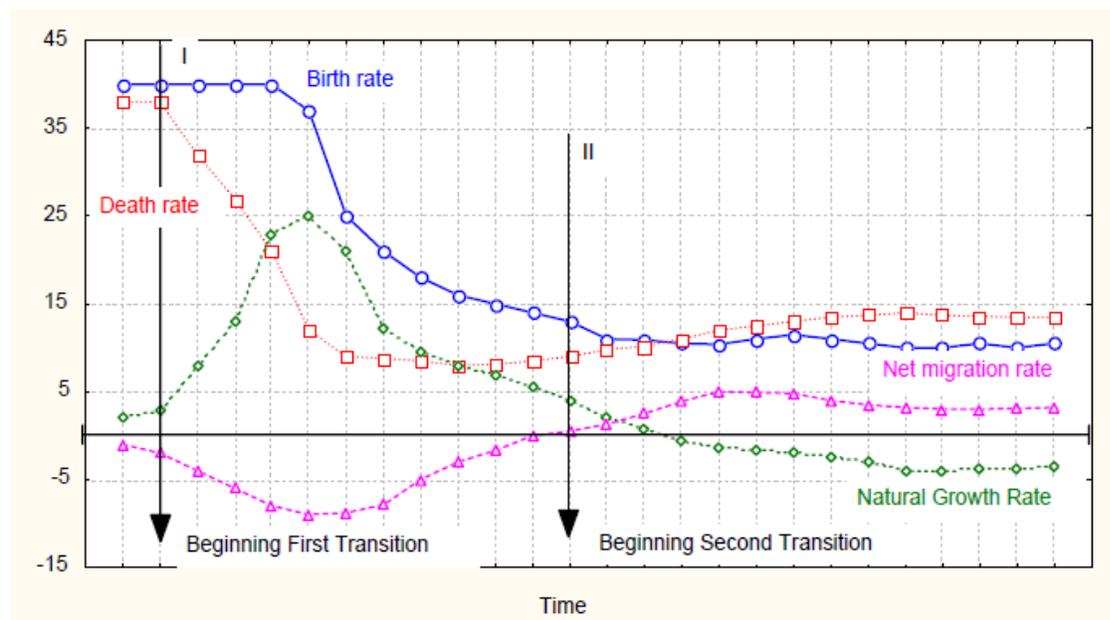
After debating around the reasons for the beginning of the transition, it is time to actually observe the changes that occurred during the FDT and later in the second one. This way we will be able to track the changes in the families' views and relations through time. During the FDT, the trends in nuptiality were affected by the growing labor that earns wages. Until the middle of the 1960s, couples tended to establish universal marriages at early age. Lesthaeghe comments that the lowest mean age at first marriage after the Renaissance period was reached during the time of the transition. In line with the view for a good and proper family, cohabitation and having a child out of wedlock were not common events during the first half of the 20<sup>th</sup> century. Moreover, during the observed period there was an increasing role of the importance of family and cases of divorce were quite rare. The pattern of remarriage mostly involved widowers and widows, but it was not something uncommon among the divorced as well. For them this was a new beginning and an opportunity for creating a new family. We already commented that the marital fertility was declining during the FDT. Lesthaeghe reports that during the transition the mean age of having a first child actually declined. The contraception was not perfect and mostly was having an effect on the families in their older ages. Until the 1960s withdrawal, education and religious beliefs were the main determinants on the fertility. Of course those are not reliable methods which eventually resulted to unintended pregnancies. This on the other hand, Lesthaeghe comments is one of the reasons for despite the low levels of fertility, the numbers not to be below replacement. The author emphasizes that those demographic changes are more or less a result from the development of the society. During the years of the FDT the economic growth in the countries encouraged people to desire improvements in their living conditions and material acquisitions. The ambitions related to the period between 1860 and 1960 were engaged in increasing income of the household, better housing and working conditions, improvement in life expectancy and health care, investment in human capital, mainly through education, and

constructing social systems for insurance against risks. Lesthaeghe comments that in Europe those ideas were widely shared by the three pillars of the religious, ideological and political factions. All factions believed in the division between the roles of the genders in the family, men being the breadwinners and women caretakers for the quality of life (Lesthaeghe 2010).

## 2.4. Second Demographic Transition

Knowing the characteristics of the FDT, we will be able to compare with and understand the Second Demographic Transition (SDT). The two authors associated with the formulation of the theory for the new transition are Lesthaeghe and Van de Kaa. Lesthaeghe comments that during the FDT the reason behind the decline in fertility was the investment in the children, but during the SDT the motivation for change is the self-realization and fulfillment of the adult. Moreover, the FDT is connected with the understanding of the essential materials needs, while the SDT concerns the achievement of higher order non-material needs (Lesthaeghe 2010). As the main difference between the two periods, Van de Kaa points out that the first one was a result from a long time decreasing mortality, while the second one is from declining fertility to levels never thought before (Figure 1) (Van de Kaa 2002).

**Figure 1. Model of FDT and SDT.**



Source: (Van de Kaa 1999)

Lesthaeghe and Van de Kaa found evidences for the beginning of the SDT in the 1950s when the divorce rates were rising and in the 1960s when the fertility was declining after the “baby boom” (Lesthaeghe & Van de Kaa 1986).

But what was actually happening in the period of the SDT? In terms of nuptiality, after 1965 the cohort proportions of ever married was declining and the age at marriage was increasing (Council of Europe 2004). Lesthaeghe comments that this was a consequence of a combination between periods of cohabitation before marriage, longer time of living alone and later exiting the parents’ home. To this process was also contributed by the longer education of both men and women since the 1950s. During the SDT, the post marital cohabitation was increasing and to have a child out of wedlock as well. The years of the transition had brought to an end the low levels of divorce rates and the remarriage was not so attractive alternative as cohabitation or other types of arrangements among the divorced and widowed. Lesthaeghe analyses that many events that were happening during the years of the transition affected the fertility. First, he points out the contraception revolution and the invention of the hormonal contraception that had an effect on the spacing between births and the postponing of one. Second, the author mentions the sexual revolution and the rejection of the belief that the sexual intercourses were defined only by marriage and for procreation. As a result, the age of first sexual contact declined. Third, the gender revolution and the changing role of women and their rights for control over fertility, but this direction will be debated in more details a little bit later (Lesthaeghe 2010). Billari and Kohler comment that during the SDT in the developed countries the demographic decisions were no longer dependent on the social norms but on the individual’s beliefs. The authors point out the Netherlands and the Nordic countries as forerunners in this direction. Eventually, all those changes led to a fertility below the replacement level of 2.1 and even to the emergence of the lowest-low fertility below 1.3 (Billari & Kohler 2004). In the spirit of this transition, during the SDT the social views were changing, the old norms and pillars were no longer relevant and new social networks and capitals emerged (Lesthaeghe 2010). Table 1 summarizes the differences between the FDT and the SDT.

**Table 1. Review of FDT and SDT.**

<b>First transition</b>	<b>Second transition</b>
<b>Marriage</b>	
Rise in proportions marrying, declining age at first marriage	Fall in proportions married, rise in age at first marriage
Low or reduced cohabitation	Rise in cohabitation (pre- and postmarital)
Low divorce	Rise in divorce, earlier divorce
High remarriage	Decline in remarriage following both divorce and widowhood
<b>Fertility</b>	
Decline in marital fertility via reductions at older ages, lowering mean ages at childbearing	Further decline in fertility via postponement, increasing mean age at first parenthood, structural sub-replacement fertility
Deficient contraception, parity failures	Efficient contraception (exceptions in specific social groups)
Declining illegitimate fertility, but not necessarily among teenage women	Rising extramarital fertility due to parenthood within cohabitation
Low definitive childlessness among married couples	Rising definitive childlessness in unions
<b>Societal background</b>	
Preoccupations with basic material needs: income, work conditions, housing, health, schooling, social security; solidarity is prime value	Rise of higher-order needs: individual autonomy, self-actualization, expressive work and socialization values, grassroots democracy, recognition by others; tolerance is prime value
Rising memberships in political, civic, and community-oriented networks; strengthening of social cohesion	Disengagement from civic and community-oriented networks, social capital shifts to expressive and affective types; weakening of social cohesion
Strong normative regulation by Church and State; first secularization wave, dominance of political and social factions ("pillars")	Retreat of the state, second secularization wave, sexual revolution, refusal of authority, waning influence of political factions ("pillars")
Segregated gender roles, familistic policies, embourgeoisement, promotion of breadwinner family model	Rising symmetry in gender roles, female economic autonomy
Ordered life-course transitions, prudent marriage, and dominance of a single model of the family	Flexible life-course organization, multiple lifestyles, open future

*Source: (Lesthaeghe 2010)*

## **2.5. Gender revolution**

Before continuing with the literature on the central topic, we will look at the specifics of the gender revolution for clarifying some of the family patterns today. From the beginning of the industrial revolution, the human activities were divided into two spheres- the private and the public. The public one contained many not characterized for the family actions like paid work in offices and factories or investment activities in education and policies. It was dominated by men. On the other hand, the private sector became the world of family and home (Tilly & Scott 1978). Women were more responsible for the activities at home and had to take care for the family, men were occupied outside of this sphere and the children's life was involved in educational institutions (Walters 1984). The first part of the gender revolution broken this pattern. Women left their domestic activities and entered the public sector, and engaged in roles that contributed

more to their families. During the first half of the gender revolution, the employment of women increased drastically and this resulted in weakening the family ties (Goldscheider et al. 2015). To their household responsibilities, were added economic support duties. Hochschild and Machung comment that this affects the roles of parenthood and marriage and lowers the fertility (Hochschild & Machung 1989). Employed women tend to marry later and to have less children than not employed (Bernhardt 1972). Furthermore, they did not spend so much time in the household work (Aguilar & Hurst 2009). Bianchi reports that despite their work, women did not spend less time with the childcare (Bianchi 2000). All of the changes that happened during the first part of the gender revolution as higher employment rates for women, higher divorce rates, the approval of cohabitation alliances, lead to changes between the expectations in the relations between men and women. The confusion around this reduced the couples willingness to commit to each other and even to have a child together (Goldscheider et al. 2015). The second half of the gender revolution is more of a new prospect and it is not yet fully spread across the world. It refers to the bigger involvement of men into the family and private sphere. Sullivan et al. report results from 13 countries in Europe where more educated and younger fathers spend more of their time with their children and helping at home (Sullivan et al. 2014). Another study in the USA declares that men in working couples spend 40 percent of the responsibilities in childcare during the week and 47 during the weekends (Yeung et al. 2001). Until the end of the 20<sup>th</sup> century, fathers in the USA are reported to spend 5 more hours with their children per week than twenty years earlier (Bianchi et al. 2006). Goldscheider et al. analyze the changes in the father's behavior and their commitment to their families. The authors predict that with the more equal relationships between husbands and wives, new balance between the private and public sphere will emerge (Goldscheider et al. 2015).

