

WOMEN'S ADOPTION OF EGALITARIAN ATTITUDES THROUGH  
EMPLOYMENT IN MEXICO

by

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To my husband, Dr. Esteban Picazzo Palencia.

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Abstract

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This dissertation examines the impact of female employment on Mexican women's attitudes toward gender equality. Specifically, the objective was to analyze different mechanisms and moderating variables through which female employment affects married and cohabiting women's adoption of egalitarian attitudes in Mexico. The focus of the analysis was to identify the direct and indirect effects of women's participation in the labor market through social interactions and housework. Despite the importance of women's attitudes toward gender equality in their advancement and egalitarian gender relationships, there is a lack of studies that examine this topic in Mexico. The objectives of this dissertation were addressed through three methodological strategies. First, this research examines the causal relationship between women's participation in the labor force and their attitudes toward gender equality. Second, once the causal

relationship between these variables is determined in the case of Mexico, this study analyzes the direct and indirect effects of female employment on women's attitudes toward gender equality. Housework and social interactions were included as mediators of the impact of women's participation in the labor market on their attitudes. Number of children, women's age, and partner's education moderated these relationships. Finally, this dissertation presents a post hoc modeling of women's attitudes toward gender equality. This study deconstructs the effect of women's participation in the labor force and explores the effect of locality size on women's attitudes toward gender equality. Results show that the direct and indirect impacts of female employment on women's attitudes toward gender equality are mediated by housework and social interactions and conditional on number of children, partner's education, and women's age. This dissertation contributes to the understanding of the development of women's egalitarian attitudes by combining variables at the structural and individual level, in a context scarcely explored, and for specific groups of women.

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## **Chapter 1**

### **Introduction**

#### **Problem Statement**

The twentieth century was characterized by severe structural changes in Mexico and the world. Most countries increased their economic openness and restructured their economic activities. In Mexico, new factories started operating as a consequence of policies that promoted industrialization and trade liberalization. In addition, diverse socio-demographic transformations brought about changes in people's lifestyle. Modern contraceptives reduced fertility rates and new technology was introduced. Further, the development of the Welfare State promoted individuals' wellbeing through higher levels of social protection. These structural changes along with concurrent economic crises in Mexico during the second half of the twentieth century facilitated women's participation in the labor market (Fleck, 2001; Goldin, 1990; Lustig, 1990; Parrado & Zenteno, 2005).

Women's entry into the labor market is one of the most significant factors that have influenced family dynamics and redefined women's roles (Goldin, 1990; Levine, 1990). Women's participation in the labor market challenges traditional practices that confine women into the domestic sphere and promote

inequality between women and men (Colón, 2010; Goldin, 1990; Levine, 1990). Through employment, women are exposed to more egalitarian practices (Bolzendahl & Myers, 2004; Goldin, 1990), new social interactions that allow them to diversify their roles (Bell, 1976; Inglehart, 1990), and increase their power in the household (Bojorquez-Chapela, Salgado & Casique, 2009; Casique, 2010; García, 2003) and interest in gender equality (Bolzendahl & Myers, 2004; Gerson, 1985; Klein, 1984; Plutzer, 1988). Structural changes along with an increase of women in the labor force have altered people's daily experiences, which in turn have changed values and attitudes toward gender roles (Thornton, Alwin & Camburn, 1983). As a consequence, more egalitarian attitudes among men and women have emerged.

However, changes in women's attitudes toward gender equality do not occur in a social vacuum. Social structural characteristics as well as traditional gender role practices among working women vary considerably. When women participate in the labor force, they face structures both inside and outside the household that define their support for egalitarianism. Differences in women's circumstances, differential experiences, and context determine how attitudinal change occurs (Bell, 1976; Bolzendahl & Myers, 2004; Gerson, 1985; Klein, 1984; Plutzer, 1988).

Despite the well-documented gender and social inequalities in Mexico, there is a lack of empirical evidence on the macro and micro determinants of

women's attitudes toward gender equality in the country. The emphasis on the impact of the determinants of women's attitudes may be limiting when disregarding the interaction between households' characteristics and conditions outside the household. An analysis of the interaction between the macro and micro aspects will increase the understanding of women's attitudes toward gender equality in Mexico. At the structural level, gender inequalities affect all women, but at the individual level women confront different realities. Most research studies on women have treated them as a homogenous group in spite of wide spread evidence to the contrary (Ariza & De Oliveira, 1999; Levine, 1990).

In order to explore women's support for gender equality in Mexico, this study examines the impact of several demographic variables on married and cohabiting women's attitudes toward gender equality. Specifically, this study investigates the direct and indirect effects of female employment through women's social interactions and household chores on women's development of egalitarian attitudes. In addition, this study explores how these relationships are moderated by women's age, number of children, and partner's education.

### **Significance of the Study**

Attitudes are an important component of people's wellbeing because they define individuals' interests and predispositions to act (Allport, 1935; Katz, 1960; Triandis, 1971). Throughout history feminist arguments have acknowledged that

achieving gender equality requires not only favorable institutional and legal frameworks or changes in economic and political structures, but also changes in attitudes (United Nations, 2002). Favorable attitudes toward gender equality can be seen not only as a condition that defines women's lives, but also as a right. Promoting women's wellbeing reflects a right-based development with emphasis on gender equality. As egalitarianism becomes prevalent in society, women's development gains importance in human rights.

Recently, social policies that aim to improve people's wellbeing in Mexico, such as conditional cash transfer programs, have focused on several aspects of women's wellbeing in particular for key policy development (Luccisano, 2008; Molyneux 2006). However, the effectiveness of such programs will depend upon women's attitudes toward gender equality. In the absence of women's capacity to define actions in favor of their wellbeing, public resources may be underutilized (Molyneux, 1985; 2006). Evidence points out that most women in developing countries are unable to define their wellbeing in terms of their own living conditions. Instead, they define their wellbeing based on other family members' situation due to the influence of traditional division of labor (Sen, 1987). In order to improve women's wellbeing, their goals need to be accompanied by attitudes that question traditional practices (Sen, 2000).

The current study on the development of egalitarian attitudes among women through employment attempts to examine the level of empirical support

for theories that suggest pathways from selected characteristics of women to attitudes toward gender equality. In addition, factors that determine women's participation in the labor market have been extensively explored in Mexico (Casique, 1999; Martínez & Acevedo, 2002), but women's opinions about their roles and participation in the labor force remain scarcely studied. Previous studies have assumed that once women enter the labor market they will continue to work. However, women face barriers to continue to work outside the household, and their attitudes toward gender equality are an important factor for their permanence in the labor market (Thornton, Alwin & Camburn, 1983).

In addition, several empirical studies have explored women's attitudinal change as a direct function of social structure factors while paying limited attention to the role of employment and moderating effects of social structural factors on attitudinal changes with respect to gender equality (see Baxter & Kane, 1995; Cassidy & Warren, 1996; Klein, 1984). On the other hand, other actors are also relevant in determining how women's gender-role attitudes change (Spitze & Waite, 1981). This study incorporates husbands' education level to determine how they may promote women's egalitarian orientations. Also, this study examines the effect of number of children and social interactions on women's attitudes toward gender equality.

Another aspect in which this study is unique is in terms of the focus on the interaction of factors that exist outside and inside the household. The relationships



among women's attitudes toward gender equality, employment, social interactions, and domestic workload have not been explored exhaustively. Existing models are limited in exploring the relationship of these variables mainly due to the lack of information. The approach of this study considers the interactions of all these variables simultaneously and brings results for more specific population groups of women. In order to analyze women's development of egalitarian attitudes, this study uses conditional process analysis to analyze the relationship among these variables. The use of conditional process analysis allows identifying the direct and indirect impacts of female employment on women's egalitarian attitudes depending on women's age, number of children, and partner's education level. Traditional models assume a direct general effect of independent variables on women's attitudes. The results of this study will reveal the extent of impact of different variables for specific groups of women. Identifying impacts for specific groups of women brings relevant information for designing social policies. For instance, analyzing by cohorts brings more precise information because younger women are more likely to be employed than older cohorts. Thus, the attitudinal gap between employed women and full-time housewives could derive from age differences rather than their employment condition.

On the other hand, despite a general controversy around the causality between employment and women's egalitarian orientations (Thornton, Alwin & Camburn, 1983), existing studies assume a causal relationship between both

variables based on different theoretical foundations. Several studies suggest that the causal relationship between female employment and egalitarian attitudes depends upon the region and time span analyzed (Thornton, 1989; Thornton, Alwin & Camburn; 1983; Plutzer, 1991). This study in addition, explores the significance of the influence of these variables on attitude toward gender equality. Accordingly, the results of this study will broaden understandings of women's attitudinal change by including variables at the structural and individual level, in a context scarcely explored, and for specific groups of women.

## **Chapter 2**

### **Context**

#### **Women's participation in the labor market in Mexico**

In many countries, including Mexico, the twentieth century was characterized by constant demographic and socioeconomic transformations that affected women's lives and family dynamics. Women's participation in the labor market is one of the most important societal changes that influenced family interactions and women's roles in the last decades (Levine, 1990). Diverse socioeconomic, technological, and demographic factors facilitated women's participation in the labor market in Mexico. New technology and birth control methods reduced fertility rates freeing women from childcare responsibilities and improving women's opportunities in the labor force. The Welfare State in response developed new resources that facilitated women's participation in the labor force. In addition, urbanization, divorce rates, and production levels increased (Lefaucher, 1993; Parrado & Zenteno, 2005; Ribeiro, 1994).

Since the Second World War, women's participation in the labor market has notably increased in most developed countries (Lefaucheur, 1993). The starting point of the demographic transition in Latin America can be associated with the fast economic development and social transformations from the 1970's.

Regarding economic transformations, during the last four decades most economies in Latin America have restructured and increased their production capacity in response to higher levels of economic openness. In 1978, the discovery and massive exploitation of oil reserves in Mexico facilitated government spending and capital formation, but the subsequent drop in oil prices in 1982, as well as an overvalued exchange rate and a large fiscal deficit left the country in a severe economic contraction (Levine, 1990; Lustig, 1990). The crisis experienced in 1982 produced a political and economic restructuring in the country. During the following two decades the socioeconomic structural adjustment policies resulted in recurrent crises, institutional restructuring, and tax reforms. Government spending suffered serious reductions and many public enterprises were privatized.

Strategies for economic development were based on trade liberalization. In 1985, Mexico joined the General Agreement on Tariffs and Trade (GATT) and in 1994 signed the North America Free Trade Agreement (NAFTA). Prevailing policies that promoted industrialization and export-oriented production increased flexibilities and instabilities of the labor market in Mexico. As a consequence, economic liberalization increased the number of assembly manufacturing companies (the *maquila* sector) and the size of the informal sector in the country (Parrado & Zenteno, 2005).

The importance of outsourcing, services, and assembly manufacturing activities in Mexico increased employment opportunities for women (Ariza & De Oliveira, 2003). In 1970, Mexico had the lowest female participation in the labor market in the world (Chant, 1991). However, after the crisis in the 1980's and with a more stable exchange rate, the *maquila* sector rose into prominence as a source of female employment. In 1983, women represented 74.5% of the employees in the *maquila* sector. Initially, the *maquila* sector was located in the north border areas of Mexico as a strategy for reducing production costs. However, female participation in other cities increased in the late 1990's because new companies of the *maquila* sector were located in other areas of the country. In 1975, 92.6% of the total *maquila* companies were located in the border area, but this proportion fell to 64.8% in 1998 (Fleck, 2001).

In the 1970's and early 1980's, female labor force in Mexico was partially restricted by the existence of regulations that apparently protected women. For instance, women were allowed neither to work nightshifts nor be involved in "dangerous" economic activities (Parrado & Zenteno, 2005). However, households' economic status is an important determinant of women's entry into the labor market. Inflation levels and recurrent crises from the 1980's reduced real salaries, which made other sources of income indispensable for families (Cerrutti, 2003; García & De Oliveira, 1994; Lustig, 1990; Vega, 2002).

There is wide spread evidence that women's participation in the labor market increases as economic development grows (Chant, 1991). Chant (1991) states that due to a higher expansion of economic development relative to the population growth, in 1986 women from the city of Puerto Vallarta (Mexico) got jobs that in other circumstances would have been taken by men. Another argument related to demographic aspects is the population's natural growth rate. Population structure changes production levels and the rates at which economy creates new jobs. More jobs increase opportunities for women to be employed (Rendón, 2008).

International concerns for population issues accelerated demographic changes in Latin America. These initiatives started in 1974 with different international conferences that triggered the design of social programs to reduce the population growth, improve women's reproductive rights and the access to birth control methods, and reduce child and maternal mortality in this region (Chackiel, 2004). In 1960, Latin America had the second highest fertility rate in the world, 5.99 children per woman (Chackiel, 2004). During the same year, Mexico had a higher fertility rate than the region, 6.8 children per woman (INEGI, 2001). Reductions in the fertility rate were also a consequence of the development of feeding technologies and vaccination programs. In addition, availability of modern contraceptives has increased women's aspirations for education and professional development (Ariza & De Oliveira, 2003).

Furthermore, the time that women spent in gestation and childrearing considerably decreased because they had fewer children. This increased women's time availability to work outside the home. Gammage and Orozco (2008) find that reductions in women's participation in the labor market in Mexico are strongly determined by the number of young children. Similarly, García and De Oliveira (1994) point out that women's propensity to participate in the labor market increased due to reductions in the fertility rate and increases in the age at marriage. Since women tend to reduce their participation in the labor market when they get married, increases in the age at marriage have extended the number of years that women participate in the labor force (Ariza & De Oliveira, 2003).

In addition, economic activities related to the service sector, in which female labor force is primarily concentrated, have experienced rapid changes. Improvements in the service sector have promoted the creation of new jobs and better salaries for women (Rendón, 2008). In Mexico, during the last four decades part-time jobs have had a higher growth rate than full-time jobs. The demand for part-time labor force has increased as a strategy for reducing labor costs (Rendón, 2008). This increased women's participation in the labor market because of a poor response from men for part-time jobs. In general, men consider themselves to be responsible for supporting the household economically and are more likely to look for full-time jobs (Blundell, Chiappori, Magnac & Meghir, 2007).

On the other hand, Mexico experienced a rapid urbanization process that brought about a massive migration and incorporation of women and men into urban occupations (Cerrutti, 1997). The increasing urbanization process in Mexico and Latin America and more recently the exposure to other cultures through media contributed to the redefinition of women's roles in society and career development (Ariza & De Oliveira, 2003).

Another explanation about the increasing female labor force in Mexico points to women's higher education levels (Sánchez & Pagán, 2001). According to INEGI (2012), in 1960 only 0.5% of Mexican women achieved higher education, but this proportion increased to 9.4% in 2000 and to 15.9% in 2010.

During the 1980's women's availability for employment increased owing to a new supply of domestic products along with an improvement in access to piped water, electricity, and gas (Ribeiro, 1994a; Parrado & Zenteno, 2005). According to Lefaucheur (1993) and Parrado and Zenteno (2005), women were not only the primary recipients of the benefits granted by the State, but also the main providers of services related to health care and education. In addition, an increase in the demand for new electronics and other products required more family income, which also promoted female labor force (Rendón, 2008; Ribeiro, 1994a).

Public services provided by the State, the development of feeding technologies, and new electronics allowed the domestic and caregiving work to be



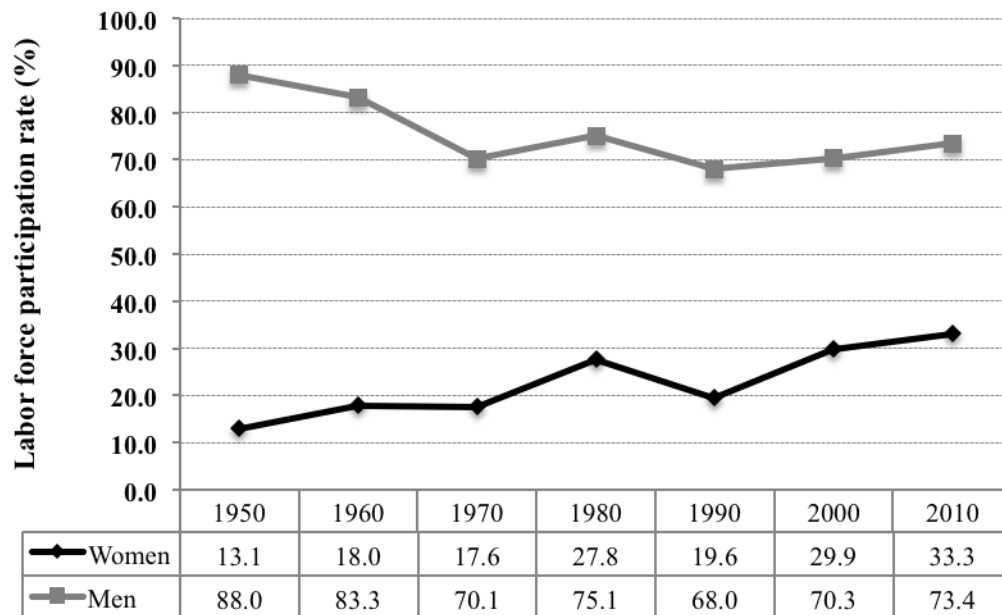
collectivized and institutionalized. Besides the positive impact of feeding technologies on the child mortality rate, they brought about new possibilities for other people or even institutions to participate in feeding activities (Lefaucheur, 1993). Therefore, women were able to undertake other activities outside the household. More recently, new technological resources for artificial insemination allowed women with economic resources to postpone child bearing. Concerning divorce, this increased the number of monoparental households and led women to have to participate in the labor market because household per capita income decreased (Ariza & De Oliveira, 2003; Lefaucheur, 1993).

Feminist movements in Mexico have contributed to the redefinition of economic, reproductive, and sociopolitical rights of women. Women continue to gain more control over their bodies and own lives, and started separating reproduction and sexuality (Ariza & De Oliveira, 2003).

All factors previously mentioned facilitated women's entry in the labor market in Mexico. Nevertheless, the growth of women's participation in the labor force has not been constant. In 1950, female participation rate in Mexico was 13.1%, which rose to 18.0% in 1960 (INEGI, 1950; 1960). During the 1960's, women's participation in the labor force remained almost constant. The highest increase in the proportion of women who worked outside the household was during the late 1970's and early 1980's. Women's participation in the labor force went from 16.3% in 1970 to 27.6% in 1980 (INEGI, 1970; 1980). According to

information from the National Census of Population, women's participation rate in the labor force was 19.6% in 1990 and 33.3% in 2010 registering an average annual growth of 2.7% (INEGI, 1990; 2010). Graph 2.1 shows this growth tendency in Mexico and how the gap between men's and women's participation decreased from 1950 to 2010.

Graph 2.1 Labor force participation rate in Mexico, by sex, 1950-2010



Source: own elaboration with information from Census of Population 1950, 1960, 1970, 1980, 1990, 2000, and 2010, INEGI.

Despite an increasing participation of women in the labor market, female labor force participation by itself does not reflect the conditions and barriers that women face both in the workplace and households. For instance, Martínez and Acevedo (2002) found that in Mexico women earn lower salaries than men. Other

studies have pointed out that working women face a double burden resulting from housework and extradomestic work (Del Tronco, 2008). The following section presents women's current situation in Mexico.

### **Women's current situation in Mexico**

In nearly all parts of the world, women's participation in the labor force is closely related to the age at marriage and their motherhood cycle (Becker, 1981, Levine, 1990). In Mexico, divorced and separated women have the highest female participation. According to the National Institute of Statistics and Geography in Mexico (INEGI), in 2014, 66.0% and 63.2% of divorced and separated women participated in the labor market, respectively. Conversely, the percentage for women living with a partner was not higher than 38.2% (INEGI, 2014).

Rendón (2008) points out that most employed women in Mexico work part time because they are in charge of the domestic and caregiving tasks. A higher percentage of single, divorced, and separated women work full time compared with married women. According to INEGI, in Mexico, 67.8%, 65.1%, and 64.6% of single, divorced, and separated working women, respectively, work full time, respectively (INEGI, 2014).

Also, 70.6% of the non-economically active population are women and 53.4% of the non-economically active women are cohabiting or married. Therefore, women who are non-economically active and cohabiting or married

represent 37.7% of the overall non-economically active population. In contrast, 62.1% of the non-economically active population aged 20 to 39 years are either cohabiting or are married women (INEGI, 2014).

Regarding location, 22.1% of population in working age reside in rural zones. Female labor force participation in Mexico has significant differences between rural and urban areas. In rural areas, only 28.5% of the economically active population are women. In contrast, in urban areas, women represent 40.2% of the economically active population. Also, in urban areas 43.4% of married or cohabiting women and 42.2% of single women in working age are economically active; whereas in rural areas only 26.7% of women living with a partner and 29.0% of single women are economically active (INEGI, 2014).

On the other hand, the informal sector employs most working people in Mexico. During the first quarter of 2014, 58.2% of employed people and 58.8% of working women participate in the informal sector. Most women who work in the informal sector participate in the tertiary sector (81.2%). Vulnerable groups are increasingly likely to be employed in the informal sector, comprised of less educated people and single women (Standing, 1989 as cited in Cunningham, 2001). Educated women are more likely to work in the formal sector. In this regard, 56.3% of women who work in the formal sector completed high school or higher education. In contrast, this group represents 21.6% of women working in the informal sector (INEGI, 2014).

Recently, women have achieved greater educational attainments.

According to INEGI (2012), in 1960 only 0.5% of Mexican women received higher education, but this proportion increased to 9.4% in 2000 and to 15.9% in 2010.

On the other hand, presence of labor market segmentation generates a gender wage gap, as pointed by Bergman (1974, as cited in Rendón 2008) who associated concentration of women in activities considered as feminine increases wage gap between men and women. Based on information from the National Survey on Occupancy and Employment 2014 (INEGI, 2014), 89.6% and 74.5% of employees in the agricultural and secondary sectors are men. Although women's occupancy rate in the tertiary sector is higher than men's (51.2%), the gender segregation index of Karmel and MacLachlan<sup>1</sup> in 2010 was 0.188 and 0.194 for remunerated and independent workers, respectively (INEGI, 2011a). Graph 2.2 and Table 2.1 show the distribution of labor force in Mexico by sectors and sex.

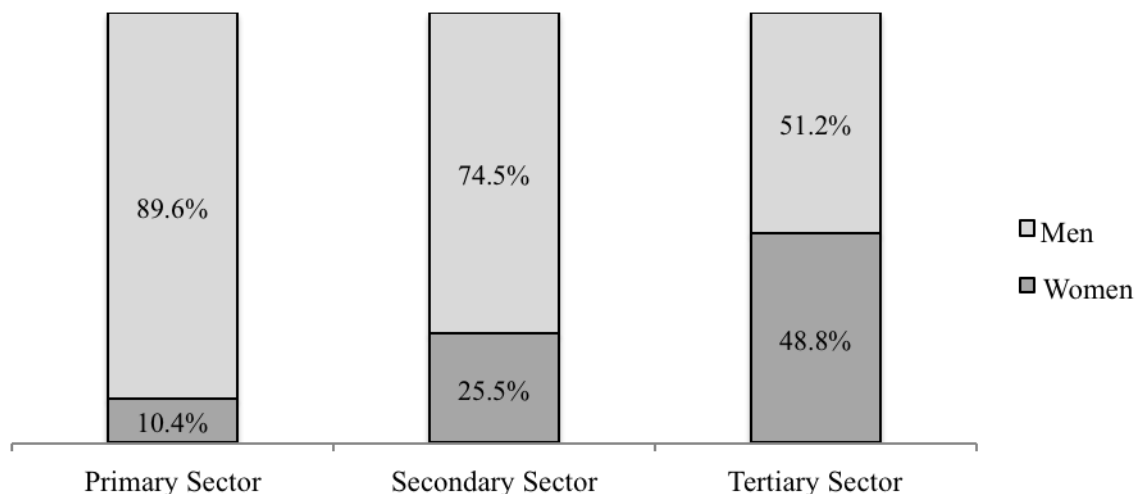
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<sup>1</sup> The Karmel and MacLachlan index measures the occupational gender segregation in the labor market. The index varies from 0 to 0.5, where 0 represents equal distribution of labor activities between women and men, and 0.5 the completely unequal distribution. It also indicates the percentage of men would need to change their job in order to have an equal distribution of labor activities between men and women. The index is estimated by the following formula:

$$IS = \frac{1}{T} \sum_i^n |m_i - \alpha(h_i + m_i)|$$

Where  $T$  represents employed people,  $\alpha$  the proportion of women relative to the total employed people,  $m_i$  y  $h_i$  the proportion of men and women working in the job  $i$ .

Graph 2.2 Distribution of Employed Population in Mexico in the first quarter of 2014, by economic sector and sex



Source: own elaboration with information from the National Survey of Occupation and Employment (ENOE), 2014.

Table 2.1 Distribution of the Employed Population in Mexico in the first quarter of 2014, by economic sector and sex

Economic Sector	Women	Men
Primary	3.7%	19.5%
Secondary	16.3%	29.1%
Electricity and Extractive Industry	0.4%	1.2%
Manufacturing Industry	15.3%	16.4%
Construction	0.7%	11.4%
Tertiary	79.5%	50.8%
Commerce	26.1%	15.4%
Restaurants and Accommodation Services	11.3%	4.6%
Transportation, communications, and storage	1.4%	7.1%
Professional, Financial, and Corporate Services	7.0%	6.9%
Social Services	13.7%	4.7%
Diverse Services	15.2%	7.5%
Government and International Agencies	4.8%	4.7%
No specification	0.4%	0.6%
Total	100%	100%

Source: own elaboration with information from the National Survey of Occupation and Employment (ENOE), 2014.

Although Ibararán and Robles (2003) suggest that the labor market in Mexico has created more and better job conditions for women, they are still unequal. Martínez and Acevedo (2002) find that women who work in urban areas earn 9.0% less than men. And this difference derives from their marital status and sex. Martinez and Acevedo point out that people's marital status is a determinant of discrimination in the labor market and that married and cohabiting women suffer more discrimination than other groups of people.

In Mexico, as in many other countries, employers prefer employing single women with no children because family responsibilities do not interfere with their work (Chant, 1991; Levine, 1990). Also, because single mothers and married women have more inflexible domestic and caregiving tasks they are more likely to be employed in the informal sector (Cunningham, 2001).

According to Sánchez and Pagán (2001), differences in domestic responsibilities explain differences in the participation in the labor market between women and men. Results from the Survey on Family and Vulnerability in Mexico point out that 53.6% of women who stopped working in 2006 did so because they got married or decided to take care of their children (Instituto de Investigaciones Sociales, 2006). Similarly, in 2002, 52.1% of women and 56.2% of men believed that women should not participate in the labor market because working women disregard domestic and caregiving activities (Observatorio de Género y Pobreza, 2002).

Although currently less than 50% of working age women participate in the labor market, female labor force participation rate has notably increased during the last decades. Projections suggest an increasing participation of women in the labor market in Mexico during the coming years (United Nations, 2010). According to Partida (2008), in Mexico, female participation in the labor market will increase more than male participation. Partida (2008) estimates that female labor force participation will increase 1.35% annually during the next forty years; whereas men's participation annual growth will be 0.64%. Despite these projections, in 2050 women's rate participation will not be greater than 50%.



## **Chapter 3**

### **Theoretical Framework**

#### **Definition of attitudes**

Attitudes can be defined in a variety of ways, but most definitions refer to predispositions to act toward an object (Allport, 1935; Collins, 1970; Katz, 1960). According to Allport (1935), an attitude denotes a “mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual’s response to all objects and situations with which it is related” (p. 810). Attitudes are ideas charged with emotions that influence individuals’ behavior (Triandis, 1971). They reflect individuals’ convictions about which objects are good and bad (Collins, 1970). Katz (1960) defines an attitude as “the predisposition of the individual to evaluate some symbol or object or aspect of his world in a favorable or unfavorable manner” (p. 168).

In this regard, attitudes function as a component to help people understand the world (Katz, 1960). Through attitudes people interpret complex phenomena and express their values and culture (Triandis, 1971). Several authors (Allport, 1935; Collins, 1970; Triandis, 1971) have pointed out that attitudes define some aspects of people’s personality. Also, attitudes bring people some extent of predictability. People create reactions to objects based on their beliefs and

previous experience. When people know how to behave and possible outcomes, they gain predictability about their systems (Triandis, 1971).

Individuals' attitudes serve as a means of adjustment to their environment and facilitate interactions with other people who have similar systems (Katz, 1960; Triandis, 1971). Also, through attitudes individuals give meaning to their behavior. People support their behavior with their attitudes and opinions (Triandis, 1971). Specifically, attitudes are behavioral intentions. All attitudes must include beliefs, but not all beliefs involve attitudes (Katz, 1960). On the other hand, people constantly compare themselves with others to whom they share similarities and to some extent adopt their behavior and attitudes (Collins, 1970).

Attitudes are comprised of three components: cognitive, affective, and behavioral (Katz, 1960; Triandis, 1971). The cognitive component is composed of ideas regarding an object. These ideas serve individuals to classify objects into categories. Categories are formed based on objects' attributes. Stereotypes result from generalities of people's categorization and constitute ideas to categorize objects. The affective component constitutes the emotions that an idea or category produces in people. This component determines the intensity of an attitude (Katz, 1960). And the behavioral component represents predispositions of action toward objects. The cognitive component is the minimum condition for having an attitude. Basically, if a person cannot classify or do not know an object, he or she cannot associate it with pleasant or unpleasant emotions.

In turn, people's emotions are formed from perceptions about the goals that objects will help them to reach (Triandis, 1971). Therefore, individuals develop positive emotions toward objects that could generate desirable outcomes in them. However, social norms help anticipate expected consequences and people's daily behavior. Norms also create emotions toward objects. Norms create habits and habits are developed through learning processes (Triandis, 1971). Triandis (1971) points out that attitudes and norms are highly correlated. Nevertheless, individuals have ideas about what is a correct behavior. In this regard, norms interact with emotions and partially define attitudes. Then, individuals who experience negative emotions toward an object are not necessarily ruled by hostile norms toward such objects. For instance, people may have negative attitudes toward working women, but they will not necessarily act against them.

The concept of attitude bears a close relationship to opinions, roles, and values. Opinions are verbal expressions of individuals' attitudes (Thurstone, 1928). Thereby, opinions refer to what people say about an object, what they feel about it, the way people say they will behave toward it, their ideas about it, and norms around it. However, attitudes can also be expressed in nonverbal terms (Katz, 1960). Meanwhile, the term role refers to "consistent patterns of individual activity (e.g., behavior, cognition or affect) within a relationship" (Peplau, 1983, p. 222). Roles imply the repetition of activities over time, but not all patterns of

activities constitute a role. For instance, brushing the teeth or sleeping every day are not part of mothers' roles. Also, some roles can be comprised of activities with less frequency of occurrence. For example, giving birth is part of mothers' roles, but it is less recurrent than feeding their children (Peplau, 1983).

Concerning values, a value system constitutes a hierarchical structure of specific attitudes (Katz, 1960). Values embed attitudes and the interpretation of circumstances and opinions that people have about the meaning of their lives (Chiro, 2012). According to Katz (1960), when an attitude is an isolated attitude and is not part of a value system, it is more likely to be changed through external means than when it is strongly tied to a value system. Conversely, attitudes derived from a well-established value system tend to be more resistant to change.

On the other hand, attitudes tend to be consistent among them and with people's behavior (Triandis, 1971). Therefore, people will be likely to develop similar attitudes toward objects that belong to the same category. For example, if people associate working women more with irresponsible mothers than with responsible mothers, they will tend to have the same attitudes toward working women and irresponsible mothers. Also, if people have respect toward working women, they will be likely to interact or cooperate with them.

## **Attitude change**

This section presents a review of two different theories that explain the mechanisms through which people's attitudes change. The next section presents the theory of cognitive consistency. According to this theory, attitudes and their different components bear a consistency among them. When an external factor alters any component, attitudes change in order to maintain their consistency. Then, a review of modernization theories is presented. Modernization theories suggest that industrialization creates an environment conducive to less traditional views of gender roles. According to modernization theories, changes driven by industrialization such as a higher female participation in the labor force, diversification of social interactions, technology, and higher levels of education, promote egalitarianism. Finally, based on these theories, the last section presents the determinants of attitude change and a literature review that supports the impact of these factors.

### **Theories of cognitive consistency**

Theories of cognitive consistency postulate that attitudes, beliefs, and behavior are consistent among them, but in the presence of inconsistencies individuals naturally reduce discrepancies in them (Katz, 1960; McGuire, 1960). That is, if two objects are related, when the attitude toward one of them is affected, the attitudes toward the other one will also change. For instance, if

person *a* likes person *b* who in turn likes an object *x*, person *a* will tend to like object *x*. But if person *b* changes his or her preferences and now dislikes object *x*, person *a* will tend to adjust his or her position. In this example, the theories of cognitive consistency state that there exists a balance when the three links are positive (*a* likes *b*, *b* likes *x*, and *a* likes *x*) or when two links are negative (*a* dislikes *b*, *b* dislikes *x*, and *a* likes *x*). When all links or only one are negative, the relational system is under strain and unbalanced. When the system is unbalanced, links tend to change. The strength of the links will determine which links change (Triandis, 1971).

However, Triandis (1971) argues that inconsistencies between the cognitive and affective components do not lead to attitude change immediately. A person may receive a positive communication message that changes his cognition, but she/he will not necessarily produce a change in attitudes toward objects. For instance, people who dislike working mothers, when hearing about some good actions by working mothers, may make the distinction between “good working mothers” and “most working mothers”. People’s reactions to new communication or information will strongly depend on their previous experiences and current needs. Then, if people start experiencing rewards with an object, they will tend to change to positive attitudes toward the object. In turn, when people experience punishment, they will tend to develop negative attitudes. And particular needs

will tend to enhance certain messages. Group membership will influence the extent to which people accept communication messages or information.

Attitude change involves a long-lasting influence (Collins, 1970). New experiences change people's attitudes (Triandis, 1971). According to Triandis (1971), direct experiences alter the three components of attitudes (cognitive, affective, and behavioral) while indirect experiences only affect the cognitive and behavioral components. Also, people's cognitive component changes when individuals receive different communication messages, which in turn will alter the affective component. In addition, people's attitudes tend to maintain consistency with their daily life experiences (Inglehart, 1990).

Kelman (1966) states that new experiences lead to attitude change because new actions allow people to reexamine their attitudes toward an object and to have different experiences in relation to the object. A variety of interactions and options to act facilitate attitude change. Attitude formation and changes depend in part on individuals' needs and relevant characteristics in their environment (Inglehart, 1990; Katz, 1960). If existential conditions change, attitudes are likely to change correspondingly. Also, changing situations will tend to alter individuals' attitudes.

According to Katz (1960), attitude change is better understood when it is analyzed in terms of its functions. Katz (1960) classifies attitudes into four groups depending upon their function: instrumental (also called adjustive or utilitarian),

ego-defensive, value-expressive, and knowledge function. The instrumental function helps people reach desired goals. Through this function people try to avoid punishments and maximize their wellbeing. Individuals' goals are important in the adoption of these attitudes. The theory of rational choice is based on individual incentives to determine individuals' behavior. In this regard, Inglehart (1990) acknowledges that motivation can be entirely based on private incentives – or individual nature– that allow attitudes to be maintained. Through the ego-defensive function people defend their self-image or themselves from realities in their environment. For example, when people cannot admit to themselves that they feel humiliated, they may protect those feelings bolstering their egos by attitudes of superiority toward other individuals.

Concerning the value-expressive function, it serves to express people's attitudes and identity. People may receive satisfaction from expressing their value systems and self-concepts. In turn, the knowledge function helps individuals to structure and organize their notions in positive and negative terms. In this regard, to change attitudes with an instrumental function either attitudes need no longer to serve to reach people's objectives or individuals' satisfactions levels need to increase. But needs are slow to change. Then, changes in attitudes are more likely when people find other attitudes to reach what they pursue. Attitudes whose function is ego-defensive change under the existence of threats, authority, social influence, or prohibitions. Meanwhile, attitudes with a value-expressive function



may change when people experience some level of dissatisfaction with their self-conception or discrepancies of old attitudes with a new value system. Finally, attitudes that serve the knowledge function change when they are inadequate for changing situations or are unbalanced with other attitudes or value systems (Katz, 1960).

Meanwhile, Kelman (1958, cited in Collins, 1970) classifies the processes of attitudes change into three groups: compliance, identification, and internalization. Compliance occurs when individuals accept influence on their behavior from another person or group because they expect a favorable reaction from them. This favorable reaction can be a reward or to avoid a punishment. Identification happens when people adopt behavior that satisfies their self-identification with others. And internalization occurs when individuals accept influence on their behavior because it is consistent with their value system.

### **Modernization theories**

Although perspectives of modernization failed in most of their economic and social predictions (Martinelli, 2005), they bring a relevant framework to explain attitude change (Inglehart & Welzel, 2005). The definition of modernization connotes a process of simultaneous and large-scale changes in different spheres (Martinelli, 2005). According to modernization theories, in the face of changing situations people draw on new strategies for adaptation that alter their attitudes toward objects and situations (Chase, 2006; Chirot, 2012; Inglehart,

1990; Inglehart & Norris, 2003; Inglehart & Welzel, 2005). Thus, changing situations, such as industrialization or governments' actions, may transform individuals' attitudes toward gender equality (Inglehart, 1990; Inglehart & Norris, 2003; Inglehart & Welzel, 2005).

Two approaches of modernization theories explain the mechanisms through which women adopt more egalitarian attitudes. The first approach postulates that improvements in economic security determine changes in individuals' attitudes (Inglehart, 1990; Inglehart & Norris, 2003; Inglehart & Welzel, 2005). Meanwhile, the second perspective suggests that new daily experiences driven by modernization processes lead to a growing emphasis on equality (Bell, 1976).

Concerning the first approach, people who experience continuous levels of insecurity related to the satisfaction of their basic needs are more likely to develop mistrustful attitudes, traditional division of roles, positions of authority, and religion-oriented practices. Individuals vulnerable to unemployment risks, insecurity, natural disasters, or health problems are more likely to hold these views (Inglehart, 1990). According to modernization theories, the transition from an agrarian economy to industrial production results in economic improvements. Although evidence points out that economic growth does not necessarily lead to better wellbeing conditions for the entire population, several studies support the argument that economic progress is highly related to egalitarian beliefs (Inglehart,

1990; Fernández, 2010; Goldin, 1990). Also, industrialization is accompanied by the development of the welfare state whose main objective is to promote citizens' wellbeing (Martinelli, 2005).

Economic development and social protection bring security to people of their basic needs. As scarcity decreases, the marginal effect of economic development starts diminishing and individuals begin to yearn for variety in choices with respect to their lives (Inglehart, 1990). When individuals take survival and economic security for granted they tend to emphasize more subjective wellbeing and quality-of-life elements. In general, economic development provides people capabilities to base their lives on more autonomous choices and creates a favorable climate for less traditional views (Inglehart, 1990; Inglehart & Welzel, 2005). More specifically, individuals whose priority is not securing essential needs are more likely to value aspects related to quality of life, self-expression, tolerance, environmental protection, diversity, gender equality and wellbeing (Inglehart & Norris, 2003).

In general, industrialization brings about socioeconomic changes through processes of production (Inglehart, 1990). Specialized production processes require skilled labor force. The development of the welfare state through actions that intend to improve individuals' living conditions along with higher income levels and new demands for workforce promote education in formal institutions. With higher levels of education, individuals are exposed to new knowledge and

egalitarian views. Thereby, more educated people tend to adopt secular values, and base their beliefs and decisions on rationalism (Inglehart & Norris, 2003).