## **2.6. From the beginning for the strong and weak families**

Lesthaeghe comments that the different regions like Southern and Northern Europe experienced diversified patterns in terms of the SDT. The young adults in the first region tended to live longer with their parents and that reduced the single living individuals and the cohabitation before marriage (Lesthaeghe 2010). Dalla Zuanna finds explanation for this phenomenon into Reher's division between the strong family system and the weak family system (Dalla Zuanna 2002). Reher reports that in terms of geography the distinction between the two patterns does not follow the distribution of regions in Europe into nuclear and stem-family. The

author describes the Northern and Central Europe together with the North American area as societies with weak family ties. On the other hand, the Mediterranean countries are the ones with strong family ties. This division should be taken with caution since some of the regions can show characteristics that are more common for other parts or due to the heterogeneity in them, but overall there is a common behavior. The reasons behind this divergent pattern goes back in time (Reher 1998). A common practice in rural England for the period between the late Middle Ages and the early years of the 20<sup>th</sup> century, was the young people to leave their homes and seek work as a servants in other households for extend period (Smith 1981). Reher adds that it was not uncommon for servants to go to families with higher social status or to be exchanged in between the same one. This routine affected most of the young people in the 17<sup>th</sup> and 18<sup>th</sup> century in rural England (Reher 1998). According to Laslett, around 50 percent of the population between 15 and 24 years were servants (Laslett 1977). The magnitude of this practice suggests that the majority of the young people in England left their home in early age more or less permanently. There are also evidences that during this period servants were valuable in Northern Europe, where their numbers could reach between 9 and 17 percent of the total population (Wall 1987). On the other hand, in Spain and other regions in Southern Europe, since the Middle ages servant was a job taken by the young people in the household of higher social status and affected small fraction of the population in the rural areas (Smith 1981). Reher comments that in countries like Spain, Italy and Portugal the percentage of servants was far lower than the one in the Northern Europe. The author reports evidence for people 15 to 24 years old, who were servants. In the northern part they were between 30 and 55 percent, while in the southern between 5 and 20 percent. This suggests that approximately between 50 and 80 percent of the young adults in the weak families were servants before marriage, while in the strong ones those were between 15 and 30 percent, which could have an effect on their nuptiality and fertility.

But what is actually strong and weak family system? In the weak families when young people reach a certain level of maturity, they leave their parental home and start living on their own. Their lives are mainly filled with education and efforts to reach economic independence from their families (Reher 1998). As it was already mentioned, in history those people became apprentices, servants, soldiers, industrial workers and etc. In modern times in Western and Northern Europe, those young adults are supported with scholarships, student housing and transportation subsidies, employment programs and others. As a result from those measures, we

have early living of parental home in favor of the cohabiting and independent living. There is a bigger gender equality in those regions and the household maintenance is an obligation for both partners (Lesthaeghe 2010). The pattern of leaving home is different in the Mediterranean countries. In those societies, being independent is related to finding a stable job and marriage. The years that pass between adolescence and marriage are spent in the family home and even if the person finds a job, he can still live with their parents and save for the future (Reher 1998). In the strong family ties man are taken care by their mothers and after that by their wives. The gender roles from the old days are still valid and they are not very involved in housework. Relation bonds between family and sibling are persistent through life, and children take care for their older relatives. In the Mediterranean societies, living home is a later step in time in comparison with the weak families, but when they do, couples prefer to be owners of their households. For women, becoming a mother could be involved with leaving the employment workforce in order to take care for the child due to fewer child care facilities (Lesthaeghe 2010). Despite the changes, in the future Reher sees the persistence of the two family patterns. In countries like Spain and Italy people will continue to take care for their parents and the grandparents will help with care for their grandchildren. The young adults will live longer in their parental home, until they found their first stable job. On the other hand, people from the North and West Europe will continue to seek independence from their parents and live on their own (Reher 1998).

## **2.7. Previous research**

As we have seen in the literature before, the formation of the modern family ties is a long and complicated process that has an effect on the fertility, nuptiality and mortality in countries. There are many researches that used variety of information to try to analyze this processes from different perspectives. Duvander et al. conduct an analysis on the effect of the family policies on fertility in Norway and Sweden. The authors found that there is a positive relationship between the father's parental leave from work on the childbearing in both countries. As a possible explanation behind this link, they give that the father's participation in the childbearing may increases the interest in the children. Moreover, when there is a more equal sharing of responsibilities in the couples, it is more easier for women to combine their carriers with having a child (Duvander et al. 2010). Kaufman and Bernhardt contradict to this finding and report that when the couple has a child, the fathers perhaps put more focus on their work situation and may

or may not use parental leave depending on the costs. They comment that when men have a well-paid job this influences positively the chances of having a child, while for women this has a marginal effect on their decision (Kaufman & Bernhardt 2012). García-Manglano et al. use the time diary data for 8 countries in the early 2000s to examine the gender patterns in the family. The authors' results support the view that when partners' roles are more equal in the family, they experience higher fertility. They also observe the differences between men to women ratio in terms of childcare, paid work and housework. In countries with near to replacement fertility men spend more time in childcare and housework than in those with lowest-low fertility (Table 2). Overall, women are always more involved in those activities in all family types (García-Manglano et al. 2014).

**Table 2. Patterns of time use in fertility and gender, 2000-2004.**

	TFR	Ratio of men/women time devoted to:		
		Childcare	Housework	Paid work
Near-replacement fertility				
USA	2.04	0.52	0.54	1.84
Norway	1.80	0.45	0.67	1.81
Denmark	1.76	0.51	0.73	1.54
Finland	1.75	0.42	0.59	1.52
Lowest-low fertility				
Germany	1.35	0.43	0.48	2.48
Japan	1.32	0.17	0.06	2.11
Italy	1.28	0.41	0.22	2.67
Spain	1.27	0.42	0.27	2.62

*Source: (García-Manglano et al. 2014)*

Craig supports the finding that women spend more time in childcare and housework activities and also reports the effect of higher education. When men have university education, the time that fathers spend with their children in some activities increase. Women with higher education invest more time with their children, but they also concentrate more in their paid work. This brings us to the modern female dilemma between family and work (Craig 2006b). Another research by Craig uses time use data for families in Australia and investigates the differences in childcare between the genders. The author's finding support once again the view that women spend more time with their children than men, but in recent years there is a trend of increasing the male contribution. The author comments that mothers are involved in more physical care in both relative and absolute terms. They are usually responsible for activities like baths, providing meals and putting to bed, which are less flexible in time. Moreover, while they are doing these

actions they managed to combine them with secondary ones. On the other hand, fathers engage in more fun activities like reading and playing and tend to help their couples with the care but not substitute it (Craig 2006a). Yeung et al. contribute to this literature with their income dynamics panel study. The authors report that the time fathers are involved with their children differs on the weekdays and weekends and this depends on the couple's earnings and the behavior of the labor market. During the week, there is a negative correlation between the worked hours and the earnings, and the time spent with the children. Interestingly this link does not hold with the mothers and they are mainly responsible for the childcare. The pattern changes on the weekends when the fathers try to be more equally involved at home (Yeung et al. 2001).

Based on the literature above and the aim of this thesis, a few hypotheses have been established and their confirmation or rejection will be tested and explained in the next part of this paper.

*Hypothesis I: People in the countries with strong family ties tend to spend more time in childcare activities, than the ones with weak ties.*

We would expect this statement to be true, because the literature suggested that the people in the strong family ties countries tend to take care more for each other at older and earlier age. There is stronger view toward the importance of the family than in the weak once.

*Hypothesis II: The ratio of men's to women's time spend in childcare should be bigger in the countries with weak family ties than in the ones with strong ties.*

Women are always more connected to being responsible for the childcare activities, so it is not expected the four countries to show big differences in this variables. While on the other hand, the time allocation of men should differ. As it was stated before in the strong family ties, the idea for men being the breadwinners and women the housekeepers is more strongly related to the views of the people in those countries. This is the reasons why we would suggest that the gender ratio of time allocation in childcare will be higher for weak ties families.

*Hypothesis III: Due to diversity, in the countries with strong family ties the education should have higher significant effect on the time spend in childcare. While in the weak ones, it is the employment characteristics.*

It was stated in the early paragraphs that people from the weak families seek financial independence from their parents at early age. This leads to the thought that for those individuals the working conditions and employment opportunities have a strong influence on their lives. On the other hand, the people from the strong families are not so dependent from those obstacles since they have the support of their relatives. Their attitude and views are influenced by something else, like education, since this is an important part of the development of an individual.

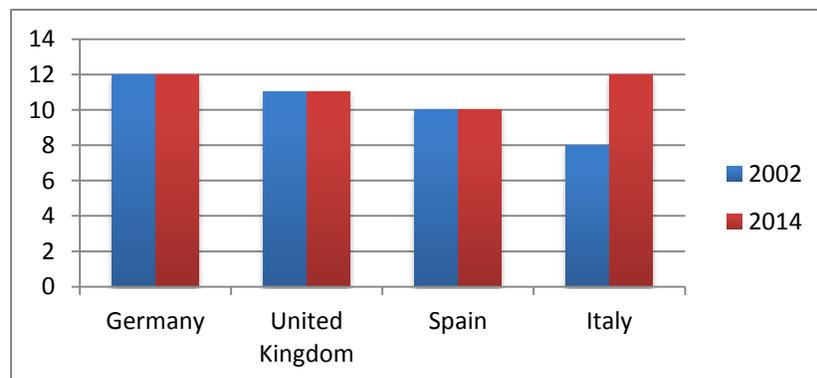
### 3. Countries profiles

For the purpose of this thesis four countries were chosen to be compared in terms of the theory for the differences between strong and weak families and the time they spend with their children. They were selected as common representatives of this division and on the comparability of the time use data. Germany and United Kingdom are demonstrating the characteristics of the weak family ties and Italy and Spain the ones in the strong. Different indicators will be presented in this part in order to give more knowledge for the situation in the countries and better point of view for understanding the results from the analysis.