Although in industrial societies the role of family and religion continues to be important in people's lives, the development of the welfare state softens this relationship. The development of the welfare state provides higher social protection for vulnerable individuals. This condition reduces the importance of religion to determine people's wellbeing. For instance, when one-parent families are more likely to meet their economic needs, religion loses influence on people's behavior and individuals begin to accept divorce, single mothers, and egalitarianism (Inglehart, 1990). Thus, modernization processes create a 'modern identity' framed by "rationalism, individualism/subjectivity, utilitarianism, the incessant quest for knowledge, innovation and discovery, the constitution of the self as an autonomous subject, the refusal of limits, the principle of liberty and equality of rights and opportunities" (Martinelli, 2005, p.19). Furthermore, as liberty and equality are central principles developed during modernization processes religion constitutes a constraint for these views and its influence on people is reduced (Inglehart, 1990).

On the other hand, Bell (1976) associates changes in people's attitudes with new conditions of their economic activities, institutions, and the emergence of new technology. According to Bell (1976), transformations in the environment produce profound modifications in individuals' conceptions of the world. In the

presence of technology, people experience a mechanical world where they possess control over the environmental conditions. Technology gives people control over production processes and daily life (Chirot, 2012). The development of technology occurs on the basis of scientific knowledge. Rationality is at the core of modernity and becomes a means through which social coexistence is possible and a mechanism to explain reality (Martinelli, 2005).

Also, people's attitudes are strongly defined by their interactions with economic activities (Bell, 1976, Chirot, 2012). Since the labor market is where individuals produce and obtain what they need, people's lives are strongly defined by their interactions with economic activities (Chirot, 2012). Women's participation in the labor market exposes them to new different interactions that may transform their motivations and meanings. The environment, interactions with other individuals, and people's experiences determine social beliefs and preferences, which in turn define the extent to which attitudes may change (Chase, 2006; Fernández, 2010). Diversity of human interactions free individuals from closed social circles and bring them options to interact with people who share their same needs and environments (Inglehart & Norris, 2003). People's attitudes are created through socialization processes, and individuals serve as a transmission channel of the view of the groups of which they are part (Merton, 1959). In this regard, individuals' socialization experiences define their subjective orientations, which in turn shape their responses to situations (Chase, 2006).

When needs lead people to change to roles that are not related to their current groups, diversification of interactions allows them to create social ties to other people with different roles. Also, socioeconomic development is accompanied by new interactions in different spheres. Diversity of human interactions creates a sense of human autonomy (Inglehart, 1990). Thus, through employment options of human interactions are diverse and people's roles are not restricted to specific social circles. Thereby, possibilities of diversifying interactions free individuals from established roles (Inglehart & Welzel, 2005). Accordingly, as women increase their participation in the labor force, industrialization creates an environment conducive to less traditional views of gender roles in households. Allport (1954, cited in Triandis, 1971) claims that the majority of individuals' attitudes are formed and changed from talking to members of the groups to which people belong. Thereby, new group membership may also change people's attitudes.

In sum, modernization denotes a transition from preindustrial societies to industrial and postindustrial societies. Preindustrial societies are characterized by agrarian activities and a marked division of labor. In preindustrial societies women are encouraged to stay at home and fertility rates are high (Spitze, 1988). In these societies people tend to develop attitudes that reject divorce, homosexuality, and gender equality (Inglehart, 1990; Fernández, 2010).

According to modernization theories, there are two phases in which industrialization induces women to adopt more egalitarian attitudes. In the first stage, modernization theories suggest that changes in the labor market driven by structural shifts promote women's participation in the labor force. The emergence of new factories increases the demand for labor force and new job opportunities bring women into the labor market. In industrial societies the environment changed from fields and agriculture-based activities to factories. Production processes are based on technology and the substitution of animal labor. Industrialization requires specialized skills that are acquired through formal education. The process of modernization accelerates educational opportunities for women, which in turn increases female schooling (Martinelli, 2005).

Industrialization is accompanied by a rapid process of urbanization, migration to urban areas, social differentiation, increasing social mobility, secularization, individualism, rationalism, utilitarianism, and increases in the age of marriage (Martinelli, 2005). A growing female participation in the labor market and higher access to contraceptive methods decrease fertility rates. Although religion becomes less important as technology gives people control over their environment, it continues to influence norms about the appropriate sex roles inside and outside the household (Inglehart & Norris, 2003). Industrialization promotes the development of science and technology, the formation of a global capitalist market, specialization, and mass consumption (Martinelli, 2005).

Regarding the political dimension, it involves increases in government's interventions in public affairs, multiple institutions, and the development of the welfare state whose objective is to promote citizens' wellbeing (Martinelli, 2005). Changes produced by modernization alter individuals' experiences and strategies for adaptation. In this regard, industrialization promotes liberation of women from patriarchal authority, modification of women's roles, and higher levels of individual autonomy. Female participation in the labor market, interactions with other people, and higher educational attainments lead individuals to adopt more egalitarian attitudes (Inglehart, 1990; Inglehart & Norris, 2003; Inglehart & Welzel, 2005). Although individuals hold more egalitarian attitudes, gender inequalities persist in the household and the labor market.

The second stage is characterized by postindustrialization. In postindustrial economies, the majority of people reduce their interactions in work with machineries. The economy centers on services, innovation, and knowledge sectors. Now jobs involve more interactions with other people and symbols. Also, people from postindustrial societies tend to work in professions that they enjoy and where they have a feeling of accomplishment. Individuals support diversity and gender equality (Inglehart, 1990). In this stage women are educated and have gained power in politics and all professions (Inglehart, 1990; Inglehart & Norris, 2003). People are less supportive for gender inequality in the household and society. The core of postindustrial societies is innovation and knowledge. In this



regard, an environment where innovation and freedom to exercise judgment are essential promotes the rise of self-expression and quality-of-life aspects (Bell, 1976).

### **Theories of cognitive consistency vs Modernization theories**

As mentioned, theories of cognitive consistency and modernization theories serve as a theoretical framework to determine how people adopt more egalitarian attitudes toward gender equality. Both theories present similarities and differences in their tenets. On one side, both theories of cognitive consistency and modernization theories suggest that individuals' attitudes toward an object change as a result of transformations that affect aspects related to the object. Based on theories of cognitive consistency, these changes can be new information about an object, different experiences, changes in the environment, or interactions with people with different ideas (Katz, 1960; Triandis, 1971). Likewise, modernization theories postulate that changes in the environment driven by industrialization, such as new conditions of people's economic activities, diversity of social interactions, exposure to egalitarian ideas, and economic security, promote more egalitarian attitudes among people (Inglehart, 1990).

Modernization theories bring a more detailed explanation about the pathway of attitude change compared with theories of cognitive consistency. Although theories of cognitive consistency indicate that people's attitudes will change according to the strength of the relationships among their components

(Triandis, 1971), they do not specify the velocity of change. Meanwhile, modernization theories suggest two stages through which people adopt more egalitarian ideas. These theories indicate that attitude change is not instantaneous mainly because during the first stage coexist different social strengths that promote egalitarian ideas and traditional practices.

Theories of cognitive consistency and modernization theories are used as the theoretical foundation of this research. This research is based on the fact that women's entry into the labor market represents a transformation in their lives that affects their attitudes toward women's and men's roles. According to theories of cognitive consistency, diversity of social interaction, different experiences, and new information received in the labor market allow them to reexamine their attitudes (Kelman, 1966) or alter their components (Katz, 1960; Triandis, 1971). Women's involvement in less traditional practices can represent a change in their relational system, which in turn will affect their attitudes toward gender equality. On the other hand, based on modernization theories, women's exposure to egalitarian ideas and economic security gained through employment promote women's egalitarian attitudes toward gender equality. Also, female participation in the labor force increases women's social interactions that free them from social circles that promote traditional practices (Inglehart, 1990).

## **Determinants of attitude change**

Bolzendahl and Myers (2004) make a distinction between approaches that aim to explain changes in attitudes. They classify explanations into interest-based and exposure-based approaches. The theoretical foundation of the interest-based approach is that individuals are more likely to develop or change their attitudes toward gender equality when they benefit from more egalitarian positions of women in society. Basically, women are more likely to hold egalitarian attitudes when they gain direct benefits to them. According to this perspective, one of the reasons why there exist differences in egalitarian attitudes among people is because they have different beliefs about the benefits of gender equality (Glass, 1992). Meanwhile, the exposure-based perspective suggests that individuals' attitudes toward gender equality are developed through mechanisms that expose them to egalitarianism. Individuals can be exposed to equality ideas through education, socialization, and personal experiences (Bolzendahl & Myers, 2004).

Similarly, Gerson (1987), following Luker's work, lists three reasons why women differ in their positions regarding gender aspects: "1) women differ significantly in their world views, perceived interest, and political behavior; 2) these differences in outlook reflect more basic differences in social circumstances; and 3) how women construct their private lives, especially their commitments to men, children, and the family, has important political implications" (p. 213).

Broadly, factors that drive sex-role attitude change can be classified into either category of both Bolzendahl and Myers' perspectives and Gerson's analysis. The next sections present different mechanisms through which women develop egalitarian positions. These mechanisms are classified into the following categories: i) employment and social interactions; ii) household characteristics; and iii) socio-demographic characteristics.

### **Employment and social interactions**

Both the interest-based and the exposure-based perspectives coincide that employment is a source of attitude change. According to the interest-based perspective, working women hold more egalitarian attitudes than those who stay at home because they realize the benefits of reducing gender asymmetries in the labor market. Conversely, women who do not participate in the labor market have less interest in eliminating gender discrimination (Bolzendahl & Myers, 2004). They have fewer incentives to eliminate gender asymmetries because their partner as well their households are in a relative better economic position than families of working women (Bolzendahl & Myers, 2004; Pampel, 2011). Cassidy and Warren (1996) find that women who stay at home hold similar sex-role attitudes to their partners' views. As women are more economically dependent on men, they hold a subordinated position in the household that shapes women's interpretations toward unequal sex-role orientations. Baxter and Kane (1995) point out that

women's dependency on men's income can constrain their adoption of egalitarian beliefs.

On the other hand, the interest-based arguments suggest that women may stick to traditional views to defend the choices of lifestyle they have made (Gerson, 1985; Klein, 1984; Plutzer, 1988). As a result, full-time jobs and better salaries are less attractive to women with stronger commitment to family life (Gerson, 1987; Glass, 1992). The meaning for women of working outside the home influences the potential impact of their participation on their attitudes (García & De Oliveira, 1994). According to García and De Oliveira (1994), women that consider their work as part of their personal development promote more egalitarian relationships.

Regarding the exposure-based perspective, Klein (1984) stresses that employment leads women to hold more egalitarian positions through different channels. On one side, women gain new skills in the labor market, which leads them to question presumable differences in capabilities of women and men. When women work in the labor market, they become aware of their equal capabilities to men and reject stereotypes and own traditional practices. Also, women's exposure to new ideas and social interactions are likely to heighten their awareness of opportunities. Moreover, employment experience raises women's expectations about their life. Furthermore, women become independent financially and gain rights in the household. The participation of women in the labor market makes

them raise their self-esteem, acquire a degree of independence, and achieve greater respect in society and within their families (García & De Oliveira, 2004). Conversely, women who stay at home and depend economically on their partner limit their awareness of opportunities in the labor market (Baxter & Kane, 1995).

In addition, the exposure-based perspective postulates that women's participation in the labor market exposes them to discrimination in the workplace (Bolzendahl & Myers, 2004). Discrimination generates a feminist consciousness in women to support gender equality. Although the exposure-based arguments suggest that experiences of discrimination in the labor market increase women's support for egalitarianism, Gerson (1987) finds that women who experience unsatisfying situations in the workplace are more likely to increase their commitment to family life. Accordingly, their role in the household becomes a source of satisfaction and replacement for work life. In the same direction, Fernández (2013) suggests that women's perception of high costs of working can discourage female labor force. Nevertheless, both studies find a positive impact of employment on women's egalitarian sex-role orientations among those who stay in the labor market.

In general, the exposure-based perspective suggests that women in the labor force are more likely to hold egalitarian positions because gender inequalities in the workplace make women aware of them. Also, exposure to the labor market leads them to blur ideas of differences between women's and men's

capabilities. Furthermore, they increase their interactions with people who hold less traditional views of gender (Bolzendahl & Myers, 2004; Klein, 1984).

But work experience affects differently women's egalitarian sex-role orientations depending upon their marital status. Thornton, Alwin and Camburn (1983) and Spitze (1978) point out that female employment has a positive effect on women's attitudes toward gender equality only after marriage. They do not find significant evidence that indicates that work experience before marriage is relevant to explain women's attitudes toward gender equality. Spitze (1978) stresses that women's attitudes toward gender equality change in the face of unusual experiences, and in general employment before marriage does not constitute an unusual experience for single women.

In spite of the documented positive effects of female employment on women's acquisition of egalitarian attitudes, the impact of women's participation in the labor market on women's egalitarian attitudes may vary depending on the circumstances of the job (Baxter & Kane, 1995; Cerrutti, 2003). Cerrutti (2003) holds that the impact of women's labor participation on their positions differs if they work part or full-time, in the formal or informal market, and if they are independent workers or not. Women who work in the informal market, part-time, or as independent workers have more unstable participation in the labor force than women who participate in the formal sector (Cerrutti, 1997). Flexibilities of the informal sector lead women to continue to be responsible for both the domestic

and extra-domestic work and to enter and exit the labor market based on the household's needs, rather than on their own desires (Cerrutti, 1997; González, 2001).

Also, the adoption of egalitarian orientations is influenced by the number of working hours. A number of studies find a stronger impact on women's attitudes toward gender equality as they increase the number of hours that they work in the labor market (Cassidy & Warren, 1996; Glass, 1992). Although results from Cassidy and Warren (1996) reveal a higher impact of female employment on egalitarian attitudes of women who work full time, sex-role orientations of women who work part time are closer to full-time employed women than to women who do not participate in the labor market.

Through new experiences employment may change women's socio-demographic characteristics, such as education or decisions about the number of children they have, which in turn may alter their attitudes. On the other hand, women's participation in the labor market implies higher household's income. As mentioned before, there is strong evidence that economic progress is highly related to egalitarian beliefs (Inglehart, 1990; Fernández, 2010; Goldin, 1990). Broadly speaking, the impact of female labor force participation on family dynamics highly depends on women's contribution to household income (Spitze, 1988), conditions of work (Cerrutti, 2003), and number of working hours (Cassidy & Warren, 1996; Glass, 1992).



On the other hand, women's participation in the labor market also affects men's and children's adoption of egalitarian attitudes. According to Baca (2005), female employment has the capacity to transmit cultural changes toward households, and family dynamics change as their members alter their attitudes (Kaufman, 2000). Although female employment has a stronger effect on women's attitudes than on men's (Cassidy & Warren, 1996; Pampel, 2011), evidence points out that husbands of working women are more supportive of gender equality than partners of housewives (Cassidy & Warren, 1996; Farré & Vella, 2013; Spitze & Waite, 1981).

Plutzer (1991) indicates that working wives share their experiences of discrimination and new perspectives about egalitarianism with their husbands, which make them change their sex-role orientations to the same direction. Thereby, the effect of female employment on the adoption of egalitarian attitudes is higher among husbands of women who experience gender discrimination. Similarly, Bolzendahl and Myers (2004) suggest that husbands of working women are more likely to adopt egalitarian attitudes because they benefit directly from a less disadvantaged position of women in the labor market. Likewise, Spitze and Waite (1981) conclude that husbands of working women change their attitudes because they realize that employment is economically beneficial for their families. Also, the existence of two-earner household alters men's experiences and it gradually results in more egalitarian attitudes among husbands (Farré &

Vella, 2013; Wilkie, 1993). Concerning the differences between the effect of employment on women's and men's egalitarian attitudes, Bolzendahl and Myers (2004) explain that differences in the impact of female employment come from the fact that men do not experience direct discrimination in the labor force.

Regarding the impact of female employment on children's attitudes, there exists evidence that points out that children's egalitarian views are strongly correlated with mothers' attitudes toward women's role in society (Fernández, Fogli & Olivetti, 2004; Farré & Vella, 2013; Thornton, 1989). Using data from an eighteen period, Thornton, Alwin and Camburn (1983) find a positive impact of mothers' participation in the labor market on children's egalitarian sex-role orientations.

### **Household characteristics**

Several studies suggest that household characteristics are crucial when analyzing women's situations (Baxter & Kane, 1995; Plutzer, 1988; 1991; Thornton, Alwin & Camburn, 1983). Plutzer (1988; 1991) and Baxter and Kane (1995) point out that family context shapes women's views because characteristics of households also conform people's experiences and interests. Although Gerson (1985) points out that unexpected opportunities to participate in the labor market may reverse ideologies from early gender orientations developed in the household, Plutzer (1991) stresses that family context has a stronger impact on the support for nontraditional views. He argues that, in general, women who

have lived with a strong commitment to traditional practices have fewer incentives to refuse attitudes that have supported their lifestyle and choices.

Literature has pointed family context as a structure that may promote women's advancement or reinforce traditional practices through different mechanisms. Specifically, evidence points out different elements of family context as predictors of shifts toward egalitarian attitudes in women. Among these factors we can find number of children, caregiving activities and domestic workload, and marital conflicts.

Regarding family size, Plutzer (1991) uses number of children as a predictor of women's support for egalitarian attitudes. He finds a negative relationship between number of children and women's egalitarian positions. Based on the interest-based approach, Plutzer argues that women with more children will have difficulty accepting the feminist agenda because it emphasizes opposite aspects to their family context. In this regard, Spitze and Waite (1981) suggest that husbands are more reluctant to approve women's participation in the labor market when they have young children because it may affect family organization. In contrast, Bolzendahl and Myers (2004) find that number of children has a positive effect on women's egalitarian attitudes. They argue that a higher workload of domestic chores and children rearing leads them to demand for more assistance from their spouses.

Concerning the exposure-based perspective, demands derived by child-rearing and domestic activities also conform women's exposure to traditional views, which are reflected in their attitudes (Baxter & Kane, 1995; Plutzer, 1988). Likewise, the exposure-based approach indicates that number of children as well as children's age limit women's exposure to egalitarian attitudes because they have less time to interact with other people and undertake other activities (Klein, 1984). Women with more and younger children spend more time on domestic and caregiving tasks than women with a less number of children (Baxter & Kane, 1995; Thornton, Alwin & Camburn, 1983). Similarly, Baxter and Kane (1995) use number of children as a measure of women's dependency on men and find a significant negative effect of number of children on egalitarian attitudes. They argue that the effect of children is greater in countries with less support for egalitarianism. Thereby, a higher institutional support for caring activities may encourage women's adoption of nontraditional orientations.

On the other hand, evidence from developing countries points out that women are increasingly likely to be burdened with housework and their domestic workload does not decrease when they participate in the labor force (Cerrutti, 2003; Del Tronco, 2008; Wainerman, 2003). Cerrutti (1999) and Del Tronco (2008) find that domestic chores undertaken by husbands of working women are similar to husbands of non-employed women. Therefore, working women are more likely to face a double burden comprised of domestic and extra-domestic

work, which in turn may disincentive female participation in the labor market (Moreno, 2003). Both activities reinforce women's subordination and reduce tempo of attitudinal change (Baca, 2005). Additionally, women with a double burden are restricted to undertake other activities that may promote their wellbeing (Del Tronco, 2008). Conversely, environments where there exists a redistribution of labor and men are involved in domestic and caregiving tasks promote women's decision-making capacity (Kaufman, 2000; Scanzoni & Szinovacz, 1980) and empowerment (Casique, 1999), which has a direct effect on women's sex-role orientations (Kaufman, 2000). Although in general men resist losing their status of breadwinners, they are more likely to accept women's economic contributions than redistributions of division of labor (Thornton, Alwin & Camburn, 1983). According to Perry-Jenkins and Crouter (1990), men's attitudes about having two providers is correlated with their participation in housework. Two-earner families are more likely to experience a redistribution of both provision and domestic activities than households when men are the only breadwinner. The existence of two earners alters men's experiences and it gradually results in more egalitarian attitudes among husbands (Farré & Vella, 2013; Ferree, 1991; Wilkie, 1993).

In general, income alters power and intrahousehold relationships (Goldin, 1990). As a result, women's entry into the labor market may cause or accentuate marital conflicts. When women reduce their commitment to family life or when

men's participation in domestic tasks does not increase in response to women's higher workload, conflicts may arise (Spitze, 1988). Grootaert and Narayan (2000) argue that marital conflicts may negatively affect household members' lives. As a consequence, women may exit the labor market. Spitze and Waite (1981) point husbands' preferences toward female employment as a determinant of some women's participation in the labor force. In contrast, sensitivity for other household members may improve their wellbeing because it facilitates intrahousehold resource allocation and increases the possibility for women to work.

### **Socio-demographic characteristics**

Individuals' socio-demographic characteristics play an important role in attitude change. According to Inglehart (1990) and Pampel (2011), people's socio-demographic characteristics determine the impact of changing situation on individuals' adoption of egalitarian orientations. A number of studies have found associations of egalitarian sex-role attitudes with people's characteristics such as education (Baxter & Kane, 1995; Cassidy & Warren, 1996), age (Baxter & Kane, 1995; Bolzendahl & Myers, 2004; Cassidy & Warren, 1996; Inglehart, 1990; Inglehart & Norris, 2003; Pampel, 2011), and age at marriage (Desai & Andrist, 2010).

Regarding age, several studies point out that people from different cohort adopt attitudes differently (Baxter & Kane, 1995; Bolzendahl & Myers, 2004;

Cassidy & Warren, 1996; Inglehart, 1990; Inglehart & Norris, 2003; Pampel, 2011). These authors indicate that younger people are more likely to change their attitudes than older people. This can be attributed to differences in their formative experiences during their childhood and adolescence. Recently, the emergence of technology and new trends in lifestyles has promoted a favorable environment for gender equality (Bell, 1976). Since formative experiences of young people have been more conducive to liberal views than for older people, younger people will tend to adopt egalitarian orientations more rapidly (Inglehart, 1990). In contrast, older people have had to adapt their lifestyles to new situations in the world. In addition, attitude change is more likely to occur during the early age because views developed during adolescence and adulthood tend to be more resistant to change (Inglehart & Norris, 2003).

Another factor related to the development of egalitarian attitudes is education. Education is a determining aspect in women's and individuals' lives. Education makes women to perceive non-marriage as a less unfamiliar aspect in their lives (Baxter & Kane, 1995; Mason, Czajka & Arber, 1976). Pampel (2011) and Baxter and Kane (1995) find that educated women are more likely to hold egalitarian positions. Also, education does not only increase women's participation in the labor market, but it is also correlated with lower fertility rates and an older age at marriage (Rendón, 2008). Less educated women get married earlier, which reduces their opportunities to be involved in other areas, such as

employment, political, and social spheres. Likewise, more egalitarian relationships are found among couples that get married older (Ribeiro, 1994b).

In addition, education provides women less traditional views regarding their roles (Ariza & De Oliveira, 2003; Baxter & Kane, 1995; Cassidy & Warren, 1996). Thereby, more educated women are less supportive of gender inequalities and traditional roles. Education leads them to increase their likelihood of divorce or separate when unequal conditions prevail in marriage. As a result, marital stability and egalitarian roles are negatively correlated (Kaufman, 2000). Though divorce and separation are related in first instance to economic instability and psychological consequences, in the medium run women report higher levels of autonomy and social interactions (Támez, 2011).

Based on the interest-based approach, Pampel (2011) argues that employed and educated women are more affected by the lack of opportunities and suffer more discrimination because they are more likely to participate in different spheres. In this regard, because educated and employed women are who receive more benefits from gender equality, they are more likely to adopt egalitarian orientations than housewives or women who stay at home (Bolzendahl & Myers, 2004; Plutzer, 1988; 1991).

On the other hand, although the effect of education is smaller on the development of egalitarian attitudes in men than on women (Pampel, 2011), educated men are more likely to adopt egalitarian attitudes toward gender aspects



(Baxter & Kane, 1995; García & De Oliveira, 1994). As stated before, egalitarian husbands participate more in domestic and caregiving tasks and tend to involve women in decision-making processes (Kaufman, 2000). Thereby, husbands' involvement in domestic work promotes women's empowerment and autonomy (Casique, 1999). This alters women's role in households, which affects their attitudes toward gender equality (Chiot, 2012; Goldin, 1990).

Autonomy can be indicated by different aspects such as age at marriage (García, 2003). On one side, when women get married older they have fewer children (Desai & Andrist, 2010). As mentioned, a higher number of children increases women's domestic workload and restricts their involvement in other activities. On the other side, age at marriage is also associated with empowerment and autonomy levels (Narayan, 2005) because women who get married younger are more likely to agree in aspects that reinforce traditional roles in households (Desai & Andrist, 2010).

### **Other factors**

Influences on attitudes toward gender equality include other factors such as economic resources, religion, childhood exposure to egalitarian orientations as well as parents' sex-role orientations. Plutzer (1988) suggests that as women increase their participation in the labor market, other variables such as religion, education, race, and place of residence will have a higher impact on women's egalitarian sex-role orientations than female employment.

Regarding economic resources, there is strong empirical evidence that women with more economic resources gain more spaces of control to redefine their lives. Economic resources are related to women's ability to act autonomously (Blood & Wolfe, 1960; Bojorquez-Chapela, Salgado & Casique, 2009; Casique, 2010; García, 2003; Támez, 2011). Though remunerated employment is the main source of income for women in developing countries, other resources, such as ownership of land and cash transfers, are important determinants in their lives. Ownership of land and cash transfers increase women's bargaining power with their partners (Agarwal, 1994; Allendorf, 2007; Blood & Wolfe, 1960). Baxter and Kane (1995) find that factors related to women's dependence on men, such as lower education levels and economic resources, will have a negative impact on women's feminist orientations and a stronger effect in societies with higher gender inequality.

Religion is an important influence in many developing countries that intends to maintain traditional values of marriage, motherhood, and childrearing. In general, it is expected for religion to reinforce traditional division of labor. Previous studies have found that church attendance is negatively related to the development of egalitarian orientation among both women and men (Inglehart, 1990; Thornton, Alwin & Camburn, 1983). The predominant culture of machismo in the Latin American context along with the importance of the Catholic Church

defines women's attitudes toward their employment status and role in society (Levine, 1990).

In addition, governments' actions play an important role in people's life course (Esping-Andersen, 1990). According to Agarwal (1994), support from the State and non-governmental organizations affect women's positions in their relationships. On the other hand, Bolzendahl and Myers (2004) point out that different regions provide particular contexts regarding gender equality. They claim that people residing in urban areas are exposed to less traditional ideas about gender roles. Therefore, urban environments are more likely to encourage the development of egalitarian orientations.

### **A dual relationship**

Although, as mentioned, female employment positively affects the adoption of egalitarian sex-role attitudes, there are also sufficient reasons to expect an opposite relationship between female labor force and gender orientations. There are two different approaches that address the relationship between women's labor participation in the labor market and egalitarian attitudes. The first approach attempts to explain changes in women's egalitarian attitudes as a result of employment status (Gerson, 1987; Plutzer, 1988), exposure to egalitarianism (Baxter & Kane, 1995; Plutzer, 1988; 1991), social interactions (Bolzendahl & Myers, 2004; Klein, 1984), and background socioeconomic variables such as education (Pampel, 2011), age (Cassidy & Warren, 1996), and

number of children (Baxter & Kane, 1995; Thornton, Alwin & Camburn, 1983). The second approach suggests that women's orientations toward gender equality determine their participation in the labor market (Thornton, Alwin & Camburn, 1983).

Despite both perspectives holding strong arguments, there exist a few panel studies that explore the causal relationship between attitudes and women's participation in the labor market. Essentially, existing studies assume a certain casual nature between female employment and women's sex-role orientations.

A causality condition implies, among other circumstances, the independent variable to occur before the dependent variable. In this regard, Gerson (1987) finds that most women engaged in their first job because of economic needs instead of their gender equality orientations. Employment experience increased their commitment to work and raised their expectations about their work life. In this direction, Spitze and Waite (1981) do not find a significant impact of women's early sex-role orientations on their decisions to participate in the labor market. Their results indicate that female employment is related to household's needs.

In social psychology it has been argued that behavior is regulated by individuals' attitudes (Kanfer, Karoly & Newman, 1974). For instance, divorced women adopt more egalitarian position after they get divorce. Also, fertility intentions and abortion preferences have been documented as a result from

individuals' attitudes (Kaufman, 2000; Plutzer, 1986). Also, women with egalitarian views are more likely to have fewer children (Rendón, 2008). Regarding employment, Thornton, Alwin, and Camburn (1983) point out that women's feminist orientations affect their participation in the labor market. In contrast, as mentioned, several studies find that female entry into the labor force has a positive effect on the development of more egalitarian attitudes (Pampel, 2011).

Thornton, Alwin, and Camburn (1983) find a both-way relationship between female participation in the labor market and egalitarian attitudes between 1962 and 1980 and among women residing in the United States. However, they point out that this dual work-attitudes relationship exists only after marriage. They find that single women's employment status does not define their future attitudes.

Despite a general controversy around the causal relationship between employment and women's egalitarian orientations, a number of studies find a recent trend to adopt egalitarian sex-role orientations (Pampel, 2011; Plutzer, 1988; Thornton, Alwin & Camburn, 1983). For instance, controlling for education and commitment to work Pampel (2011), finds an increasing adoption of egalitarianism among people born after 1970's. The fact that different studies suggest opposite findings indicates that the causal relationship between employment and women's egalitarian attitudes depends upon the region and time span analyzed.

## **Gender equality**

Over the past two decades the concept of gender equality has gained attention both at the international and local level. According to the United Nations (2001), gender equality “refers to the equal rights, responsibilities and opportunities of women and men and girls and boys. Equality does not mean that women and men will become the same but that women’s and men’s rights, responsibilities and opportunities will not depend on whether they are born male or female” (p.1). In terms of public policy, gender equality implies that both women’s and men’s interests and need are considered into account equally.

Gender equality encompasses multidimensional arenas. The United Nations (2002) acknowledges that achieving gender equality requires not only favorable institutional and legal frameworks or changes in economic and political structures, but also changes in attitudes. Gender mainstreaming strategy recognizes that focusing only on women’s issues will not eliminate inequalities between women and men. Relations between women and men are highly relevant in attacking gender inequalities (United Nations, 2002). Over the last decades international agencies, local governments, and scholars have acknowledge that women’s advancement is an integral part of the development process of countries and households.

According to Tilly (2005), the main significant inequalities among people derive from categorical differences such as woman and man or black and white,

rather than from individual differences. Throughout history and in nearly all countries, women have faced more disadvantages and fewer opportunities than men just by the virtue of being women.

Inglehart and Norris (2003) highlight the role of governmental actions in promoting gender equality. Governments have the potential to alter “the rules of the game” and accelerate improvements in women’s lives. When a culture of gender equality exists, it is more likely to translate rights into practice.

### **International actions in favor of gender equality**

At the international level actions in favor gender equality have also impacted women’s roles in society. Although there were some discourses in favor of gender equality as the writings of Christine de Pizan in the early fifteenth century, women’s concerns became political issues not until the second half of the twentieth century. During the first half of the twentieth century women’s activism played an important role in placing women’s rights on the agenda of international organizations. Initially, women’s movements gained attention with organized protests in international arenas (Cudd & Andreasen, 2005; Meyer & Prügl, 1999). A number of women activists claimed their right to equal economic and political opportunities at the International Conferences of American States in Chile and Havana in 1923 and 1928, respectively. Their efforts resulted in the creation of the Inter-American Commission of Women (CIM) in 1928. The Commission demanded equal legal rights of women, especially on matters of suffrage. The

CIM presented its first report at the Seventh International Conference of American States in Montevideo in 1933 and concluded with a reaffirmation of the Equal Rights Treaty of 1928.

In the 1950's and 1960's women's movements turned their focus toward women's rights and living conditions, especially in education (Meyer & Prügl, 1999). Feminists of the second wave acknowledged that political and legal equality was not enough to eradicate women's oppression. The second wave of feminism extended its list of factor contributing to inequality between women and men by including aspects of personal and political life (Cudd & Andreasen, 2005). In the 1970's the perspective of international organizations focused on solving problems in the fields of population and food. International agencies identified women as a key group to improve living conditions. These two major aggravated problems along with a new phase of women's movements led to the declaration of the International Women's Year and First World Conference on Women in Mexico City in 1975. Six months after the Mexico City Conference the United Nations launched the Decade for Women to create a worldwide dialogue on gender equality.

The Second World Conference on Women, celebrated in Copenhagen in 1980, recognized differences in women's and men's secured rights and acknowledged that abilities to exercise their rights could be acquired through equal access to education, health care services, and employment opportunities.



The program of action called for measures to ensure women's ownership and control of property. By 1985 a new trend that identified women as agents and beneficiaries in all stages of development emerged. The Nairobi World Conference focused on promoting women's participation in development actions. During the Beijing World Conference in 1995, the central debate was around women's empowerment, control over their body and sexuality, and the recognition of their sexual rights. The Beijing World Conference established gender mainstreaming as a strategy to promote gender equality globally (United Nations, 2010). It highlighted the inclusion of sexual orientation as a form of discrimination (Bunch, 2012). Also, the concept of gender came up as necessary in designing strategies to improve women's lives (Bunch, 2012).

Other governmental and non-governmental events framed the four UN World Conferences on Women and contributed to define global and regional actions in favor of gender equality. Events such as the International Convention against Discrimination in Education by UNESCO in 1962, the Convention on Consent to Marriage, Minimum Age of Marriage, and Registration of Marriages in 1964, and the Convention on the Elimination of All Forms of Discrimination Against Women in 1981 contributed to the recognition of women's rights as a component of their wellbeing.

## **Hypotheses**

### **Hypothesis 1**

- Married working women develop more egalitarian attitudes than married women who do not participate in the labor market.

Among married women, working women are more likely to have significantly higher levels of egalitarian attitudes than non-working women.

### **Hypothesis 2**

- Younger women are more likely to adopt egalitarian attitudes when they participate in the labor market than older women who women who participate in the labor force.

The net effect of age on levels of egalitarian attitudes is significantly less among those who participate in the labor force than those who do not.

### **Hypothesis 3**

- The effect of women's participation in the labor market on their attitudes toward gender equality is higher when they have more educated partners.

### **Hypothesis 4**

- Women's participation in the labor market increases their social interactions.

Employment increases women's social interactions because they are exposed to new social groups. As women become more economically independent from men,

they hold a better position in the household that shapes women's interpretations toward unequal sex-role orientations. Through employment women become more independent, participate in more spheres, and increase their social interactions.

#### **Hypothesis 5**

- Women with more social interactions are more likely to adopt more egalitarian attitudes.

Levels of social interactions are positively associated with egalitarian attitudes, net of other factors.

#### **Hypothesis 6**

- Working women are more likely to reduce their involvement in domestic chores.

Women who participate in the labor market are exposed to more egalitarian ideas, which make them develop a feminist consciousness. Also, employment brings women new satisfactions and they reduce their commitment to family life, which reduce their involvement in domestic chores.

#### **Hypothesis 7**

- Women with fewer children reduce more their participation in household chores when they participate in the labor market than women with more children.

The net effect of family size on involvement in household chores is likely to be significantly less among women who participate in the labor force than those who do not.

**Hypothesis 8**

- The effect of women’s participation in the labor market on their social interactions is higher when they have fewer children.

The net effect of women's participation in the labor force on ‘social interactions’ is likely to significantly decrease with increases in the number of children.

Table 3.1 Direction of hypotheses

Hypothesis	Variables	Impact
Married working women develop more egalitarian attitudes than married women who do not participate in the labor market.	Participation in the labor market	+
Younger women are more likely to adopt egalitarian attitudes when they participate in the labor market than older women.	Age	-
The effect of women’s participation in the labor market on their attitudes toward gender equality is higher when they have more educated partners.	Partner’s education	+
Women’s participation in the labor market increases their social interactions.	Participation in the labor market	+
T:Women with more social interactions are more likely to adopt more egalitarian attitudes.	Social interactions	+
Working women are more likely to reduce their involvement in domestic chores.	Participation in the labor market	-
Women with fewer children reduce more their participation in household chores when they participate in the labor market than women with more children.	Number of children	+

Hypothesis	Variables	Impact
The effect of women's participation in the labor market on their social interactions is higher when they have fewer children.	Number of children	-

Source: own elaboration.

## **Chapter 4**

### **Data and Methods**

#### **Sample and Sources of Data**

The data for this study are from the National Survey on the Dynamics of Households Relationships (ENDIREH) 2003, 2006, and 2011. ENDIREH is a national level representative survey conducted in Mexico by the National Institute of Statistics and Geography (INEGI) and the National Institute for Women. The purpose of the survey was to collect information regarding the different types of relations that women experience in different spheres. It contains data concerning women's decision making, opinions on women's and men's roles in society and households, social interactions, intra-household division of labor, and socio-demographic characteristics. The sampling design was probabilistic, stratified, two-stage cluster with random selection of homes and women. It comprised of 128,000 homes.

The target population comprises of women older than 15 years old residing in rural and urban areas of Mexico. The survey consists of three different questionnaires; one for each of the three groups, single women, married or cohabiting women, and women without a partner currently but had lived with a partner. The target population is comprised of married or cohabiting women older

than 15 years old residing in rural and urban areas of Mexico. The dataset contains 87,169 cases.

## **Operationalization of Variables**

### **Outcome Variable**

#### *Outcome Variable: Women's attitudes toward gender equality*

The outcome variable in this study consists of women's attitudes toward gender equality. Women's attitudes are measured through their opinion on female roles within and outside the household. According to Inglehart (1990), individuals' attitudes reflect their opinions regarding specific aspects. Women's attitudes variable comprises of twelve dichotomous variables. They responded on whether they agreed or disagreed with the following questions: (i) Does a good wife have to obey her husband in everything he orders? (ii) Can a woman choose her friends even if her husband does not like them? (iii) Does a woman have the same ability as a man to earn money? (iv) Is it a woman's duty to have sexual intercourse with her husband even if she does not want to? (v) Are women free to decide if they work outside the home? (vi) Should men and women share caregiving tasks? (vii) Do you agree that men and women should have the same rights to make their own decisions? (viii) Do you agree that men and women should have the same freedoms? (ix) Do you agree that women have the right to defend themselves and denounce any physical harm or aggression? (x) Do you

agree that women have the chance to decide over their own life? (xi) Do you agree that women have the right to live a life free of violence? (xii) Do you agree that women should have the right to decide when and the number of children they have? If women responded with an egalitarian position, the answer was coded as 1, and 0 otherwise. The twelve items were added to create a scale, which varied from 0 to 12. Larger numbers indicated more egalitarian attitudes.

### **Predictor Variable**

#### *Predictor Variable; Women's Participation in the Labor Market*

Women's participation in the labor market is a dummy variable that is equal to 1 if they are employed and 0 otherwise. Women were asked whether during the past seven days they: worked; had a job, but did not work; looked for a job; studied; were a housewife and did not work; were retired; or they had a physical or mental limitation that does not allow them to work. Women who responded that they worked or had a job, but did not work are considered employed.

### **Mediator Variables**

#### *Housework load*

Respondents were asked about their and other household members' participation in domestic and caregiving tasks. There were four questions related to intra-household division of labor: usually (i) who takes care of girls or boys?



(ii) who takes care of elderly people? (iii) who does the domestic chores? (iv) who pays utilities and do daily expenses?. For married women, responses include: the respondent, partner, both –the respondent and her partner–, daughters, sons, a domestic worker, another household member, or a person who is not a household member. In the case of divorce, separated, or widow women, they responded: the respondent, daughters, sons, a domestic worker, another household member, or a person who is not a household member. Because this variable intends to measure women’s burden inside the household, an additive scale is built. When women declared to be who usually undertakes a determined activity in the household, it is coded as 1 and 0 otherwise. The four items are added to create the composite scale, which varies from 0 to 4, where 0 represents no participation in household and caregiving tasks and 4 means the respondent is who usually carries out all household chores.