#### 3.1. Education indicators

First, we are going to start with the education. The World Bank has a rich database of indexed in this direction. Based on it, Figure 2 presents information from the World Development Indicators for the compulsory education in the four countries. The data shows the number of years that children are obliged to attend at school.

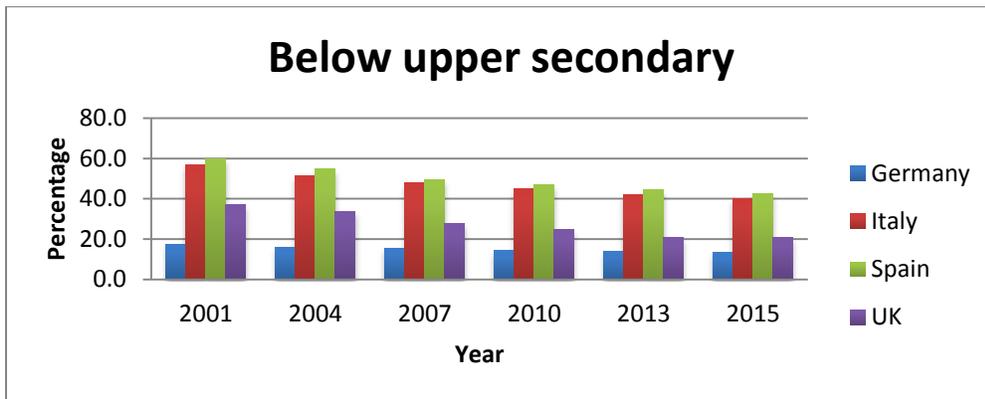
**Figure 2. Compulsory education, 2002-2014**



*Source: World Bank database*

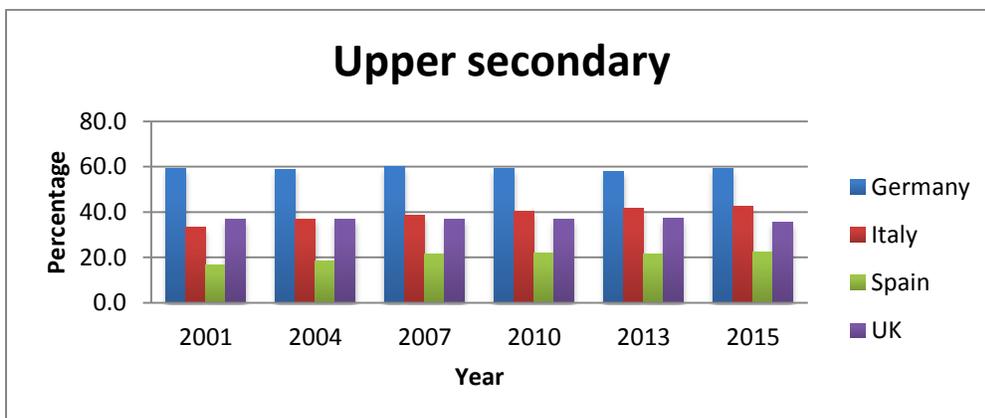
As we can see from the figure above, there is no change in the indicator except in the case of Italy. There, the compulsory education increased from 8 years in 2002 to 12 in 2014. As a result from the implementation of different reforms, the country managed to extend its obligatory education through the years and from one with the shortest in 1900, now it has an average level as the rest in Europe (Garrouste 2010). Now we will continue with presenting information for the percentage of population that completed different levels of education. It is there that it is expected to see actual diversity between the countries. The data is for the adults, between 25 and 64 years old, education from the OECD database for the period 2001-2015. It presents the percentage of the observed age group with the highest completed level of education. It is divided into three – below upper secondary, upper secondary and tertiary.

**Figure 3. Below upper secondary education level, 2001-2015.**



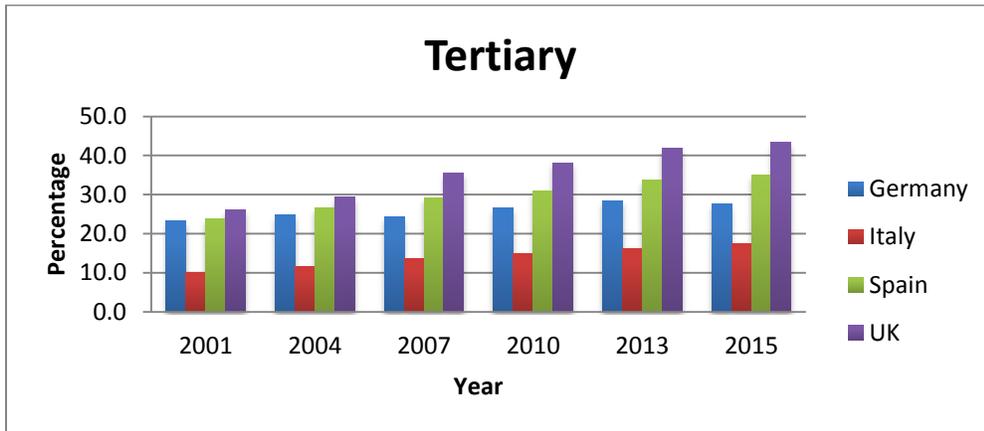
Source: (OECD database)

**Figure 4. Upper secondary education level, 2001-2015.**



Source: (OECD database)

**Figure 5. Tertiary education level, 2001-2015.**



*Source: (OECD database)*

Based on Figures from 3 to 5, we can see that indeed there are severe differences in the countries education profiles. In terms of below upper secondary education, during the whole period there is trend of decline in the percentage, except in Germany where it is already low and the variety is not so big. Taking in mind this movement, we can conclude that more people are following higher education in the recent years. It is undeniable that the percentage of people with this level of knowledge are more in the strong family countries, but that also means that there is more room for improvement and as we can see in the case of Spain there is a decrease of more than 15 percent. We are moving on to the upper secondary education. Here the picture is different. The pattern of strong family countries on the one hand and weak ones on the other is broken. We see steady leader in the face of Germany with deviation through the years but as a whole around 60 percent of the adults have upper secondary education. On the other hand, we have Spain with the lowest percentage in the group which overall is increasing in time. Italy and UK follow opposite patterns and at the end of the observed period, the first actually manage to exceed the later. Overall, we can conclude that at this adult education degree, the countries from the strong family ties continue to follow higher education and encounter bigger change, while in the weak ones there is not much of improvement or even small decline as in the case of UK. At the end we are going to turn our attention to Figure 5 and look at the development of the tertiary education. In this situation the UK is exceeding, followed by Spain. In all of the cases we see an increase in the percentage of adults with completed tertiary education. The lowest levels are observed in Italy and there indeed are a lot of possibilities for improvement and encouraging the population

to follow higher education. If we try to see the bigger picture from the three figures, we can say that the strong family countries have still a high percentage of adults with below upper education. Despite this fact, there is a trend of shifting to higher level as tertiary in the case of Spain and upper secondary in Italy. On the other hand, the countries with weak family ties have lower percentage with below upper secondary education adults. But in the case of Germany most of the population has upper secondary level and there does not seem to be much of a change in this phenomenon through the years. In the case of UK, after 2010 we can see a shift and most of the adults have tertiary degree now, but again not much of a change in the previous level. Overall, we can say that there are incentives in all of the case to follow higher education in the observed period.

### 3.2. Employment indicators

The next set of indicators that we will examine is related to employment. The data was gathered from the OECD database and presents the percentage of working age population for the period 2005-2015. It is divided to men and women and also gives information for the part time employment. The working age population applies to the people at age between 15 and 64. The rates measure the used available labor force. The part time employment presents the people who work less than 30 hours per week in their main job. They can be both employees and self-employed.

**Table 3. Employment rates, 2005-2015.**

		2005	2009	2013	2015
<b>Germany</b>	<i>Men</i>	71.3	75.4	78.0	78.0
	<i>Women</i>	59.6	65.2	69.0	69.9
<b>UK</b>	<i>Men</i>	77.8	74.9	75.4	77.6
	<i>Women</i>	65.9	64.9	65.8	68.0
<b>Italy</b>	<i>Men</i>	69.9	68.5	64.7	65.5
	<i>Women</i>	45.4	46.4	46.5	47.2
<b>Spain</b>	<i>Men</i>	75.1	66.5	59.2	62.9
	<i>Women</i>	51.8	53.3	50.3	52.7

Source: OECD database

**Table 4. Part-time employment rates, 2005-2015.**

		2005	2009	2013	2015
<b>Germany</b>	<i>Men</i>	7.3	7.9	9.0	9.3
	<i>Women</i>	38.8	38.3	38.1	37.4
<b>UK</b>	<i>Men</i>	9.5	10.8	12.2	11.9
	<i>Women</i>	38.5	38.7	38.7	37.7
<b>Italy</b>	<i>Men</i>	5.3	6.0	8.3	8.5
	<i>Women</i>	28.8	30.5	32.8	32.8
<b>Spain</b>	<i>Men</i>	3.9	4.4	7.3	7.2
	<i>Women</i>	21.0	20.7	23.4	23.1

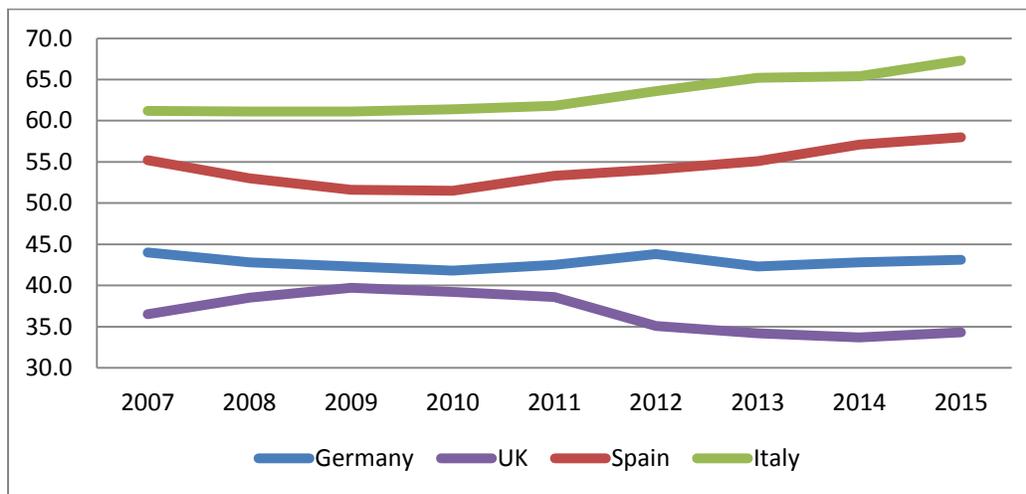
Source: OECD database

Let's first have a look at the Table 3. For the observed period there is a slight increase in the rates in Germany and UK. On the other hand, in Spain and Italy we see a decrease in the numbers for men. This is after 2007 and we can find explanation for this drop in the financial crisis during this period, which was quite severe in the Mediterranean region. The changes in the values for women are quite small, but at the end there is actually an increase of 1-2 percent. Overall, the levels of employment are lower in the strong family countries than the weak ones. The case is a little bit different when we look at the part-time employment rates in Table 4. In all of the regions there is an increase in the values and again, the ones with weak family links have higher percentages. Unlike the full time employment, more women are engaged in the part time, which will allow them to combine their working time with other activities.

### 3.3. Family indicators

Next we are going to go through couple of indicators that are more closely linked to the theory of division between families. As it was mentioned above, when a child reaches adulthood around the age of 18 in the weak family ties countries, it is quite common to leave the household and try to earn its complete independence from its parents. On the other hand, in the strong families the children are able to stay and continue living in the household until they create their own or decide otherwise. Data from Eurostat supports this claim with the indicator for the share of young adults that are at age between 18 and 34 years old and continue to live with their parents.

**Figure 6. Share of young adults (aged 18-34) living with their parents, 2007-2015.**



*Source: Eurostat database*

Figure 6 illustrates that during the observed period always more than half of the population in the age group is still living with their parents in Italy and Spain and this proportion is actually increasing in recent years. On the other hand, we have the opposite pattern in Germany and UK. Not only that the numbers are a lot smaller, but actually in the case of UK we see a significant decline in the variable, while in Germany it is less dramatic. Of course, there could be different reasons behind those numbers and yet the pattern for the diversity between families is undeniable.

When we want to examine changes in the time couples spend with their children it is important to take into account different factors that could have influence on it. Especially in early age the availability of child care could have significant impact. The dataset in Eurostat contains a helpful measure for observing this effect. There is an indicator that gives information for the formal child care by duration and age group as a percent of the population of each age group. Here will be presented the data for the group that refers to children from the age of 3 till the minimum compulsory school age. The child care could refer to education at pre-school or compulsory one, child care in central-based services outside the school time or child care at centers organized and controlled by private or public structures. The child care is also divided according to duration in the week – zero hours, from 1 to 29 hours and 30 or more hours per week.

**Table 5. Formal child care by duration, % of the population of children from the age of 3 till minimum compulsory school age, 2006-2015.**

<b>Germany</b>	<b>2006</b>	<b>2008</b>	<b>2010</b>	<b>2012</b>	<b>2014</b>	<b>2015</b>
<b>Zero hours</b>	10	10	8	9	11	10
1-29 hours	64	54	46	40	35	35
30 or over hours	26	36	46	51	54	55
<b>UK</b>						
<b>Zero hours</b>	11	13	11	28	30	27
1-29 hours	65	67	67	49	48	49
30 or over hours	24	20	22	23	22	24
<b>Italy</b>						
<b>Zero hours</b>	10	9	13	9	9	14
1-29 hours	24	19	17	21	21	23
30 or over hours	66	72	70	70	70	63
<b>Spain</b>						
<b>Zero hours</b>	11	5	7	8	7	8
1-29 hours	45	50	45	52	52	47
30 or over hours	44	45	48	40	41	45

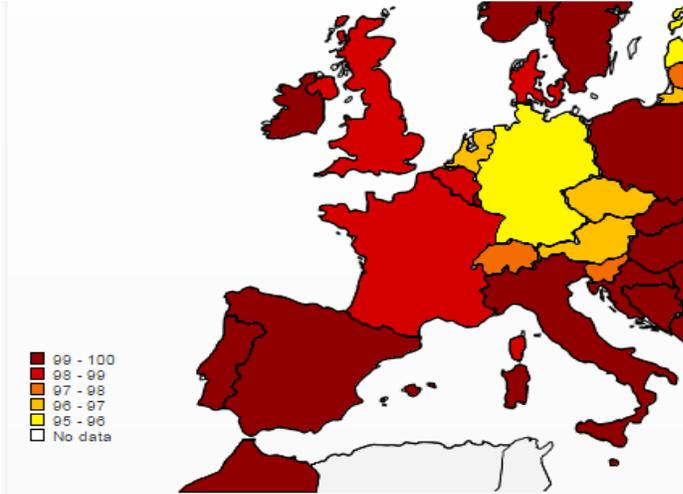
*Source: Eurostat database*

Looking at Table 5, it will be quite hard to explain a pattern in the use of formal child care. In UK and Italy we could see evidence for an increase proportion of families that do not use child care services. On the other hand in Germany, there is a high increase in the observed period in the share over 30 hours per week. There is not much of change in the different groups in Spain. Overall, we can conclude that with the women being employed in the labor force there will always be demand for formal child care. This will provide help for the combination between carrier and family.

### **3.4. European Value Study**

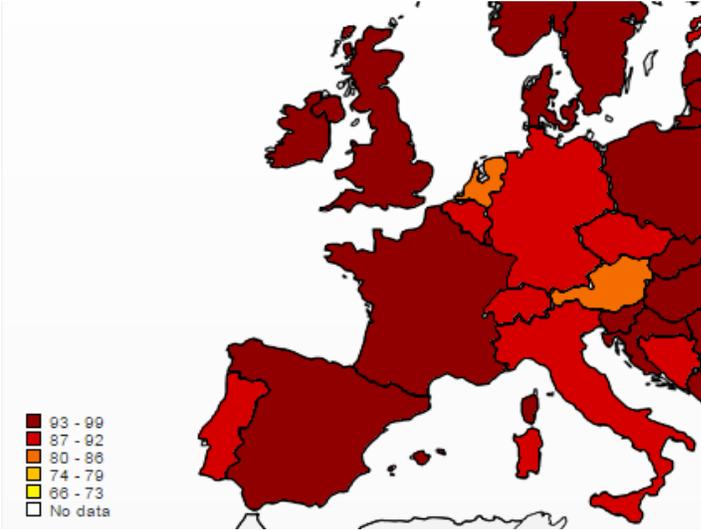
If we want to explore the attitudes of the different families in Europe, the European Values Study is the one to give answers to our questions. The research is conducted with the goal to observe the view of the Europeans for their politics, religion, work, families, society and Europe. The results are usually presented in maps and are percentage of people who agree or disagree with a statement. They illustrate different patterns and trends in the countries of the old continent. Some of those findings will be reported next and we will try to observe the variations in the four countries of our research. For better comparison, the latest data for 2008 will be used.

**Figure 7. Percentage of people that agree that family is very or quite important in their lives, 2008.**



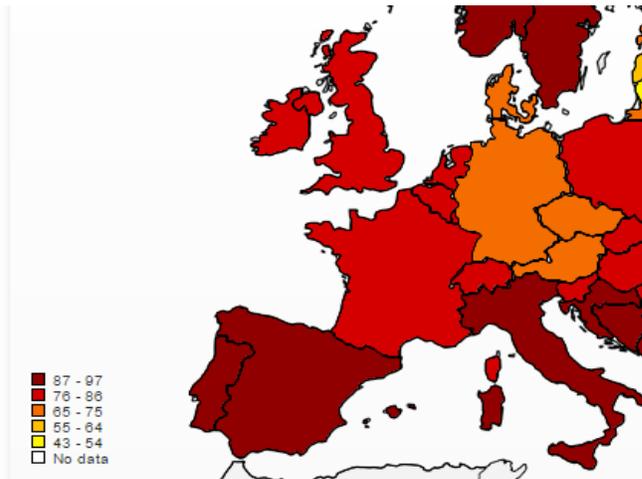
Source: European Values Study      Note: GR-95; UK-98; IT-100; SP-99

**Figure 8. Percentage of people that agree or strongly agree with the statement that men should take equal responsibilities as women for the home and children, 2008.**



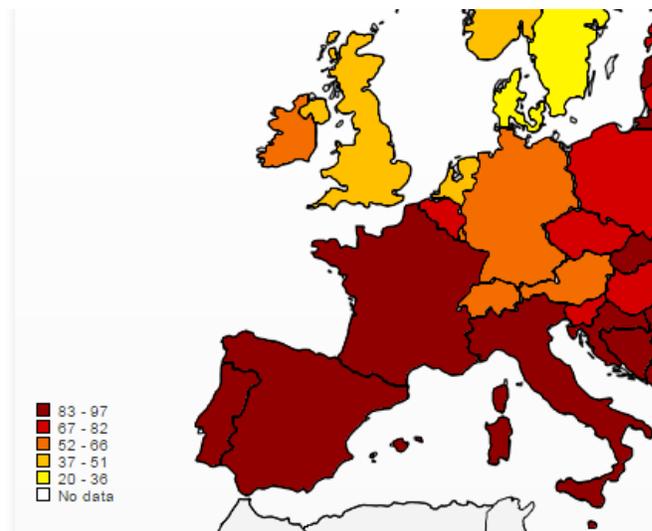
Source: European Values Study      Note: GR-89; UK-94; IT-91; SP-93

**Figure 9. Percentage of people that agree with the statement that it is the parents duty to do their best for their children, even at the expense of their own well-being, 2008.**



Source: European Values Study      Note: GR-65; UK-83; IT-92; SP-88

**Figure 10. Percentage of people that agree or strongly agree with the statement that when a parent is seriously ill or fragile, it is mainly the adult child's duty to take care of him/her, 2008.**



Source: European Values Study      Note: GR-64; UK-42; IT-89 SP-90

The maps above illustrate the attitude of the people in the different countries toward the statements and also confirm the theory for the division of strong and weak families. We can see bigger importance of the family and more support in it, in the strong tie countries than the weak ones.