### *Social interactions*

Questionnaires for married or cohabiting women include items related to their social interactions. Respondents were asked six questions regarding their activities: if they (i) go out with friends?; (ii) talk to their neighbors?; (iii) meet their relatives?; (iv) attend meetings with organizations?; (v) practice a team sport?. Other three questions if they had an emergency and had to borrow money, –excluding their partner– would you ask for money to your (vi) friends, (vii) neighbors, (viii) relatives. Responses of the eight items are dichotomous, where

“yes” is coded 1, and 0 otherwise. As religion is an institution that intends to promote traditional practices, the question (ix) do you attend religious ceremonies? This item is coded 1 if they responded “no”, and 0 otherwise. The nine items are added to create a composite scale. This variable ranges from 0 to 9.

### **Moderator Variables**

#### Partner’s education

Partner’s education is indicated by the number of years of formal education. Women were asked their partner’s highest grade and year of education. This information was coded as the number of years that are required in Mexico to complete the grade plus additional years of education in the next grade. The following table shows how years of education were coded based on their declared highest grade and year they completed.

Table 4.1 Years of education coding

Grade	Years of Education
None or kindergarten	0
Elementary School	6 + years of additional education
Secondary School	9 + years of additional education
Non-professional technical career that requires completion of secondary school; or <i>normal básica</i> without high school	12 + years of additional education
High School	12 + years of additional education
Non-professional technical career that requires completion of high school	15 + years of additional education
Undergraduate	17 + years of additional education
Master	19 + years of additional education
Doctorate	23

Source: own elaboration.

### Number of children

This is a continuous variable. The number of children is the total number of children alive that women have. Respondents were asked: in total, how many daughters and sons alive you have?

### Women's age

Women's age is a continuous variable. Due to the target population, the minimum value of this variable is 15. Respondents were asked: how old are you?

## **Control Variable**

### Women's education

Women's education is indicated by the number of years of women's formal education. Women were asked their highest grade obtained and years of education in the next grade. This information was coded as the number of years that are required in Mexico to complete the grade plus additional years of education completed in pursuit of the next grade.

## **Method**

The analysis of this study takes place in different stages. First, descriptive statistics and mean differences are presented for the whole sample and groups. Then, to estimate the effect of women's employment on their attitudes toward gender equality conditional process modeling is conducted.

## Causality test

To determine the causal relationship between women's participation in the labor market and their attitudes toward gender equality, an artificial dataset with a panel structure was built using the ENDIREH 2003, 2006 and 2011. To build the dataset, the percentage of working women, the average of women's attitudes toward gender and women's education were estimated for each cohort. Women aged 15 years old in 2003 were 18 in 2006 and 23 years old in 2011, and subsequently for the rest of the cohorts. As a result, the dataset contains the percentage of women in the labor market, age, and the average of their attitudes and education level. Regarding the dependent variable, the number of items available to measure the attitudes variable differs across the three datasets. Thereby, to measure women's attitudes toward gender equality and test the causal relationship between this variable and female employment, it is necessary to keep the items that are the same in the three datasets.

Using pooled OLS, fixed effects, and random effects Equation 1 and 2 are estimated to determine the causal relationship between women's participation in the labor market and their attitudes toward gender equality.

$$y_{it} = \alpha_i + \beta_1 y_{it-1} + \beta_2 x_{it-1} + \beta_3 z_{it} + \beta_4 d + \varepsilon_{it} \quad (1)$$

$$x_{it} = \alpha_i + \beta_1 x_{it-1} + \beta_2 y_{it-1} + \beta_3 z_{it} + \beta_4 d + \varepsilon_{it} \quad (2)$$

where:

$x_{it}$  is the percentage of women in the labor force in the cohort  $i$  and period  $t$ .

$y_{it}$  measures women's attitudes toward gender equality in the cohort  $i$  and period  $t$ .

$z_{it}$  is the average of women's education level in the cohort  $i$  and period  $t$ .

$d$  is a dichotomous variable that is equal to 1 if year is 2006, and 0 otherwise.

### **Conditional process analysis**

In order to test the hypotheses, this study employs conditional process analysis using ENIREH 2011. A conditional process analysis includes mediator and moderator variables. Mediators partially or fully transmit the effect of  $X$  on  $Y$ . The indirect effect transmitted by  $X$  to  $Y$  through mediator variables is equal to the impact of  $X$  on the mediator times the effect of the mediator on the outcome variable. The direct effect is the impact of the independent variable on the outcome variable controlling for the mediator. In turn, moderators affect the strength of the relation between a predictor and a dependent variable (Baron & Kenny, 1986). Conditional process analysis uses ordinary least squares. Bias-corrected bootstrap confidence intervals for the conditional direct and indirect effects of the predictor variable are estimated based on 10,000 bootstrap samples. Bootstrapping generates estimations based on a statistic's distribution instead of imposing distributional assumptions, which provides superior confidence intervals (Hayes, 2013).

Figure 4.1 shows the model to determine the impact of women's participation in the labor market on their egalitarian attitudes. Women's social interactions and housework load mediate the effect of their participation in the labor market on women's attitudes toward gender equality. Number of children moderates the effect of the relation between women's participation in the labor market and social interactions and housework load. Age and education moderate the extent to which the independent variable and both mediators affect the outcome variable.

The relations of women's egalitarian attitudes ( $Y$ ), social interactions ( $M_1$ ), and housework load ( $M_2$ ) with female labor force participation ( $X$ ) moderated by number of children ( $w_1$ ), age ( $w_2$ ) and education ( $w_3$ ) are expressed in equations 3, 4, and 5, respectively.

$$M_1 = a_1 + b_1X + b_2w_1 + b_3Xw_1 + e_{m_1} \quad (3)$$

$$M_2 = a_2 + b_4X + b_5w_1 + b_6Xw_1 + e_{m_2} \quad (4)$$

$$Y = a_3 + b_7X + b_8M_1 + b_9M_2 + b_{10}M_1w_2 + b_{11}Xw_2 + b_{12}M_2w_2 + b_{13}M_1w_3 + b_{14}Xw_3 + b_{15}M_2w_3 + b_{16}w_2 + b_{17}w_3 + e_Y \quad (5)$$

Conditional indirect of effect of  $X$  on  $Y$  through  $M_1$ :

$$\theta_{X-M_1} \theta_{M_1-Y} = (b_1 + b_3w_1)(b_8 + b_{10}w_2 + b_{13}w_3) \quad (6)$$

Conditional indirect of effect of  $X$  on  $Y$  through  $M_2$ :

$$\theta_{X \rightarrow Y} = (b_1 + b_6 W_1)(b_7 + b_{12} W_2 + b_{15} W_3) \quad (7)$$

Conditional direct effect of X on Y:

$$\theta_{X \rightarrow Y} = b_7 + b_{11} W_2 + b_{14} W_3 \quad (8)$$

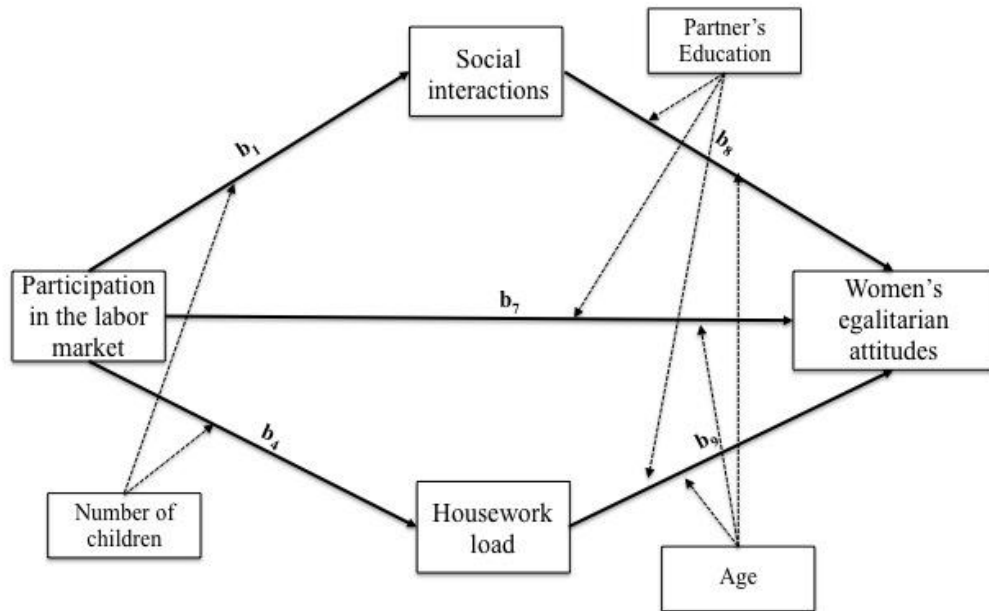


Figure 4.1 Conditional process model of women's attitudes toward gender equality



## **Chapter 5**

### **Results**

This chapter presents the findings from testing the hypotheses previously presented. This chapter is organized under three sections. The next section presents a preliminary data analysis. Then, a causality test of the relationship between women's attitudes toward gender equality and participation in the labor market is conducted. Finally, this chapter presents the results from the conditional process analysis for all women and for five groups of women depending on their education level.

#### **Preliminary data analysis**

Prior to estimating the model presented in Figure 4.1, data analyses were conducted on all variables. First, the data were screened for missing values and outliers. The ENDIREH 2011 contains 87,169 cases for married and cohabiting women. On the moderating variable partner's education data were missing at a rate 4.91%. On the rest of the variables, less than 1% of cases were missing values. In total, missing cases represent 4.96% of the original dataset. Missing cases were screened for patterns by relating different variables, but trends among missing values were not identified. Although missing values represented less than 5% of the original dataset and are considered missing at random, expectation maximization was conducted to impute missing cases and avoid losing cases.

Further, outliers were also analyzed. To identify multivariate outliers, Hadi and Mahalanobis distance were estimated. The analysis of Hadi and Mahalanobis distance produced 1,690 outliers. After examining missing values and deleting outliers, 85,479 valid cases were obtained.

The same process of analysis to screen for outliers and missing values conducted with the ENDIREH 2011 was applied to the ENDIREH 2003 and 2006. However, a smaller number of variables from the ENDIREH 2003 and 2006 than from the ENDIREH 2011 are used for this study. As previously mentioned, from the ENDIREH 2003 and 2006, this study uses only women's age, education, attitudes toward gender equality, and employment status.

The ENDIREH 2003 consists of 34,184 cases. On the variables women's education and attitudes data were missing at a rate 2.91%. The analysis of Hadi and Mahalanobis distance produced 1,432 outliers and then, 32,752 valid cases were obtained for the ENDIREH 2003. Regarding the ENDIREH 2006, this dataset contains 83,012 cases. In this dataset, women's education is the only variable with missing data. In total, 764 outliers were identified and missing cases represent 0.14% of the ENDIREH 2006. After deleting outliers, 82,248 valid cases were obtained.

Table 5.1 presents the descriptive statistics of the variables used for the conditional process analysis taken from the ENDIREH 2011. Women in this sample have 2.91 children and 8.84 years of education. On average, partners have

8.79 years of education and women are 41 years old. All differences between working and nonworking women are significant. Working women hold more egalitarian attitudes, do less housework, have more social interactions, more educated partners, and fewer children than nonworking women. Further, women who participate in the labor market are younger and more educated.

Table 5.2 shows an examination of bivariate correlations among variables in the ENDIREH 2011. All correlations, but one were significant at the 0.01 level. The correlation between social interactions and housework (-0.0076) was significant at the 0.05 level. Moderate correlations were found among variables included in each equation to be estimated using the conditional process analysis (Equation 3-8). The strongest correlations were found between the relationships of women's education level to partner's education (0.6693), women's attitudes toward gender equality (0.4206), and number of children (-0.4516). Despite a high correlation between women's education and these variables, this does not pose a threat to estimation because women's education level is not included in equation 3-8 as an independent variable, but it is used as a control variable. Sample is divided into five groups based on women's education level and the conditional process analysis is conducted for each subsample. Another significant and high correlation (0.5652) was found between women's age and number of children. However, this does not affect the estimation because, although both are moderator variables, they are not included together in the same equations.

Table 5.1 Descriptive statistics in 2011

Variable	Nonworking women	Working women	Years of education $\leq 6$	6 < Years of education $\leq 9$	9 < Years of education $\leq 12$	12 < Years of education $\leq 17$	Years of education > 17	All women
Number of children	3.1695 (2.4103)	2.4065 (1.7641)	4.1372 (2.7413)	2.4124 (1.5744)	2.0699 (1.3513)	1.9324 (1.2679)	1.9316 (1.3687)	2.9129 (2.2433)
Partner's education	8.0510 (4.8208)	10.2604 (4.8755)	5.4766 (3.8488)	8.5269 (3.6781)	10.8881 (3.9532)	13.7884 (3.8575)	15.6209 (3.7433)	8.7941 (4.9505)
Women's age	41.6687 (15.0682)	39.4585 (10.9302)	47.3644 (14.5038)	35.5358 (11.6442)	36.4339 (12.1137)	39.5010 (11.4976)	42.7040 (11.3371)	40.9254 (13.8549)
Women's education	7.8917 (4.4034)	10.7082 (4.7168)	3.9993 (2.3500)	8.8527 (0.4501)	11.7261 (0.5830)	15.6983 (1.1385)	18.3801 (0.6613)	8.8390 (4.7033)
Attitudes toward gender equality	10.9260 (1.5158)	11.4486 (1.0741)	10.3996 (1.7338)	11.3378 (1.0989)	11.5915 (0.8518)	11.7290 (0.6656)	11.7547 (0.6738)	11.1017 (1.4049)
Social interactions	1.9489 (1.2692)	2.1150 (1.3156)	1.7020 (1.2565)	2.0519 (1.2291)	2.1835 (1.2612)	2.3722 (1.3076)	2.5076 (1.3789)	2.0048 (1.2874)
Housework	1.9722 (0.9286)	1.5018 (1.0422)	1.9301 (0.9238)	1.9513 (0.9648)	1.7606 (1.0171)	1.4567 (1.0429)	1.1618 (1.0257)	1.8140 (0.9934)
n	56,731	28,748	32,126	23,009	14,096	15,123	1,125	85,479

Source: own elaboration with information from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: standard deviation in parenthesis. All differences between working and nonworking women are significant.

As expected, women's attitudes toward gender equality is positively related to social interactions (0.1507), participation in the labor market (0.1757), women's and partner's education (0.4206 and 0.3433, respectively). Also, egalitarian attitudes are negatively correlated with housework (-0.0565), women's age (-0.2347), and number of children (-0.3020). Intuitively, data shows a trend that confirms the expected relationships among variables.

Table 5.3 shows the descriptive statistics of the variables used for the causality test previously presented. As mentioned in the previous section, the number of items available to measure the attitudes variable differs across the three datasets. Thereby, to measure women's attitudes toward gender equality and test the causal relationship between this variable and female employment, it is necessary to keep the items that are the same in the three datasets. Thus, the statistics presented in Table 5.3 for women's attitudes in 2011 differ from the values shown in Table 5.1. During the three analyzed periods, working women hold more egalitarian attitudes, are younger and more educated than nonworking women.

Table 5.4 and Table 5.5 present the bivariate correlations of the variables taken from ENDIREH 2003 and 2006, respectively. These correlations present the same direction as the correlation among variables in ENDIREH 2011. Attitudes toward gender equality are positively correlated with women's education in 2003 (0.4346) and 2006 (0.4681) and negatively correlated with women's age in both

2003 (-0.1928) and in 2006 (-0.2010). A significant and negative correlation was found between women's education and age in both 2003 (-0.1928) and 2006 (-0.2010).

### **Causality Test**

Prior to estimating the impact of different predictors on women's attitudes toward gender equality, this study first estimates a causality test to determine whether women's attitudes determine their participation in the labor market or women's employment determine their sex-role orientations. The causality test shown in Equations 1 and 2 were conducted using pooled OLS, random effects, and fixed effects. The estimated coefficients on women's participation in the labor market and attitudes toward gender equality are given in Table 5.6 and Table 5.7, respectively.

For both models, the Breusch-Pagan Lagrange multiplier test for random effects indicates that the variance of residuals across groups is not zero, which rejects the appropriateness of using pooled OLS. At the same time, the Hausman test to decide between fixed effects and random effects suggests that the fixed effects model is preferable for the data.

Table 5.2 Bivariate correlations for variables in ENDIREH 2011

	Attitudes	Social interactions	Housework	Participation in labor force	Women's education	Women's age	Partner's education	Number of children
Attitudes	1.0							
Social interactions	0.1507*	1.0						
Housework	-0.0565*	-0.0076**	1.0					
Participation in labor force	0.1757*	0.0609*	-0.2237*	1.0				
Women's education	0.4206*	0.2081*	-0.1597*	0.2829*	1.0			
Women's age	-0.2347*	-0.1582*	-0.1304*	-0.0754*	-0.2951*	1.0		
Partner's education	0.3433*	0.1581*	-0.1684*	0.2109*	0.6693*	-0.1654*	1.0	
Number of children	-0.3020*	-0.1381*	0.0445*	-0.1607*	-0.4516*	0.5652*	-0.3564*	1.0

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: \*  $p < 0.01$ , \*\*  $p < 0.05$ .

Table 5.3 Descriptive statistics for working and nonworking women, 2003, 2006 and 2011

Variable	2003			2006			2011		
	Nonworking women	Working women	All women	Nonworking women	Working women	All women	Nonworking women	Working women	All women
Attitudes toward gender equality	3.5882 (1.2942)	4.0705 (1.0983)	3.7664 (1.2474)	3.8667 (1.1574)	4.3724 (0.8981)	4.0291 (1.1064)	4.2904 (0.9647)	4.6292 (0.7293)	4.4044 (0.9068)
Age	39.9908 (14.3899)	38.6425 (10.8284)	39.4925 (13.2021)	41.2675 (14.2221)	38.9056 (10.1783)	40.5088 (13.1069)	41.6687 (15.0682)	39.4585 (10.9302)	40.9254 (13.8549)
Education	6.5297 (5.1759)	9.2358 (4.3052)	7.5367 (4.8288)	7.1438 (4.2991)	10.3781 (4.7478)	8.1826 (4.6976)	7.8917 (4.4034)	10.7082 (4.7168)	8.8390 (4.7033)
n	20,648	12,104	32,752	55,830	26,418	82,248	56,731	28,748	85,479

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2003, 2006, and 2011.

Note: standard deviation in parenthesis. All differences between working and nonworking women in the same period are significant at the 0.01 level.



Table 5.4 Bivariate correlations for variables in ENDIREH 2003

	Women's age	Attitudes	Women's education
Women's age	1.0		
Attitudes	-0.1928	1.0	
Women's education	-0.2757	0.4346	1.0

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2003.

Note: all correlations are significant at the 0.01 level.

Table 5.5 Bivariate correlations for variables in ENDIREH 2006

	Women's age	Attitudes	Women's education
Women's age	1.0		
Attitudes	-0.2010	1.0	
Women's education	-0.2977	0.4681	1.0

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2006.

Note: all correlations are significant at the 0.01 level.

The results from the fixed effects model indicate that women's participation in the labor market in period  $t$  does not depend on their attitudes toward gender equality in period  $t-1$ . This means, for instance, that the attitudes toward gender equality of women who aged 21 years old in 2006 do not affect their decision on participating in the labor force in 2011, when they were 26 years old. The impact of women's education level in period  $t$  is found to be positive and significant on women's participation in the labor force in period  $t$  ( $\beta = 0.0495$ ,  $p < 0.01$ ). Also, the results indicate that women who participated in the labor force in previous periods are more likely to continue to work ( $\beta = 0.2936$ ,  $p < 0.01$ ).

Regarding the dummy variable, it suggests that, after controlling for education, previous experience in the labor market, and attitudes toward gender equality, there is no significant increase in their participation in the labor force from 2003 to 2011 in Mexico.