## 4. Data

For the purpose of this research, data from the Multinational Time Use Study (MTUS) was obtained and used in the analysis. The advantage of this statistics is that it provides information for the different activities in which people are engaged and most importantly differ the time spend for household production and market, and leisure. And this is usually missing in other household surveys (Apps 2003).

The MTUS user's guide is mainly used for explaining the specifics of the variables that was worked with in this research (Fisher & Gershuny 2016). The main source for the analysis was the harmonized core file, which is an aggregate file with information from surveys for all countries. Each row in it represents a record of 24-hour time diary. If during the study there was a representative, who completed more than one diary, it appears on a different row. The dataset covers a summary of range of 25 time use categories. Moreover, there is additional information for the socioeconomic and demographic characteristics of each representative.

The aim of this paper is to examine the differences between strong and weak family ties countries. In order to do that was used data for four countries in the same or close as possible years for better comparison. The most recent combination is Germany in 2001, UK in 2000, Italy in 2002 and Spain in 2002. For the purpose of this research, were used diaries only on diarists in a couple and when there is at least one child under 18 in the household. If there was a missing value for the variables, the raw was omitted. After the subtraction, the observations left are 7269 for Germany, 3629 for UK, 4882 for Italy and 7157 for Spain, total – 22937. In the next lines the different variables used in the analysis are going to be described based on the information from the MTUS guide. Sometimes their abbreviations from the core file are used.

### 4.1. Variables

*Childcare* – The data for childcare is a combination between two activities recorded in the diary. It is a sum from the pkidcare (medical or physical child care; accompany, supervise, other child care) and ikidcare (help with homework, teach child a skill; talk to, read or play with child). It is measured in minutes.

*Education* – The diarist's highest level of education. It is formulated regarding the International Classification of Education (ISCED). The variable contains the following categories: 1 – Uncompleted secondary or less (Not completed ISCED level 3); 2- Completed secondary (Completed

ISCED level 3 and/or attendance at level 4); 3- Above secondary education (ISCED level 5 or above) (Fisher & Gershuny 2016).

*Employment status* – The engagement of the participant in the labor market. Students, people who are retired, looking after their family or seek work, but who work at least a couple of hours are coded working part time. The last category should be understood as people not engaged in the labor force. The variable contains the following groups: 1- Full time employed (Employed/self-employed, full time hours); 2- Part time employed (Employed/self-employed, part time hours); 3- Unknown status (Employed/self-employed, unknown work hours); 4- Not in paid work (Other) (Fisher & Gershuny 2016).

*Work hours* – The variable presents the number of worked hours in paid work including overtime declared in the week prior the survey. It is measured in hours.

*Sex* – The data describes the gender of the diarist. The variable contains the following groups: 1- Man; 2-Woman (Fisher & Gershuny 2016).

*Age* – The variable records the age of the diarist. It is measured in years.

*Agekid* – The variable represents information for the age of the youngest child in the household. It contains the following categories: 1- Youngest child aged between 0-4; 2- Youngest child aged between 5-12; 3- Youngest child aged between 13-17; 4- Youngest child aged 18+ (Fisher & Gershuny 2016).

*Family dummy* – The binary variable was created to present the differences between the countries in terms of family ties. It contains the following groups: 0- Weak family; 1-Strong family.

*Weekend dummy* – The binary variable represents information for the day of the week that the diary was kept. It contains the following groups: 0-Weekday; 1- Weekend.

## 5. Method

Based on the review of the literature three hypotheses were composed, which validity will be tested in this research. To illustrate the arguments, it will be used data from the Multinational Time Use Studies. In order to express the relationships between the observed variables, different regression analyses will be conducted. The main dependent variable will be the time people spend in variety of childcare activities. This is in line with the claim that this value gives direct information for the parent-child link. Other demographic and socioeconomic data is used in the models to control partially for outside effects on this relationship. The education of the parent is forecast to have a positive influence on the time, because more educated people would be expected to realize and value more the importance between the connections in the household. Of course, this is not a rule, so exceptions are always possible. The effect of the worked hours is predicted to be negative. This follows the logic that when people spend more time in their working places, they would physically not have the opportunity to share more time at home. It is complicated to forecast the behavior of the employment status in terms of the time people spend with their children, because it depends on which status are we focusing on. But again, if we are following the logic of the work hours, we would expect people who are part-time employed to devote more time to their children. The age of the parent and the age of the child would be predicted both to have rather negative effect on the time variable. Growing up, the children usually become more independent and they do not need so much time spend in care for them. On the other hand, parents growing old start to suffer biologically from less energy resources that affect their behavior. In terms of gender, undoubtedly we would believe that women are going to be more involved with the children than men. Despite the second part of the gender revolution and numerous equality policies, the alternative prognosis is not plausible yet. Although, Gershuny's research on the changes in the time people spend on paid work, unpaid work, personal care and leisure between 1960 and 1990, report and interesting convergence. The author notes that the gap between the genders is narrowing. Women are reducing their time in unpaid activities and are increasing it in paid ones, the reverse is true for men (Gershuny 2000). Observing the results later, we would also expect to see more time people spend in child care during the weekends, when they are not engaged so much in their working life. Last but not in importance, we should always add an error term to our analysis to capture the observed and unobserved covariates of the dependent variable.

For testing the first hypothesis, was created a dummy variable that presents the division between the countries on weak and strong family ties. The value of it in the regression analysis will confirm or reject the statement. In order to observe the dynamics in the relationships between the used variable, the following model was composed.

$$\text{Care} = \beta_0 + \beta_1 \text{Edcat} + \beta_2 \text{Empstat} + \beta_3 \text{Age} + \beta_4 \text{Sex} + \beta_5 \text{Agekid} + \beta_6 \text{Workhrs} + \beta_7 \text{Day} + \beta_8 \text{Fam} + \varepsilon$$

Where:

*Care*-Time people spend in different activities linked to child care

*Edcat*- Education of the diarist

*Empstat* – Employment status of the diarist

*Age*-Age of the diarist

*Sex*- Gender of the diarist

*Agekid*- Age of the youngest child in the household

*Workhrs*- Hours worked, including overtime, in the week before by the diarist

*Day*- Dummy for the day of the week

*Fam* – Dummy for the family type

$\varepsilon$  – Error term

For testing Hypothesis II, first a ratio of men's to women's time for the different countries will be calculated. After that the results will be compared.

In order to examine the last hypothesis, separate regressions for the different countries will be conducted. This way the effect of the various variables on the time spend in childcare will be observed and we will manage to determine which one has the strongest influence on it. In order to do that, the following models were designed.

$$\text{CareGermany} = \beta_0 + \beta_1 \text{Edcat} + \beta_2 \text{Empstat} + \beta_3 \text{Age} + \beta_4 \text{Sex} + \beta_5 \text{Agekid} + \beta_6 \text{Workhrs} + \beta_7 \text{Day} + \varepsilon$$

$$\text{CareUK} = \beta_0 + \beta_1 \text{Edcat} + \beta_2 \text{Empstat} + \beta_3 \text{Age} + \beta_4 \text{Sex} + \beta_5 \text{Agekid} + \beta_6 \text{Workhrs} + \beta_7 \text{Day} + \varepsilon$$

$$\text{CareItaly} = \beta_0 + \beta_1 \text{Edcat} + \beta_2 \text{Empstat} + \beta_3 \text{Age} + \beta_4 \text{Sex} + \beta_5 \text{Agekid} + \beta_6 \text{Workhrs} + \beta_7 \text{Day} + \varepsilon$$

$$\text{CareSpain} = \beta_0 + \beta_1 \text{Edcat} + \beta_2 \text{Empstat} + \beta_3 \text{Age} + \beta_4 \text{Sex} + \beta_5 \text{Agekid} + \beta_6 \text{Workhrs} + \beta_7 \text{Day} + \varepsilon$$

Where:

*Care-Time people spend in different activities linked to child care*

*Edcat- Education of the diarist*

*Empstat – Employment status of the diarist*

*Age-Age of the diarist*

*Sex- Gender of the diarist*

*Agekid- Age of the youngest child in the household*

*Workhrs- Hours worked, including overtime, in the week before by the diarist*

*Day- Dummy for the day of the week*

$\varepsilon$  – Error term

The results from the analysis will be presented and discussed in the next part.

## **6. Results and discussion**

In this part of the paper results from the statistical analyses will be presented and also discussion for their meaning.

### **6.1. Descriptive results**

Table 6 introduces descriptive information for the used variables for the four countries in the model.

**Table 6. Descriptive statistics of variables for Germany, UK, Italy and Spain (weighted proportions %).**

<b>Variable</b>	<b>Germany</b>	<b>UK</b>	<b>Italy</b>	<b>Spain</b>
<b>Day</b>				
Weekday	0.65	0.50	0.35	0.66
Weekend	0.35	0.50	0.65	0.34
<b>Age kid</b>				
Youngest child aged between 0-4	0.23	0.35	0.19	0.36
Youngest child aged between 5-12	0.49	0.42	0.55	0.40
Youngest child aged between 13-17	0.27	0.23	0.26	0.24
<b>Sex</b>				
Men	0.64	0.52	0.60	0.67
Women	0.36	0.48	0.40	0.33
<b>Age</b>				
Diarist aged between 15-29	0.02	0.11	0.03	0.05
Diarist aged between 30-44	0.69	0.64	0.66	0.67
Diarist aged between 45-59	0.29	0.25	0.31	0.28
Diarist aged between 60-74	0.00	0.00	0.00	0.01
<b>Employment status</b>				
Full time employed	0.74	0.70	0.83	1.00
Part time employed	0.26	0.30	0.13	
Unknown status			0.04	0.00
Not in paid work			0.00	
<b>Work hours</b>				
Hours between 0-24	0.18	0.24	0.17	0.19
Hours between 25-49	0.66	0.53	0.71	0.78
Hours between 50-74	0.15	0.20	0.11	0.03
Hours 75+	0.01	0.03	0.01	0.01
<b>Education</b>				
Uncompleted secondary or less	0.07	0.29	0.06	0.14
Completed secondary	0.51	0.41	0.83	0.55
Above secondary education	0.42	0.30	0.11	0.30
<b>Time</b>				
Minutes between 0-99	0.85	0.81	0.82	0.82
Minutes between 100-199	0.12	0.13	0.13	0.12
Minutes between 200-299	0.03	0.04	0.03	0.04
Minutes 300+	0.01	0.02	0.01	0.02
<b>Observations</b>	7269	3629	4882	7157

Source: (MTUS data, own calculations)

The table above gives information for the diarists, whose results participate in the research. The numbers shows that most of the diaries were kept by men. More than half of the participants are in the age group of 30 to 44 and the biggest part of the youngest child in the household were aged between 5 and 12. Higher percentage of the participants in Italy and Spain are engaged in full time employment than the ones in Germany and UK. In terms of hours worked per week, most of the diarists are engaged in the labor force between 25 and 49. Actually, in the countries with weak family ties, there are more participants, who tend to work 50+ hours per week. From the people included in the surveys most of them declared to have highest completed secondary level of education. In Italy and Spain those numbers are higher than in Germany and UK. But on the other hand, the last exceed in participants with above secondary education. More than 80 percent of all the diarists recorded that spend up to 100 minutes per day in different activities regarding child care. On the other hand, only 1 to 2 percent of all engage in more than 300. Of course, there are variations between the different countries, but there are not severe.

## 6.2. Hypothesis I results

The results from the regression for testing Hypothesis I are presented in Table 7.

**Table 7. Results for testing Hypothesis I.**

	Model 1	Model 2	Model 3	Model 4
	Childcare	Childcare	Childcare	Childcare
<b>Weak families (ref. cat.)</b>				
<b>Strong families</b>	2.47**	-0.25	4.76***	-0.03
	(0.91)	(0.94)	(1.01)	(0.83)
<b>Uncompleted secondary or less (ref. cat.)</b>				
<b>Compl. secondary education</b>	5.93***		10.53***	
	(1.18)		(1.29)	
<b>Above secondary education</b>	19.70***		26.13***	
	(1.35)		(1.51)	
<b>Full time employed (ref. cat.)</b>				
<b>Part-time employed</b>	5.567**		16.40***	
	(1.79)		(1.85)	
<b>Unknown status</b>	1.82		6.32	
	(4.53)		(4.66)	
<b>Not in paid work</b>	9.76		19.67	
	(15.70)		(29.16)	

<b>Work hours (log values)</b>	-13.05***		-18.77***	
	(1.52)		(1.67)	
<b>Weekday (ref. cat.)</b>				
<b>Weekend</b>	5.76***		5.25***	
	(0.85)		(0.856)	
<b>Child aged between 0-4 (ref. cat.)</b>				
<b>Child aged between 5-12</b>	-47.42***		-49.01***	
	(1.29)		(1.32)	
<b>Child aged between 13-17</b>	-71.47***		-74.93***	
	(1.38)		(1.42)	
<b>Man (ref. cat.)</b>				
<b>Women</b>	20.52***		27.74***	
	(1.07)		(0.93)	
<b>Age(log values)</b>	-34.64***		-28.66***	
	(3.13)		(3.16)	
<b>_cons</b>	236.6***	44.65***	91.43***	179.4***
	(13.14)	(0.68)	(6.28)	(11.41)
<b>N</b>	22937	22937	22937	22937
<b>adj. R-sq</b>	0.24	-0.00	0.04	0.22
<b>Standard errors in parentheses * p&lt;0.05, ** p&lt;0.01, *** p&lt;0.001</b>				

Source: (MTUS data, own calculations)

Model 1 presents the link of the time spend on childcare with all other observed variables. Model 2 shows the direct correlation between the time and the family dummy. Model 3 explores the relationship between the time for childcare and the family dummy controlled with variables for the socioeconomic status of the participants. The last model presents again the link between the childcare and the different family ties, but controlled with demographic characteristics. All of the models are using robust standard errors for controlling for the effect of heteroscedasticity. The main focus will be on the first one. The adjusted R square for it could be seen as a low number of 0.24, but when we have a cross-sectional analysis it is normal this value to vary between 0.1 and 0.4 (Carter Hill et al. 2011). The results suggest that there is a positive and significant, on 1 percent level of significance, link between the time spend on childcare and the dummy for the families. The numbers report on average 2.47 minutes per day more allocated in the strong family ties countries. The effect may not seem so big in comparison with the other results, but it is significant and marks the differences between the two family types. The link between the two variables is even stronger and more significant in model 3. In model 2 and 4, the

numbers for family dummy are opposite on the ones before, which could be a result from different outside effects. If we have a look on the socioeconomic variables in model 1 and 3, we can see quite stable trend in both. There are evidences for a good influence on the time people spend with their families when they have higher education. The numbers are positive and significance for the part-time employment group. This was a logical expectations having in mind that people who are employed part time have more spare time. The results for the rest of the groups in this category are insignificant and can not give reliable information. The log values of the work hours were used for better connections in the model. The results for them are negative and significant. The more people work, the less time they spend in childcare. Now we will pay attention to the more demographic factors in the models. Not surprisingly, the results suggest that women allocate more time to their children than men. They are also positive and significance for the weekend dummy, which indicates more time engaged in childcare during the weekends. The growing age of the parent has a strong negative and significant influence on the dependent variable. This is also true for the age of the youngest child in the household. Growing up, they become more independent and do not need so much support and care from their parents.

### 6.3. Hypothesis II results

For proving the validity of Hypothesis II, ratios of the average men's to women's time for the four countries were calculated. The average time was computed as the average time spent in child care activities in the different groups. "All" represents the average time for all participants in the specific country. "Men" is calculated as the average time of only the male diarists. "Women" reports the average time of only the female participants. The gender ratio is a result from dividing the average men to women time. The results are presented in Table 8.

**Table 8. Gender ratio on time spend in child care.**

	Germany	UK	Italy	Spain
<b>Average time</b>				
<b>All</b>	41.9	50.1	45.1	43.9
<b>Men</b>	34.5	36.8	34.6	34.2
<b>Women</b>	55.3	64.5	61.0	64.0
<b>Gender ratio</b>	0.62	0.57	0.57	0.53

*(MTUS data, own calculations)*

The numbers for the observations in the used surveys indicate that UK is the leader in the group of average time spend in child care, followed by Italy, Spain and Germany. The average values for the indicator is from 40 to 50 minutes per day. If we look at the ratio, we could see that indeed in the countries with weak family ties the numbers are higher than the ones with strong.

#### 6.4. Hypothesis III results

In order to examine the last hypothesis, the regression analyses were conducted separately for each of the countries under observations. It is not expected to see difference between them in the demographic characteristics of the participants but rather in their socioeconomic ones. In line with this, the focus of the discussion will be on them. The results are constructed in 7 models. The first one represents the link between all variables. Since the center of our attention are the education, employment status and work hours, each one of them is regressed directly with the dependent variable and one more time controlled with the demographic variables. The next tables content the results from them.

##### 6.4.1. Germany

**Table 9. Estimate effects on the time spend in child care in Germany.**

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	Childcare						
<b>Uncompleted secondary or less (ref. cat.)</b>							
<b>Compl. secondary education</b>	-2.510	2.750	-2.866				
	(2.853)	(3.112)	(2.862)				
<b>Above secondary education</b>	5.342	4.671	3.482				
	(2.898)	(3.167)	(2.894)				
<b>Full time employed (ref. cat.)</b>							
<b>Part-time employed</b>	10.85***			25.63***	16.60***		
	(2.894)			(1.912)	(2.465)		
<b>Work hours (log values)</b>	-10.59***					-27.91***	-14.52***
	(2.872)					(2.093)	(2.424)
<b>Weekday (ref. cat.)</b>							
<b>Weekend</b>	1.902		1.927		1.939		1.867
	(1.458)		(1.460)		(1.460)		(1.461)
<b>Child aged between 0-4 (ref. cat.)</b>							
<b>Child aged between 5-12</b>	-44.08***		-44.76***		-44.71***		-44.97***
	(2.242)		(2.257)		(2.272)		(2.272)
<b>Child aged between 13-17</b>	-69.12***		-71.56***		-71.07***		-70.81***

	(2.373)		(2.387)		(2.420)		(2.407)
<b>Men (ref. cat.)</b>							
<b>Women</b>	13.60***		26.14***		14.45***		17.67***
	(2.264)		(1.582)		(2.222)		(1.978)
<b>Age (log values)</b>	-31.99***		-27.93***		-27.38***		-25.33***
	(5.599)		(5.658)		(5.556)		(5.559)
<b>_cons</b>	229.2***	38.55***	177.0***	35.18***	174.8***	140.7***	221.6***
	(22.38)	(2.933)	(20.94)	(0.804)	(20.14)	(7.598)	(21.36)
<b>N</b>	7269	7269	7269	7269	7269	7269	7269
<b>adj. R-sq</b>	0.220	0.000	0.211	0.030	0.216	0.034	0.215
<b>Standard errors in parentheses * p&lt;0.05, ** p&lt;0.01, *** p&lt;0.001</b>							

Source: (MTUS data, own calculations)

In the case of Germany, we can observe that the education level of the diarist does not seem to have significant influence on the time spend in childcare. Moreover, some of the numbers are even negative. This is not in line with our previous findings when we were looking at all countries. If we observe the changes in the employment status, we could see that the case is completely different. The results are positive and highly significant. In Germany when people are partly employed, they tend to spend more time with their children. The results for the work hours are also highly significant, but are negative. The more the Germans are involved with their jobs, the less time are engaged at home.