Table 5.6 Regression coefficients of women's participation in the labor market in  $t$

Dependent Variable: Participation in the L. F. $t$	Pooled OLS	Random Effects	Fixed Effects
Attitudes $t-1$	-0.0172** (0.0308)	-0.0172** (0.0259)	-0.0081** (0.0462)
Work $t-1$	0.5730 (0.0466)	0.5730 (0.0406)	0.2936 (0.1426)
Education $t$	0.0340 (0.0037)	0.0340 (0.0034)	0.0495 (0.0137)
d_2006 (1 if year = 2006)	0.0398 (0.0110)	0.0398 (0.0095)	0.0180** (0.0142)
Constant	-0.1042** (0.0725)	-0.1042** (0.0594)	-0.1595** (0.1339)
R <sup>2</sup> square	0.9663	0.9663	0.9350
R <sup>2</sup> square (within)		0.5254	0.5543
R <sup>2</sup> square (between)		0.9859	0.9514
Wald Chi square	2,505.40	2,863.51	122.41

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2003, 2006, and 2011.

Note: \*\*Not significant. The rest of the variables are significant at the 0.01 level. Standard deviations estimated from bootstrap with 10,000 replications in parenthesis.

Concerning the impact on women's attitudes toward gender equality, the results from the fixed effects model suggest that past attitudes toward gender equality do not affect women's current sex-role orientations. This indicates, for

instance, that the attitudes toward gender equality of women who aged 21 years old in 2006 do not determine their sex-role orientations when they were 26 years old in 2011. However, previous participation in the labor force positively determines women's current attitudes toward gender equality ( $\beta = 1.5289$ ,  $p < 0.01$ ).

Table 5.7 Regression coefficients of women's attitudes toward gender equality in  $t$

Dependent Variable: Attitudes toward gender equality $t$	Pooled OLS	Random Effects	Fixed Effects
Attitudes $t-1$	0.2834* (0.1164)	0.2834** (0.1436)	0.0130** (0.3346)
Work $t-1$	0.2994** (0.1879)	0.1929* (.0919)	1.5289 (0.6225)
Education $t$	0.1859 (0.0139)	0.1859 (0.0149)	0.2992 (0.1025)
d_2006 (1 if year = 2006, 0 otherwise)	0.2050 (0.0225)	0.2448 (0.0235)	0.3150 (0.0243)
Constant	1.4014 (0.2976)	1.4014 (0.2795)	1.2077* (0.6040)
R <sup>2</sup> square	0.9981	0.9981	0.9914
R <sup>2</sup> square (within)		0.9988	0.9914
R <sup>2</sup> square (between)		0.9775	0.9679
Wald Chi square	92,794.43	89,500.43	141,203.72

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2003, 2006, and 2011.

Note: \*\*Not significant; \* $p < 0.05$ . The rest of the variables are significant at the 0.01 level. Standard deviations estimated from bootstrap with 10,000 replications in parenthesis.

As expected, the results indicate that more educated women are more likely to hold more egalitarian attitudes ( $\beta = 0.2992$ ,  $p < 0.01$ ). After controlling for education level, previous experience in the labor market, and attitudes toward gender equality, a positive and significant sign of the dummy variable ( $\beta = 6.8606$ ,  $p < 0.01$ ) suggests that from 2003 to 2011 women have developed more egalitarian attitudes in Mexico. This variable may account for the effect of different unobservable aspects not included in the model, such as media, social programs, and access to information or new technology, among others.

In sum, this section intended to test the causality between women's participation in the labor force and their attitudes toward gender equality. According to these results, from 2003 to 2011, Mexican women's current attitudes were determined, in part, by their previous participation in the labor market, but their current employment status is not affected by their past attitudes toward gender equality.

### **Conditional process analysis**

This section presents the results from the conditional processes analysis. A series of multiple regression analyses were conducted to assess each component of the hypothesized model shown in Figure 4.1. In addition, the sample was divided into five groups based on women's schooling: i) 6 or less years of education; ii) more than 6, but 9 or less years of education; iii) more than 9, but

12 or less years of education; iv) more than 12, but 17 or less years of education; and v) more than 17 years of education. These categories are based on the required years of education to complete elementary school, secondary school, high school, college, and graduate level of education, respectively. The next section presents the results from the conditional process analysis for all women in the sample, and the subsequent sections include the findings for each of these groups.

## **All women**

### **Conditional direct effects**

Table 5.8 presents the results of the moderating direct effects of women's participation in the labor force on their attitudes toward gender equality. Residuals are shown in Appendix A. Results support the hypothesis that labor force participation ( $\beta = 0.4178$ ,  $p < 0.01$ ) and a higher level of social interactions ( $\beta = 0.0683$ ,  $p < 0.01$ ) promote egalitarian attitudes among women.

In contrast, the amount of housework does not have a significant effect on women's attitudes toward gender equality. As expected, the presence of a more educated partner has a positive and significant effect on women's sex-role orientations ( $\beta = 0.1020$ ,  $p < 0.01$ ). A significant and negative sign of women's age indicates that younger women are more likely to adopt egalitarian attitudes than older women ( $\beta = -0.0207$ ,  $p < 0.01$ ). Regarding the relative importance of

the predictors, the standardized coefficients indicate a strong importance of the partner's education variable as well as women's age and participation in the labor market.

Table 5.8 Regression coefficients of hypothesized variables on women's attitudes

Dependent variable: attitudes	Unstandardized coefficients		Standardized coefficients	
	$\beta$	Standard Error	$\beta$	t
Constant	10.8485	0.0480		226.1766
Social interactions	0.0683	0.0137	0.0626	5.0071
Housework	-0.0222**	0.0177	-0.0157	-1.2583
Participation in LF	0.4178	0.0400	0.1405	10.4402
Partner's education	0.1020	0.0025	0.3593	41.2153
Women's age	-0.0207	0.0008	-0.2040	-24.6874
Social interactions x Partner's education	-0.0038	0.0007	-0.0479	-5.5661
Social interactions x Women's age	0.0011	0.0003	0.0469	4.3949
Housework x Partner's education	-0.0016*	0.0009	-0.0141	-1.7353
Housework x Women's age	0.0004**	0.0003	0.0120	1.1018
Working x Partner's education	-0.0351	0.0020	-0.1401	-17.8046
Working x Women's age	0.0050	0.0008	0.0698	6.2700
	F = 1590.30	R <sup>2</sup> = 0.1699	R <sup>2</sup> adj = 0.1698	

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: \*\*Not significant; \*p < 0.10. The rest of the variables are significant at the 0.01 level.

The results of the interaction effects are mixed. On one side, the estimates indicate that there exist interaction effects among social interactions, partner's

education, women's age, and female labor force participation. The sign of these interactions suggests that the impact of both higher levels of social interactions and the participation in the labor force on women's attitudes is higher among older women with less educated partners.

On the other side, the interactions between the two related variables to housework, partner's education and women's age, are not significant at the 0.01 level. Concerning these interactions, given that the interaction between housework and the partner's education is significant at the 0.10 level, it is necessary to analyze the significance of the indirect moderating effects through housework based on the bias-corrected bootstrap confidence intervals estimated at different levels of these moderator variables. This analysis is presented in the following sections.

Table 5.9 and Graph 5.1 show the direct effects of women's participation in the labor force on their attitudes toward gender equality at different values of partner's education and women's age. The results from the conditional process reveal that the impact of female employment on women's attitudes toward gender equality is higher among older women with less educated partners.

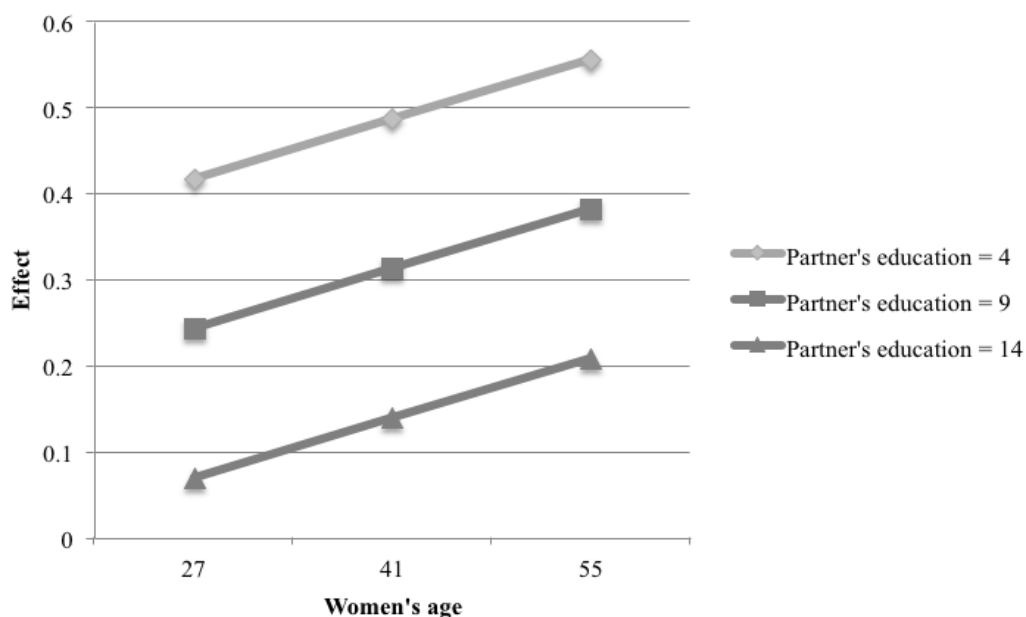
Table 5.9 Direct effects of female labor force participation on women's attitudes

Partner's education	Women's age	Effect	SE	LLCI	ULCI
4	27	0.4179	0.0188	0.3811	0.4547
4	41	0.4869	0.0146	0.4582	0.5156
4	55	0.5559	0.0178	0.5210	0.5909
9	27	0.2443	0.0145	0.2159	0.2726
9	41	0.3133	0.0098	0.2940	0.3326
9	55	0.3823	0.0151	0.3528	0.4119
14	27	0.0707	0.0160	0.0393	0.1021
14	41	0.1397	0.0130	0.1141	0.1653
14	55	0.2087	0.0181	0.1733	0.2441

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: all effects are significant at the 0.05 level.

Graph 5.1 Direct effects of female labor force participation on women's attitudes



Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: all effects are significant at the 0.05 level.



### Conditional indirect effects through social interactions

Table 5.10 shows the path between women’s labor force participation and social interactions moderated by number of children. Residuals are shown in Appendix B. Results indicate that women’s participation in the labor market increases their social interactions. In contrast, more children reduce women’s social interactions. The interaction between number of children and women’s participation in the labor market is negative and significant, which indicates that working women with fewer children exhibit higher levels of social interactions.

Table 5.10 Regression coefficients of hypothesized variables on social interactions

Dependent variable: social interactions	Unstandardized coefficients		Standardized coefficients	
	$\beta$	Standard Error	$\beta$	t
Constant	2.1758	0.0088		246.2505
Participation in the LF	0.1567	0.0155	0.0574	10.1217
Number of children	-0.0716	0.0022	-0.1247	-32.2638
Working x children	-0.0188	0.0048	-0.0223	-3.9149
F = 605.17		$R^2 = 0.0208$		$R^2 \text{ adj} = 0.0208$

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: all variables are significant at the 0.01 level.

The multiplication of the coefficient of participation in the labor market (0.1567) shown in Table 5.10 by the impact of social interactions on women’s attitudes (0.0683) presented in Table 5.8 indicates the indirect effect of female

labor force participation on women’s attitudes toward gender equality through their social interactions. In addition, this effect was moderated by number of children, partner’s education, and women’s age. Table 5.11 and Graph 5.2 present the conditional indirect effects of women’s employment on attitudes through social interaction at different levels of the moderating variables.

The indirect effects of female labor participation on women’s attitudes through their social interactions suggest that female employment has a lower impact on egalitarian orientations among women with more children. In contrast, this indirect impact on women’s attitudes is higher when women are older and have less educated partners. Graph 5.2 shows that the difference in the impact of the indirect effect of women’s employment is lower when women are younger.

Table 5.11 Indirect effects of female labor force participation through social interactions on women’s attitudes

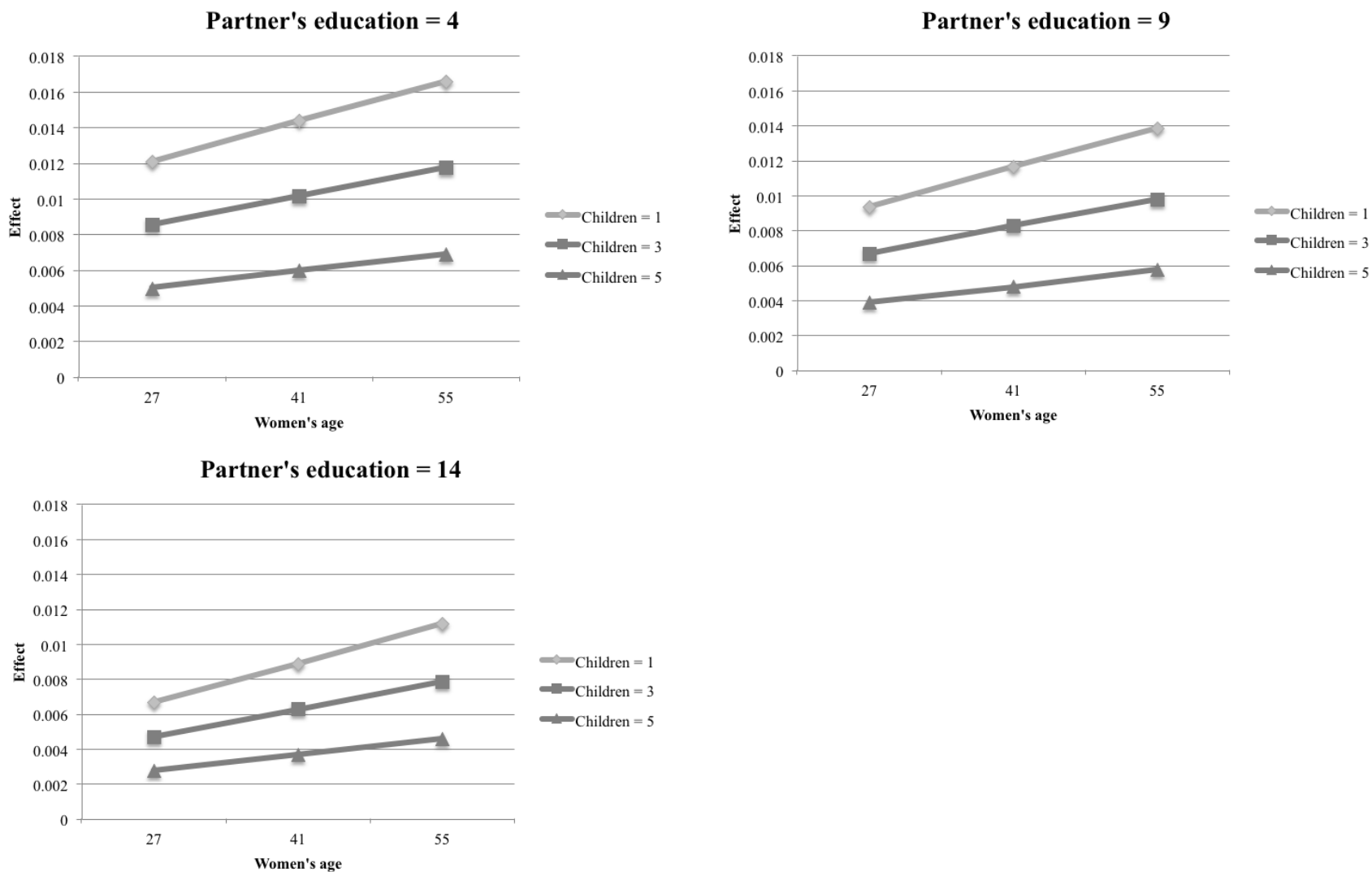
Number of children	Partner's education	Women's age	Effect	Boot SE	BootLLCI	BootULCI
1	4	27	0.0121	0.0016	0.0093	0.0155
1	4	41	0.0144	0.0016	0.0114	0.0178
1	4	55	0.0166	0.0019	0.0132	0.0206
1	9	27	0.0094	0.0012	0.0073	0.0119
1	9	41	0.0117	0.0012	0.0094	0.0141
1	9	55	0.0139	0.0015	0.0112	0.0172
1	14	27	0.0067	0.0010	0.0050	0.0087
1	14	41	0.0089	0.0010	0.0072	0.0110
1	14	55	0.0112	0.0013	0.0088	0.0140
3	4	27	0.0086	0.0011	0.0066	0.0109
3	4	41	0.0102	0.0011	0.0081	0.0125
3	4	55	0.0118	0.0013	0.0094	0.0145
3	9	27	0.0067	0.0008	0.0051	0.0084

Number of children	Partner's education	Women's age	Effect	Boot SE	BootLLCI	BootULCI
3	9	41	0.0083	0.0008	0.0067	0.0100
3	9	55	0.0098	0.0011	0.0079	0.0120
3	14	27	0.0047	0.0007	0.0035	0.0062
3	14	41	0.0063	0.0007	0.005	0.0077
3	14	55	0.0079	0.0009	0.0062	0.0099
5	4	27	0.0050	0.0014	0.0024	0.0080
5	4	41	0.0060	0.0016	0.0028	0.0093
5	4	55	0.0069	0.0019	0.0033	0.0107
5	9	27	0.0039	0.0011	0.0019	0.0062
5	9	41	0.0048	0.0013	0.0023	0.0075
5	9	55	0.0058	0.0016	0.0027	0.009
5	14	27	0.0028	0.0008	0.0013	0.0046
5	14	41	0.0037	0.0010	0.0018	0.0058
5	14	55	0.0046	0.0013	0.0022	0.0073

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: all effects are significant at the 0.05 level.

Graph 5.2 Indirect effects of women's participation in the labor market through their social interactions



Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.  
 Note: all effects are significant at the 0.05 level.

### Conditional indirect effects through housework

Prior to calculating the total indirect effect of female employment on women's attitudes through housework, the impact of female labor force participation on housework moderated by number of children is estimated. Table 5.12 presents the estimates of the impact of female employment and number of children on household chores. Appendix C presents the residuals.

Table 5.12 Regression coefficients of hypothesized variables on housework

Dependent variable: housework	Unstandardized coefficients		Standardized coefficients	
	B	Standard Error	B	t
Constant	2.0148	0.0067		300.8771
Participation in the LF	-0.6758	0.0117	-0.3214	-57.6146
Number of children	-0.0134	0.0017	-0.0303	-7.9897
Working x children	0.0811	0.0036	0.1249	22.294
F = 1677.26   R <sup>2</sup> = 0.0556   R adj = 0.0556				

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: all variables are significant at the 0.01 level.

Results reveal that women's participation in the labor force has a negative and significant impact on housework. Contrary to the hypothesis, the findings do not support a positive relationship between number of children and housework.

This estimate indicates that as the number of children increases, women's involvement in housework decreases. Analyzing men's involvement in

housework, the correlation between partners' participation in domestic chores and number of children is positive and significant. A positive and significant interaction term suggests that reductions in housework caused by a larger number of children are higher among nonworking women than working women.

Graph 5.3 depicts the significant indirect impacts of female employment on women's attitudes though household chores. All the significant effects are positive. The rest of the impacts are presented in Table 5.13. Independently from the number of children, women's employment has no a significant indirect impact when partners have low levels of education and women are older. In contrast, there is a positive and significant impact when women are young and have partners with low education levels.

Findings indicate that the effect of labor force among young women with low educated partners is higher when they have fewer children. The indirect impact of female employment through housework is higher among younger women with fewer children, but the impact difference increases among younger women with more children. Also, this indirect effect of employment is higher when women have more educated partners.