#### 6.4.2. United Kingdom

**Table 10. Estimate effects on the time spend in child care in UK.**

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>
	Childcare						
<b>Uncompleted secondary or less (ref. cat.)</b>							
<b>Compl. secondary education</b>	-1.349	8.511**	-2.378				
	(2.600)	(2.954)	(2.595)				
<b>Above secondary education</b>	15.36***	19.26***	13.13***				
	(3.077)	(3.547)	(3.033)				
<b>Full time employed (ref. cat.)</b>							
<b>Part-time employed</b>	5.805			29.92***	10.05**		
	(4.240)			(3.139)	(3.442)		
<b>Work hours (log values)</b>	-8.586**					-21.05***	-9.310***
	(3.102)					(2.637)	(2.446)
<b>Weekday (ref. cat.)</b>							

<b>Weekend</b>	5.830*		5.822*		5.807*		5.804*
	(2.295)		(2.303)		(2.310)		(2.307)
<b>Child aged between 0-4 (ref. cat.)</b>							
<b>Child aged between 5-12</b>	-62.74***		-62.97***		-63.30***		-63.54***
	(3.138)		(3.137)		(3.179)		(3.171)
<b>Child aged between 13-17</b>	-82.20***		-82.96***		-83.69***		-84.48***
	(3.428)		(3.406)		(3.488)		(3.482)
<b>Men (ref. cat.)</b>							
<b>Women</b>	22.99***		31.62***		26.44***		26.38***
	(2.940)		(2.332)		(3.023)		(2.638)
<b>Age (log values)</b>	-31.72***		-32.90***		-27.64***		-26.43***
	(6.681)		(6.764)		(6.712)		(6.670)
<b>_cons</b>	220.9***	40.88***	194.0***	41.01***	177.5***	124.1***	209.2***
	(27.65)	(2.164)	(24.23)	(1.456)	(23.92)	(9.729)	(26.21)
<b>N</b>	3629	3629	3629	3629	3629	3629	3629
<b>adj. R-sq</b>	0.266	0.008	0.261	0.029	0.256	0.024	0.258
<b>Standard errors in parentheses * p&lt;0.05, ** p&lt;0.01, *** p&lt;0.001</b>							

Source: (MTUS data, own calculations)

UK, as the other representative of the strong family ties countries, tries to follow Germany in some of the results, but we could see differences between the two. While the completed secondary education does not seem to have a significant impact on the dependent variable, the education above this level tends to have positive and strong influence. The employment status on the other hand, shows positive but insignificant value in Model 1. We could see that this is changed when it is regressed alone with the dependent variable and with the other control variables. We can conclude that there is evidence for a rather positive and strong link between the time people spend in child care and their educational level.

### 6.4.3. Italy

**Table 11. Estimate effects on the time spend in child care in Italy.**

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	Childcare						
<b>Uncompleted secondary or less (ref. cat.)</b>							
<b>Compl. secondary education</b>	6.736*	26.24***	8.024*				
	(3.252)	(3.161)	(3.196)				
<b>Above secondary education</b>	21.96***	42.66***	27.52***				
	(4.311)	(4.589)	(4.245)				
<b>Full time employed (ref. cat.)</b>							
<b>Part-time employed</b>	-2.925			29.13***	9.434**		
	(3.683)			(3.512)	(3.390)		
<b>Unknown status</b>	-1.599			5.407	-4.539		
	(4.575)			(5.222)	(4.910)		
<b>Not in paid work</b>	4.994			18.89	4.453		
	(19.09)			(31.85)	(19.43)		
<b>Work hours (log values)</b>	-31.69***					-39.39***	-32.13***
	(3.561)					(3.250)	(3.280)
<b>Weekday (ref. cat.)</b>							
<b>Weekend</b>	3.578*		4.118*		4.140*		3.608*
	(1.748)		(1.822)		(1.830)		(1.752)
<b>Child aged between 0-4 (ref. cat.)</b>							
<b>Child aged between 5-12</b>	-29.61***		-31.27***		-32.36***		-30.40***
	(3.106)		(3.256)		(3.271)		(3.114)
<b>Child aged between 13-17</b>	-55.93***		-58.72***		-60.75***		-57.61***
	(3.330)		(3.468)		(3.502)		(3.366)
<b>Men (ref. cat.)</b>							
<b>Women</b>	10.38***		21.63***		20.99***		10.60***
	(2.047)		(1.974)		(2.142)		(2.049)
<b>Age (log values)</b>	-64.39***		-64.16***		-56.42***		-58.94***
	(7.558)		(7.897)		(7.774)		(7.426)
<b>_cons</b>	412.4***	18.65***	294.7***	41.11***	276.1***	183.7***	402.1***
	(33.03)	(2.967)	(29.45)	(1.054)	(28.17)	(11.75)	(31.10)
<b>N</b>	4882	4882	4882	4882	4882	4882	4882
<b>adj. R-sq</b>	0.228	0.014	0.181	0.018	0.174	0.087	0.223
<b>Standard errors in parentheses * p&lt;0.05, ** p&lt;0.01, *** p&lt;0.001</b>							

Source: (MTUS data, own calculations)

Now we move on to the countries with strong family ties. Table 11 illustrates the case of Italy, where we could see a positive and significant connection between the educational level and the dependent variable. Moreover, the effect is even stronger in the third group of high educated representatives. In Model 1, the employment status tends to have insignificant link to the time spend in child care. When it is individually regressed against it, the relationship is reversed to positive and significant, but only for the part time employed Italians. The worked hours have a strong negative link to the dependent variable. An increase of 1 hour of work could decrease the time people spend with their children with more than 30 minutes per day.

#### 6.4.4. Spain

**Table 12. Estimate effects on the time spend in child care in Spain.**

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	Childcare						
<b>Uncompleted secondary or less (ref. cat.)</b>							
<b>Compl. secondary education</b>	7.695***	14.39***	7.638***				
	(1.752)	(1.905)	(1.752)				
<b>Above secondary education</b>	29.11***	44.32***	29.06***				
	(2.194)	(2.535)	(2.195)				
<b>Full time employed (ref. cat.)</b>							
<b>Unknown status</b>	9.482			11.63	8.163		
	(7.183)			(17.74)	(7.998)		
<b>Work hours (log values)</b>	-3.011					5.910**	-2.975
	(1.617)					(2.002)	(1.641)
<b>Weekday (ref. cat.)</b>							
<b>Weekend</b>	6.723***		6.742***		6.431***		6.424***
	(1.636)		(1.635)		(1.656)		(1.656)
<b>Child aged between 0-4 (ref. cat.)</b>							
<b>Child aged between 5-12</b>	-54.68***		-54.67***		-57.43***		-57.43***
	(2.118)		(2.118)		(2.189)		(2.189)
<b>Child aged between 13-17</b>	-74.89***		-74.86***		-79.73***		-79.76***
	(2.331)		(2.331)		(2.436)		(2.437)
<b>Men (ref. cat.)</b>							
<b>Women</b>	27.76***		28.16***		31.08***		30.70***
	(1.747)		(1.752)		(1.795)		(1.790)
<b>Age (log values)</b>	-23.43***		-23.30***		-17.26**		-17.41**
	(5.325)		(5.325)		(5.437)		(5.437)
<b>_cons</b>	156.3***	22.61***	145.3***	43.92***	137.4***	64.50***	148.4***

	(20.16)	(1.608)	(19.38)	(0.872)	(19.54)	(7.077)	(20.32)
<b>N</b>	7157	7157	7157	7157	7157	7157	7157
<b>adj. R-sq</b>	0.277	0.046	0.277	-0.000	0.256	0.001	0.256
<b>Standard errors in parentheses * p&lt;0.05, ** p&lt;0.01, *** p&lt;0.001</b>							

Source: (MTUS data, own calculations)

Spain shows the same positive and highly significant link as in Italy between the dependent variable and all educational levels. The values for the employment status are positive, but insignificant. The interesting in the case of Spain seems the result for the work hours. Here we could see for the first time the change to be positive in Model 6 and insignificant in the other two where it is used. That result is quite different than all the other countries and controversial to the expectations commented before.

## 6.5. Discussion

### 6.5.1. Hypothesis I

The aim of Hypothesis I was to prove that the strong family ties countries spend more time with their children than the week one. The goal of the analysis is not to put a “bad” or “good” label on the families, because this would be a wrong interpretation of the results, but to describe some of the differences between the two groups. There are many outside characteristics that have influence on this outcome. There are also other sources of information that support the theory of diversity between the family types. The Generations and Gender Program (GGP) presents data for a longitudinal survey across 19 European and 4 non-European countries. It includes broad array of topics like partnership, fertility, care duties and etc., and aim to provide better understanding of the different factors that affect the connection between generations (parents and children) and between genders (partners). The dataset contains a lot of valuable information, but only small part of it will be reported in this research to support Hypothesis I. Unfortunately, there is no information for the 4 countries under observation in this report, but luckily there is for Germany and Italy, so there is representative from each group. In wave one, the participants in the survey were asked if they regularly used help with childcare from specialize institutions or through paid arrangements. In Germany among the 2321 valid cases 38.5 percent responded “yes” and 61.5 percent -“no”. On the other hand in Italy, among the 2597 valid cases, only 4.9 percent gave a positive answer and 95.1 – negative. These results suggest that parents in the strong families do not rely on outside childcare, but maybe are supported by

other close relatives to the families, which was previously proposed by the literature. We continue with another question from the GGP. The participants were asked to declare their age when first started to live separately from their parents for at least three months. Table 13 contains the results for the most common answers, arranged by the biggest percent of respondents. This is why there are variations in the ages for the two countries.

**Table 13. First age at living separately from the parents.**

<b>Country</b>					
<b>Germany</b>					
<b>Age</b>	18	20	19	21	17
<b>% of respondents</b>	12.3	11.9	11.7	9.7	8.4
<b>Italy</b>					
<b>Age</b>	24	22	23	21	25
<b>% of respondents</b>	8.2	7.7	7.4	7.3	7.3

*Source: (GGP dataset)*

Clearly we could observe the differences between the two countries. In Italy most of the children tend to leave much later their parental household than in Germany. Once again, we see evidence to support the theory for division of the families. Based on all of the information presented above from the research analysis and other surveys we could confirm Hypothesis I.