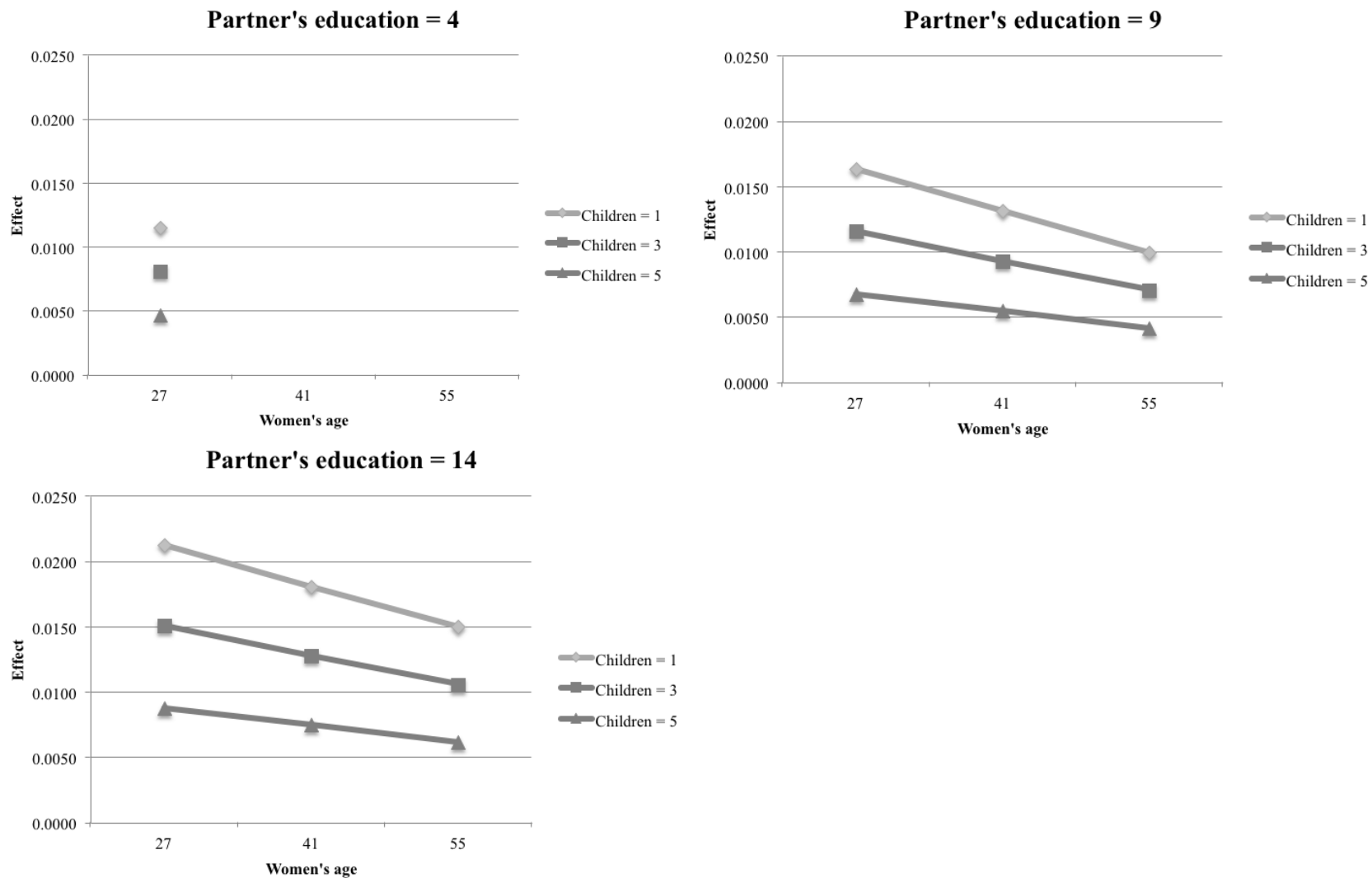
Table 5.13 Indirect effects of female labor force participation through housework on women's attitudes

Number of children	Partner's education	Women's age	Effect	Boot SE	BootLLCI	BootULCI
1	4	27	0.0115	0.0056	0.0006	0.0224
1	4	41	0.0083*	0.0051	-0.0017	0.0180
1	4	55	0.0051*	0.0063	-0.0074	0.0175
1	9	27	0.0164	0.0038	0.0091	0.0237
1	9	41	0.0132	0.0029	0.0075	0.0189
1	9	55	0.0100	0.0047	0.0006	0.0195
1	14	27	0.0213	0.0037	0.0137	0.0283
1	14	41	0.0181	0.0028	0.0125	0.0237
1	14	55	0.0150	0.0047	0.0056	0.0238
3	4	27	0.0081	0.0039	0.0004	0.0159
3	4	41	0.0059*	0.0036	-0.0012	0.0128
3	4	55	0.0036*	0.0045	-0.0053	0.0124
3	9	27	0.0116	0.0027	0.0064	0.0168
3	9	41	0.0093	0.0020	0.0053	0.0133
3	9	55	0.0071	0.0034	0.0004	0.0137
3	14	27	0.0151	0.0027	0.0097	0.0201
3	14	41	0.0128	0.0020	0.0089	0.0167
3	14	55	0.0106	0.0033	0.0040	0.0168
5	4	27	0.0047	0.0023	0.0002	0.0094
5	4	41	0.0034*	0.0021	-0.0007	0.0075
5	4	55	0.0021*	0.0026	-0.0031	0.0073
5	9	27	0.0068	0.0016	0.0037	0.0100
5	9	41	0.0055	0.0012	0.0031	0.0079
5	9	55	0.0042	0.0020	0.0003	0.0081
5	14	27	0.0088	0.0016	0.0057	0.0120
5	14	41	0.0075	0.0012	0.0052	0.0099
5	14	55	0.0062	0.0020	0.0023	0.0100

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: \*Not significant effect. The rest of the effects are significant at the 0.05 level.

Graph 5.3 Indirect effects of women's participation in the labor market through their housework



Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: all effects are significant at the 0.05 level.



## **Analysis by women's education level**

### **Conditional direct effects**

Table 5.14 shows the regression coefficients of the hypothesized variables on attitudes toward gender equality by women's years of education. Appendix D presents the standardized coefficients from the regressions presented in Table 5.14 and Appendix E shows a test for differences between the regression coefficients of the main variables. Residual analysis is presented in Appendix F-J. The findings reveal that only two interaction terms are significant at the 0.05 level for women with more than 17 years of education. The rest of the predictors are not significant for this group. Results indicate that the effect of social interactions is significant only among women with more than 9, but less than 17 years of education. The impact of social interactions on women's attitudes is positive and there is not significant difference between women with more than 9, but less than 12 years of education ( $\beta = 0.0855$ ,  $p < 0.01$ ) and women with higher education ( $\beta = 0.0438$ ,  $p < 0.05$ ). Housework was found to be negative and significant at the 0.05 level only among women with secondary school ( $\beta = -0.0643$ ,  $p < 0.05$ ) and significant at the 0.10 level among women with more than 12, but less than 17 years of education ( $\beta = -0.0459$ ,  $p < 0.10$ ).

Concerning employment, women's participation in the labor market positively affects their attitudes toward gender equality among women with less

than 12 years of education. For women with more than 12, but less than 17 years of education, the effect of female employment is significant at the 0.10 level and not significant for women with more than 17 years of education. Although the unstandardized coefficients indicate that the effect of women's participation in the labor force is higher as women's education level decreases, the difference in the effect of female employment is significant only between women with 6 or less years of education and the rest of the groups with less than 17 years of education. The difference in the effect of women's participation in the labor market on their attitudes toward gender equality is not significant among the groups of women with more than 6, but less than 17 years of education. The effect of partner's education is significant for women with less than 17 years of education. The impact of partner's education on attitudes among women with elementary school or no formal education ( $\beta = 0.0976$ ,  $p < 0.01$ ) is almost three times larger than the effect of this variable in more educated women. The effect of partner's education on women's sex-role orientations is not statistically different among women with more than 6, but less than 17 years of education.

As expected, women's age has a negative impact on their attitudes toward gender equality. This means that younger women are more likely to adopt more egalitarian attitudes than older women. The effect of women's age among women with more than 6 years of education is not statistically different.

The results of the interaction terms are mixed. The interaction between women's participation in the labor market and partner's education is the only interaction variable that is significant in all groups, except for the case of women with more than 17 years of education. The interaction between partner's education and housework is significant only in women with 6 or less years of education ( $\beta = -0.0074$ ,  $p < 0.01$ ) and in women with graduate level of education ( $\beta = 0.0117$ ,  $p < 0.05$ ).

The interaction between housework and women's age among women with secondary school and graduate level of education was found to be significant, but with opposite impacts. This interaction effect in women with more than 17 years of education indicates that the negative impact of housework on women's attitudes is higher among older women ( $\beta = -0.0037$ ,  $p < 0.05$ ). The results for the interaction between housework and women's age among women with more than 6, but less than 9 years of education is significant and positive ( $\beta = 0.0015$ ,  $p < 0.05$ ).

Regarding the social interactions variable, its intersections with partner's education are significant at the 0.01 for women with high school ( $\beta = -0.0049$ ,  $p < 0.01$ ) and higher education level of education ( $\beta = -0.0038$ ,  $p < 0.01$ ). A negative parameter suggests that the positive impact of social interactions on attitudes is higher in women with less educated partners. As shown in Table 5.14, the effect

of social interaction is conditional on women's age among women with less than 6 years of education ( $\beta = 0.0014$ ,  $p < 0.01$ ) and women with more than 12 and less than 17 years of education ( $\beta = 0.0014$ ,  $p < 0.01$ ).

Table 5.15 and Graph 5.4 show the conditional direct effects of women's participation in the labor force at different values of their age and partners education, broken by women's education level. This conditional direct impact is depicted in Graph 5.4 using the same scale to highlight the difference across groups, but they are evaluated at different levels of partner's education and women's age because the mean of these variables varies across groups.

The direct impact of female employment is higher among less educated women. The impact of women's participation in the labor force among women with less than 6 years of education almost doubles the effect among women with secondary school. In addition, increases in the impact gap derived by differences in partner's education are higher among women with 6 or less years of education than in the rest of the groups. This means that, except for women with graduate level of education, as women's education level increases, the difference in the moderating effect of partner's education decreases among women at the same age.

In contrast, the impact of women's participation in the labor force among women with more than 17 years of education is higher when they have more educated partners, but the moderating effect of partner's education becomes not significant at low levels of this variable. Regarding women with more than 12 and

less than 17 years of education, high education levels of the partner do not affect the impact of female employment among young women.

### **Conditional indirect effects through social interactions**

Table 5.16 presents the effects of women's labor force participation and social interactions moderated by number of children on their attitudes for the five groups of women. Appendix K presents the standardized coefficients from the regressions presented in Table 5.16, Appendix L shows a test for differences between the regression coefficients of the main variables, and Appendix M-Q present the residuals. The participation in the labor market is significant only among women with more than 12, but less than 17 years of education ( $\beta = 0.0985$ ,  $p < 0.05$ ). For all women, having more children reduces their social interactions. Graph 5.5 to Graph 5.8 depict the significant indirect effects of female employment through social interactions and Appendix R presents all the indirect impacts of women's participation in the labor market through social interactions.

Based on the results, female employment has a significant indirect effect through social interaction among women with 6 or less years of education. This indirect effect is conditional on partner's education, but only among women with a large number of children. The indirect impact of women's participation in the labor market through social interactions is higher among older women with more educated partners.

Table 5.14 Regression coefficients of hypothesized variables on attitudes toward gender equality, by women's education level

Dependent variable: attitudes	Years of education ≤ 6		6 < Years of education ≤ 9		9 < Years of education ≤ 12		12 < Years of education ≤ 17		Years of education > 17	
	B	Standard Error	B	Standard Error	B	Standard Error	B	Standard Error	B	Standard Error
Constant	10.4944	0.1053	11.2023	0.0770	11.3415	0.0786	11.7578	0.0726	11.7410	0.3008
Social interactions	-0.0162*	0.0312	0.0365*	0.0224	0.0855	0.0222	0.0438 <sup>+</sup>	0.0200	0.0386*	0.0819
Housework	-0.0118*	0.0411	-0.0643 <sup>+</sup>	0.0286	-0.0020*	0.0281	-0.0459 <sup>x</sup>	0.0251	-0.0893*	0.1038
Participation in LF	0.4591	0.1005	0.2142	0.0666	0.2360	0.0612	0.1022 <sup>x</sup>	0.0524	-0.0891*	0.2321
Partner's education	0.0976	0.0065	0.0324	0.0057	0.0379	0.0053	0.0229	0.0040	0.0023*	0.0143
Women's age	-0.0175	0.0017	-0.0086	0.0017	-0.0087	0.0016	-0.0123	0.0012	-0.0037*	0.0044
Social interactions x Partner's education	0.0032*	0.0020	0.0026 <sup>x</sup>	0.0016	-0.0049	0.0014	-0.0038	0.0011	-0.0019*	0.0038
Social interactions x Women's age	0.0014	0.0005	0.0004*	0.0005	0.0008*	0.0005	0.0014	0.0004	0.0006*	0.0013
Housework x Partner's education	-0.0074	0.0027	-0.0009*	0.0021	-0.0010*	0.0018	0.0008*	0.0013	0.0117 <sup>+</sup>	0.0049
Housework x Women's age	0.0011*	0.0007	0.0015 <sup>+</sup>	0.0007	0.0000*	0.0006	0.0007*	0.0005	-0.0037 <sup>+</sup>	0.0017
Working x Partner's education	-0.0244	0.0061	-0.0164	0.0045	-0.0118	0.0039	-0.0074	0.0029	0.0136*	0.0111
Working x Women's age	0.0018*	0.0019	0.0029 <sup>+</sup>	0.0015	0.0004*	0.0013	0.0022 <sup>+</sup>	0.0010	0.0009*	0.0036
	F = 238.5421 R <sup>2</sup> = 0.0755 R <sup>2</sup> adj = 0.0752 n = 32,126		F = 57.5219 R <sup>2</sup> = 0.0268 R <sup>2</sup> adj = 0.0263 n = 23,009		F = 43.9750 R <sup>2</sup> = 0.0332 R <sup>2</sup> adj = 0.0325 n = 14,096		F = 57.4015 R <sup>2</sup> = 0.0401 R <sup>2</sup> adj = 0.0394 n = 15,123		F = 8.2956 R <sup>2</sup> = 0.0758 R <sup>2</sup> adj = 0.0666 n = 1,125	

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: \* Not significant; <sup>+</sup> significant at the 0.05 level; <sup>x</sup> significant at the 0.10 level; the rest of the coefficients are significant at the 0.01 level.

Table 5.15 Direct effects of female labor force participation on women's attitudes,  
by education level

Partner's education	Women's age	Effect	SE	t	LLCI	ULCI
Years of education $\leq 6$						
2	33	0.4800	0.0442	10.8493	0.3933	0.5667
2	47	0.5068	0.0340	14.8857	0.4401	0.5736
2	62	0.5336	0.0427	12.4838	0.4498	0.6174
5	33	0.3860	0.0333	11.5759	0.3207	0.4514
5	47	0.4128	0.0233	17.7281	0.3672	0.4585
5	62	0.4396	0.0379	11.5901	0.3653	0.5140
9	33	0.2920	0.0369	7.9092	0.2197	0.3644
9	47	0.3188	0.0320	9.9729	0.2562	0.3815
9	62	0.3456	0.0463	7.4590	0.2548	0.4364
$6 < \text{Years of education} \leq 9$						
5	24	0.2050	0.0294	6.9840	0.1475	0.2626
5	36	0.2392	0.0233	10.2736	0.1936	0.2848
5	47	0.2734	0.0288	9.5056	0.2170	0.3297
9	24	0.1448	0.0249	5.8057	0.0959	0.1937
9	36	0.1790	0.0162	11.0684	0.1473	0.2107
9	47	0.2132	0.0225	9.4830	0.1691	0.2573
12	24	0.0847	0.0304	2.7857	0.0251	0.1442
12	36	0.1188	0.0228	5.2027	0.0741	0.1636
12	47	0.1530	0.0269	5.6852	0.1003	0.2058
$9 < \text{Years of education} \leq 12$						
7	24	0.1648	0.0258	6.3978	0.1143	0.2153
7	36	0.1701	0.0216	7.8835	0.1278	0.2124
7	49	0.1754	0.0280	6.2603	0.1205	0.2303
11	24	0.1181	0.0224	5.2618	0.0741	0.1621
11	36	0.1234	0.0150	8.2454	0.0941	0.1527
11	49	0.1287	0.0215	5.9907	0.0866	0.1708
15	24	0.0714	0.0285	2.5029	0.0155	0.1273
15	36	0.0767	0.0213	3.6067	0.0350	0.1184
15	49	0.0820	0.0247	3.3258	0.0337	0.1303
$12 < \text{Years of education} \leq 17$						
10	28	0.0914	0.0184	4.9668	0.0553	0.1275
10	40	0.1170	0.0155	7.5507	0.0866	0.1474
10	51	0.1425	0.0197	7.2340	0.1039	0.1812
14	28	0.0631	0.0159	3.9536	0.0318	0.0943

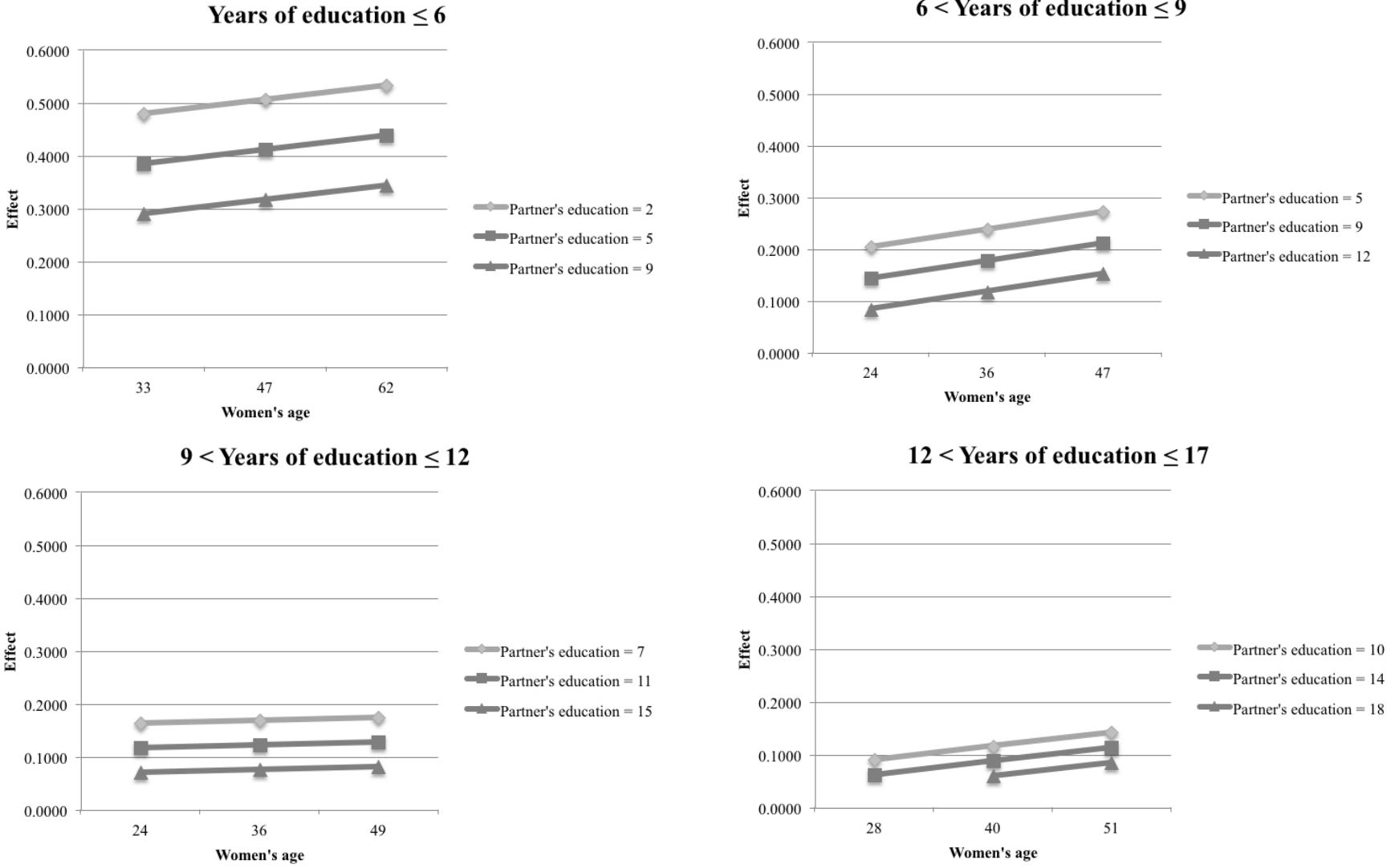
Partner's education	Women's age	Effect	SE	t	LLCI	ULCI
14	40	0.0886	0.0111	7.9508	0.0668	0.1105
14	51	0.1142	0.0155	7.3525	0.0837	0.1446
18	28	0.0347*	0.0203	1.7081	-0.0051	0.0745
18	40	0.0602	0.0158	3.8045	0.0292	0.0913
18	51	0.0858	0.0183	4.6787	0.0499	0.1217
More than 17 years of education						
12	31	0.1002*	0.0764	1.3115	-0.0497	0.2502
12	43	0.1102*	0.0611	1.8027	-0.0097	0.2302
12	54	0.1202*	0.0709	1.6943	-0.0190	0.2593
16	31	0.1512	0.0687	2.2017	0.0165	0.2860
16	43	0.1612	0.0487	3.3102	0.0657	0.2568
16	54	0.1712	0.0585	2.9258	0.0564	0.2860
19	31	0.2022	0.0841	2.4037	0.0372	0.3673
19	43	0.2122	0.0670	3.1670	0.0807	0.3437
19	54	0.2222	0.0728	3.0521	0.0793	0.3650

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

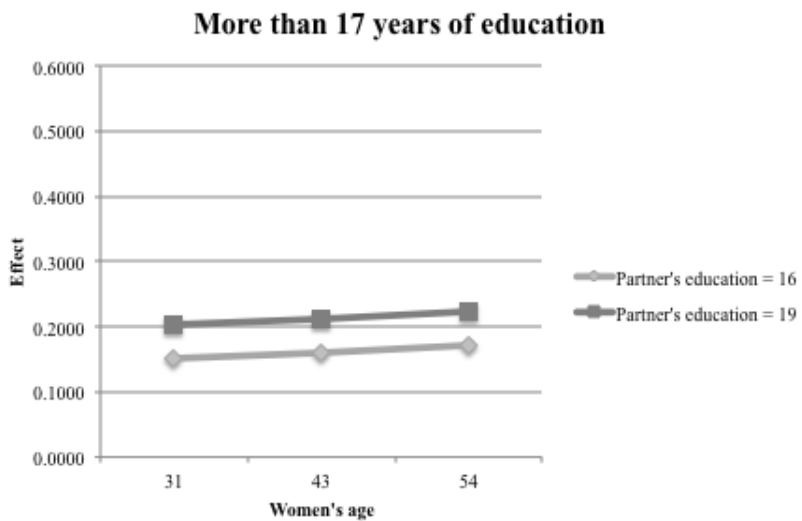
Note: \*Not significant effect. The rest of the effects are significant at the 0.05 level.