### **6.5.2. Hypothesis II**

The aim of Hypothesis II was to document the differences in the equality between men and women in terms of childcare. The prediction that the gender ratio in the weak family ties countries will be higher than in the strong ones was confirmed after calculating the results from the MTUS database. Despite the differences between how the genders spend their time, there are actually evidences that their patterns are converging and are much more similar today than in the 1970s and even earlier (Sayer 2005). Using data from American Time Use survey, Sayer managed to calculate women to men time ratio in different activities from 1965 until 2012. For the purpose of this thesis, the results only for childcare will be reported in the next table.

**Table 14. Trends in the women’s to men’s time ratio, 1965-2012.**

Year	1965	1975	1985	1998	2004	2012
Childcare	4.35	3.41	3.22	2.29	2.23	2

*Source:(Sayer 2014)*

As we could see, through the years men are being more involved in the household and spend more time with their children. García-Manglano et al. are also interested into the diversity of this area. Based on their work, the authors report that the differences in spend time of genders across countries would be bigger for actions related to paid work and housework rather than child care. As an explanation behind this statement, they suggest that the parents might see their children as a form of investment and this could result in less change overtime due to evolving social norms (García-Manglano et al. 2014). Possible change in this ratio could be the ability of women to multitask several activities and not left behind their responsibilities for the household (Milkie et al. 2009). As we had seen before, the employment rates of women in the weak family ties countries are higher. This could lead to more multitasking but also to more involvement of men in the household, which will eventually result in higher gender ratio. Based on all of the information presented above, we can confirm Hypothesis II.

### **6.5.3. Hypothesis III**

The aim of Hypothesis III was to observe how the socioeconomic characteristics of the participants like education and employment status, have an influence on their time allocated to childcare. It also tried to prove if there is a pattern between them among the countries from the different family types. Craig reports that the education is strongly linked to more time spend performing childcare. The author continues that this contributes to the view for the importance of the human capital development of the child. The households with higher education spend mainly their extra time with their children in development and physical care in order their spouse to advance in their linguistic and social growth. Craig continues that the female education is related to more time in childcare (Craig 2006b). Indeed, when we perform regression analysis for all countries in our example, we see that more educated women are engaged even more with their children (Appendix). But there are authors like Robinson, who comments that better education does not necessary mean more involvement for the parents (Robinson 1977). There are also other effects that influence the parent-child time. Gauthier et al, report that employed parents

assign slightly less time than non-employed to their children. The authors comment that the differences in the results for mother could be quite selective (Gauthier et al. 2004). On the other hand, Folbre and Yoon report negative correlation between the maternal hours of paid work and childcare, except for the logistical time (Folbre & Yoon 2007). When the regression analysis in this research for all countries is recalculated only for women, we could also observe an increase in the negative effect of the work hours, while the effect of the employment status is still insignificant (Appendix). For the four countries under observation we saw that that the education had the strongest effect in Italy and Spain and in the highest level for UK. The employment status was significant only in Germany. The work hours had negative influence in all countries. Based on the evidence presented from the different research, we could partly confirm Hypothesis III, since we do not have clear cut diversity between the strong and the weak families.

## **6. Conclusion**

The aim of this thesis was to examine Reher's theory for the strong and weak family ties and to observe this diversity in the time people allocate for activities involving their children. Part of the calculations tried to establish if there is a pattern of characteristics that influence more or less the different group of participants. Various literatures were used to describe the First and the Second Demographic transitions and their specifications. It all gave a better perspective for the development of the relations in a household. In details was presented the evolution of the family ties between the different countries and the diversity in Reher's patterns. The strong family ties group, usually situated in South Europe and Mediterranean region, are characterized with closer relationship bonds across the members of the household. For those countries it is normal for people to take care for each other at older age or to help with the cares for the youngest ones. The young adults are not expected to leave their parents homes immediately after school and they could even live together with their new families in it. The gender roles of the man being the breadwinner and woman taking care for the home have strong implication in this group, although with time those roles have changed and the countries are following a path to equality. Men are being more involved in the household and spend more time with their children, while women tend to be more engaged in employment activities so they could contribute to the family income. In the weak family ties group things are a bit different. Most of the young adults leave early home and try to earn their independence from their parents. They go and study, live

with friends or work. When they create a family, it is usually a separated household. When people are getting older, the government or special facilities take care for them as well as for the young ones. Someone might even say that the gender roles are more equal in those countries. Based on the literature three hypotheses were formed and tested. For the purpose of the thesis and for proving the validity of those suggestions, 4 countries were chosen to be observed- Germany and UK as representatives of the weak family ties, and Italy and Spain as representatives of the strong family ties. Data for the regression analysis was obtained from the MTUS database for the studied regions for years between 2000 and 2002. Other datasets and surveys as the European Value Survey and the Generations and gender program were used to support the findings and the results.

The first hypothesis wanted to prove if indeed the strong family countries spend more time in activities in childcare. Based on the presented information above, there were evidences in support of this claim. The second hypothesis was aiming at the gender ratio of the time engaged with children. The results suggested that in the weak family ties countries the values were higher, indicating bigger equality between the distribution of responsibilities among men and women. There were signs for development of this relationship and eventual catching up from the countries with strong family ties. At the end, this claim was also confirmed. The last hypothesis was focused on the differences between the two patterns in Reher's theory and if they could be determined. Here the results were not conclusive and actually the different countries showed individual specification, which could be considered as normal, keeping in mind their different development through the years. The values from the regression analysis proposed a strong effect of the level of education in Italy and Spain and strong influence of the worked hours in most of the regions. The results for the employment status were volatile and inconclusive to formulate a pattern. Taking all of this under consideration, the last hypothesis was partially confirmed.

### **6.1. Limitations**

As every analysis, this one does not make an exception when it comes to facing different limitations. The first one that is going to be mentioned is the period of conducting the surveys. It is quite known that gathering information for time use database could be very hard and expensive task. But using more close to date information is vital for better quality of the results. The surveys that were used in this analysis vary from 2000 to 2002 and although it is not

expected the newer data to show radical changes, it will still be better to have more updated numbers. Another limitation would be the more detailed information for the different characteristics of the diarist. Of course, it will be hard to believe that a model catching all of the effects that could have influence on the time people spend in childcare could be created, but more expanded version could give more light on the understanding of the relationships in the family. It will also give a chance to the researches to examine in more details the different possible effects and outcomes.

## **6.2. Future research**

Having all of this into consideration, future possible investigations could be proposed. We are living in a constantly changing world and new policies and believes are established every day. With the growing attention on the gender quality and the development of the relationships between people it will be interesting and fruitful to conduct a similar analysis using newer data. This could improve the knowledge for people's values and goals. On the other hand, this will results in formulating and implementing better policies and maybe economic growth in different countries. Another direction for future research will be to manage to conduct the study using more regions. Adding new countries as observations will increase the credibility of the results. Investigating regions from North Europe and other part from South may change or confirm the specifications of the theory for strong and weak family ties. There are many researches focused on the gender equality. Conducting an analysis for it in terms of the Reher's theory could contribute with giving another view to the problem and examining it even deeper.

## **6.3. Implications**

But what are the implications of this analysis and why it is important to know the differences between the regions? Understanding the nature of the family ties and the values and believes that shape them could be an important tool for creating successful policies in one country. The intentions and the possibilities of spending time with the children, could affect not only the social norms and culture in one region, but also the economy. If parents are more determined to build successful carriers, then different institutions should be available for supporting and helping them raising their children. On the other hand, if people are more willing to spend more time in maternal or paternal leaves, policies for encouraging them to go back to the labor force should be implicated. The intentions of the young adults after they graduate school could influence in many ways the housing market. If they are more determined to seek

earlier independence from their parents, the rent seeking part of it should be better developed. On the other hand, if people are more ownership orientated, this will influence the market in a different way. The roles of the gender in a family could have an enormous effect on the employment shares in a country. Women being more or less involved in the labor force could not only affect directly the working power but also through taxes and various other implications.

The links between the different aspects in one country are quite complex and when policies are determined, deep research on the possible results from them should be made. The family is the center of every nation so it is vital to be aware of its specifics in one country in order to create and maintain strong and flourished environment for the population in it.

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## Appendix

	Model 1	Model 1*
	Childcare	Childcare
<b>Weak families (ref. cat.)</b>		
<b>Strong families</b>	2.474**	6.744***
	(0.907)	(1.805)
<b>Uncompleted secondary education (ref. cat.)</b>		
<b>Compl. secondary education</b>	5.930***	4.777*
	(1.182)	(2.350)
<b>Above secondary education</b>	19.70***	22.34***
	(1.345)	(2.631)
<b>Full time employed (ref. cat.)</b>		
<b>Part-time employed</b>	5.565**	5.937***
	(1.791)	(2.271)
<b>Unknown status</b>	1.816	12.83*
	(4.527)	(6.420)
<b>Not in paid work</b>	9.760	13.65
	(15.70)	(11.40)
<b>Work hours (log values)</b>	-13.05***	-16.40***
	(1.519)	(2.315)
<b>Weekday (ref. cat.)</b>		
<b>Weekend</b>	5.758***	-6.436***
	(0.852)	(1.533)
<b>Child aged between 0-4 (ref. cat.)</b>		
<b>Child aged between 5-12</b>	-47.42***	-65.52***
	(1.287)	(2.489)
<b>Child aged between 13-17</b>	-71.47***	-96.06***
	(1.381)	(2.671)
<b>Men (ref. cat.)</b>		
<b>Women</b>	20.52***	0
	(1.070)	
<b>Age (log values)</b>	-34.64***	-59.54***
	(3.136)	(6.211)
<b>_cons</b>	236.6***	377.4***
	(13.14)	(24.50)
<b>N</b>	22937	8626
<b>adj. R-sq</b>	0.238	0.295
<b>Standard errors in parentheses * p&lt;0.05, ** p&lt;0.01, *** p&lt;0.001</b>		

Source: (MTUS data, own calculations)