Graph 5.4 Direct effects of female labor force participation on women's attitudes, by education level



Graph 5.4 *continued*



Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.  
Note: all effects are significant at the 0.05 level.

Contrary to the expected, for women with secondary school, the indirect impact of female employment through social interactions was found to be negative. This indirect impact is significant only among women who have a number of children above the average. In this group of women, the magnitude of the negative indirect effect of employment is higher when women are older.

The indirect effect of female employment through social interactions is not significant among women with more than 9, but less than 12 years of education. For women with more than 12 and less than 17 years of education, the indirect impact of their participation in the labor force is significant only when they have one or two children. This effect is positive and higher in older women with less educated partners, but it is stronger when they have one child. Regarding women with graduate level of education, female employment has an indirect impact on women's attitudes through social interactions only in older women with a number of children greater than the average and partners with average educational levels.

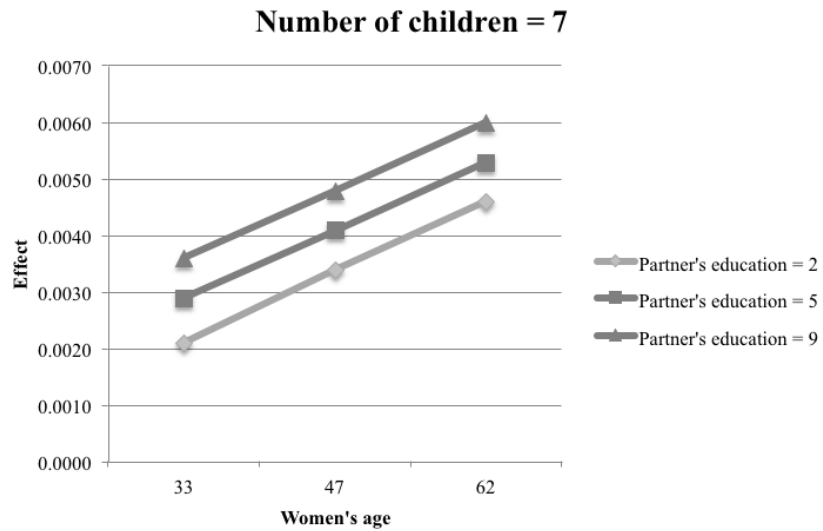
Table 5.16 Regression coefficients of hypothesized variables on social interactions, by women's education level

Dependent variable: social interactions	Years of education ≤ 6		6 < Years of education ≤ 9		9 < Years of education ≤ 12		12 < Years of education ≤ 17		Years of education > 17	
	B	Standard Error	B	Standard Error	B	Standard Error	B	Standard Error	B	Standard Error
Constant	1.8596	0.0143	2.1097	0.0175	2.2891	0.0247	2.4630	0.0302	2.6457	0.1403
Participation in L.F.	-0.0529 <sup>x</sup>	0.0312	0.0105*	0.0330	0.0056*	0.0400	0.0985 <sup>+</sup>	0.0394	0.0349*	0.1635
Number of children	-0.0384	0.0028	-0.0205	0.0060	-0.0502	0.0097	-0.0623	0.0121	-0.1280	0.0492
Working x children	0.0163 <sup>+</sup>	0.0070	-0.0159*	0.0116	-0.0052*	0.0165	-0.0259*	0.0168	0.0602*	0.0624
	F = 68.1108		F = 9.1211		F = 14.6100		F = 31.3156		F = 4.8525	
	R <sup>2</sup> = 0.0063		R <sup>2</sup> = 0.0012		R <sup>2</sup> = 0.0031		R <sup>2</sup> = 0.0062		R <sup>2</sup> = 0.0128	
	R adj = 0.0062		R adj = 0.0011		R adj = 0.0029		R adj = 0.0062		R adj = 0.0102	
	n = 32,126		n = 23,009		n = 14,096		n = 15,123		n = 1,125	

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

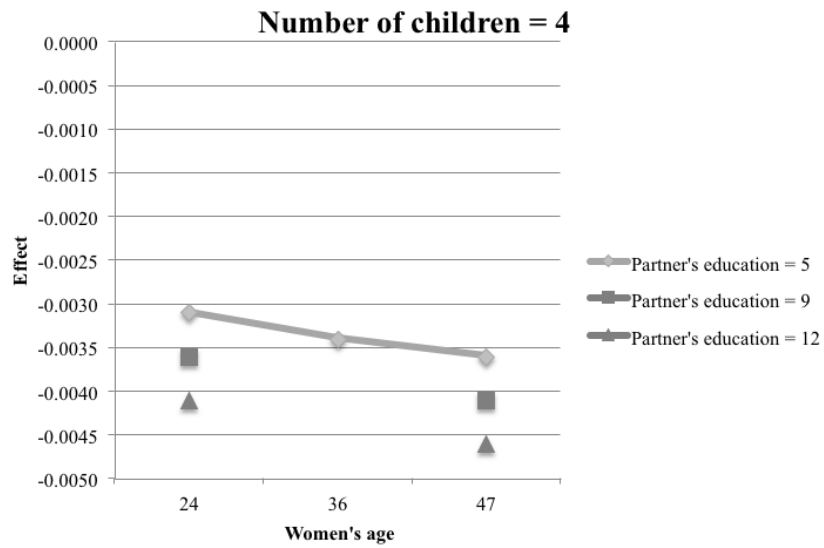
Note: \* Not significant; <sup>+</sup> significant at the 0.05 level; <sup>x</sup> significant at the 0.10 level; the rest of the coefficients are significant at the 0.01 level.

Graph 5.5 Significant indirect effects of female employment through social interaction  
(years of education  $\leq 6$ )



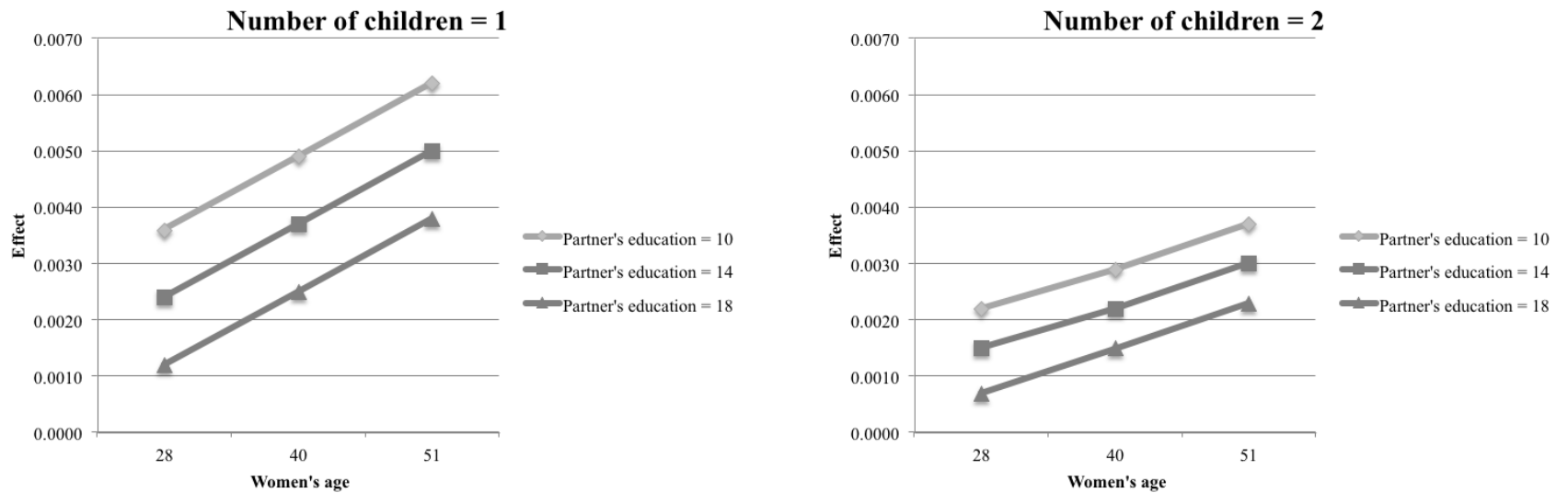
Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.  
Note: all effects are significant at the 0.05 level.

Graph 5.6 Significant indirect effects of female employment through social interaction  
(6 < years of education ≤ 9)



Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.  
Note: all effects are significant at the 0.05 level.

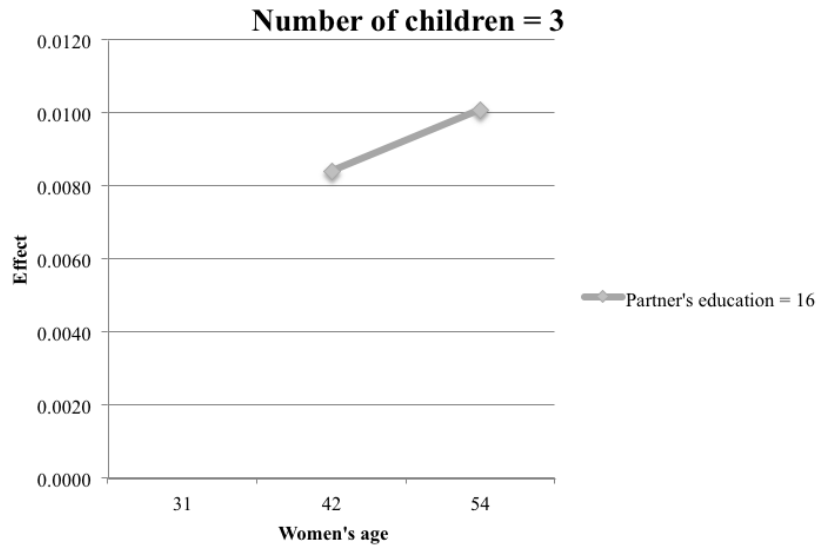
Graph 5.7 Significant indirect effects of female employment through social interaction  
(12 < years of education ≤ 17)



Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: all effects are significant at the 0.05 level.

Graph 5.8 Significant indirect effects of female employment through social interaction  
(years of education > 17)



Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.  
Note: all effects are significant at the 0.01 level.

### Conditional indirect effects through housework

Table 5.17 presents the impact of female employment and number of children on household chores, by women's years of education. Appendix S presents the standardized coefficients from the regressions presented in Table 5.17 and Appendix T shows a test for differences between the regression coefficients of the main variables. Residuals are shown in Appendix U-Y. As expected, women's participation in the labor force has a negative effect on their housework. The magnitude of the negative impact of female employment on



housework increases as women have more education, but decreases when women have attained 17 years of education. Indeed, the impact of employment on housework is not statistically different between women with less than 6 years of education and women with graduate level of education.

The effect of number of children on household chores is significant among women with less than 6 years of education and women with more than 12 and less than 17 years of education. The effect of number of children is negative and statistically different between both groups of women. Although the number of children variable is not significant for all groups of women, the interaction effect of number of children and women's participation in the labor market is significant for women with 17 or less years of education. The positive sign implies that the negative effect of number of children is stronger among nonworking women.

Graph 5.9 to Graph 5.13 show the significant indirect effects of women's employment through housework on their attitudes toward gender equality by women's years of education. Appendix Z presents all the indirect effects of women's participation in the labor force through housework. For women with less than 6 years of education, the indirect effect of employment is positive and significant among women under the average age with educated partners. This indirect impact is higher among younger women with fewer children. In contrast, the indirect effect of female employment on women's attitudes is negative in older women with low educated partners.

Table 5.17 Regression coefficients of hypothesized variables on housework, by women's education level

Dependent variable: housework	Years of education ≤ 6		6 < Years of education ≤ 9		9 < Years of education ≤ 12		12 < Years of education ≤ 17		Years of education > 17	
	B	Standard Error	B	Standard Error	B	Standard Error	B	Standard Error	B	Standard Error
Constant	2.0607	0.0105	2.0957	0.0134	1.9737	0.0194	1.7893	0.0235	1.432	0.1034
Participation in L.F.	-0.3564	0.0229	-0.5173	0.0253	-0.5890	0.0313	-0.6253	0.0307	-0.3964	0.1205
Number of children	-0.0214	0.002	-0.003*	0.0046	-0.0058*	0.0076	-0.0277	0.0094	0.0177*	0.0363
Working x children	0.0448	0.0052	0.0235	0.0089	0.0385	0.0129	0.0748	0.0131	-0.0030*	0.046
	F = 114.3455 R <sup>2</sup> = 0.0106 R adj = 0.0105 n = 32,126		F = 387.3032 R <sup>2</sup> = 0.0481 R adj = 0.0480 n = 23,009		F = 305.1499 R <sup>2</sup> = 0.0610 R adj = 0.0608 n = 14,096		F = 291.0525 R <sup>2</sup> = 0.0546 R adj = 0.0544 n = 15,123		F = 11.5070 R <sup>2</sup> = 0.0299 R adj = 0.0273 n = 1,125	

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

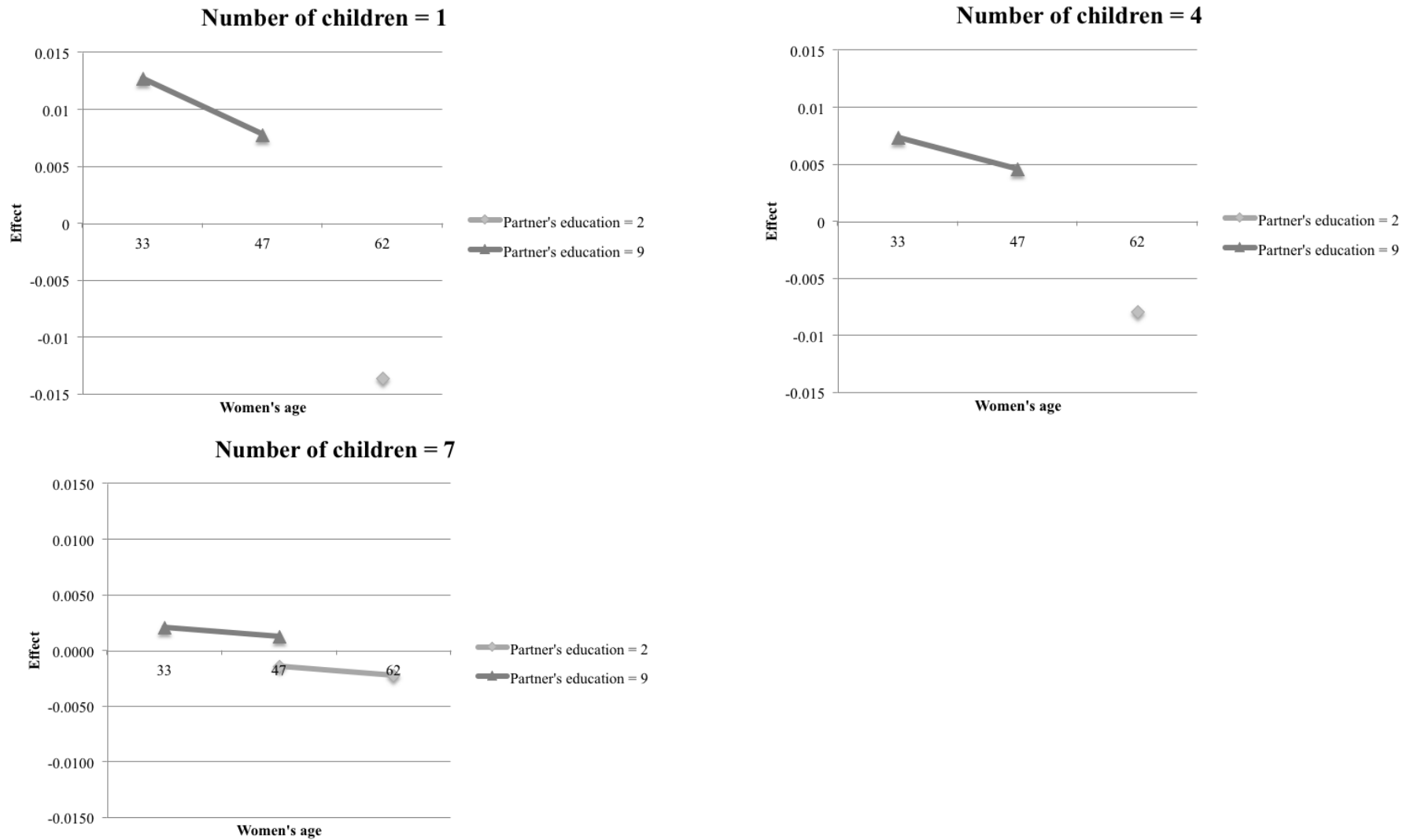
Note: \* Not significant; the rest of the coefficients are significant at the 0.01 level.

When women have more than 6 and less than 9 years of education, the impact is positive and higher in younger women with fewer children and partners with education levels above the average. For women with low educated partners, the positive indirect impact of female employment is significant only among young women.

For women with more than 9 and less than 12 years of education, the indirect effect of women's participation in the labor force through employment is only significant when women are in the average age and their partners have education levels above the average. When women have graduate level of education, the significant indirect effects of female employment are similar at different levels of partner's education and number children. However, the effect is not significant when they have partners with education levels above the average.

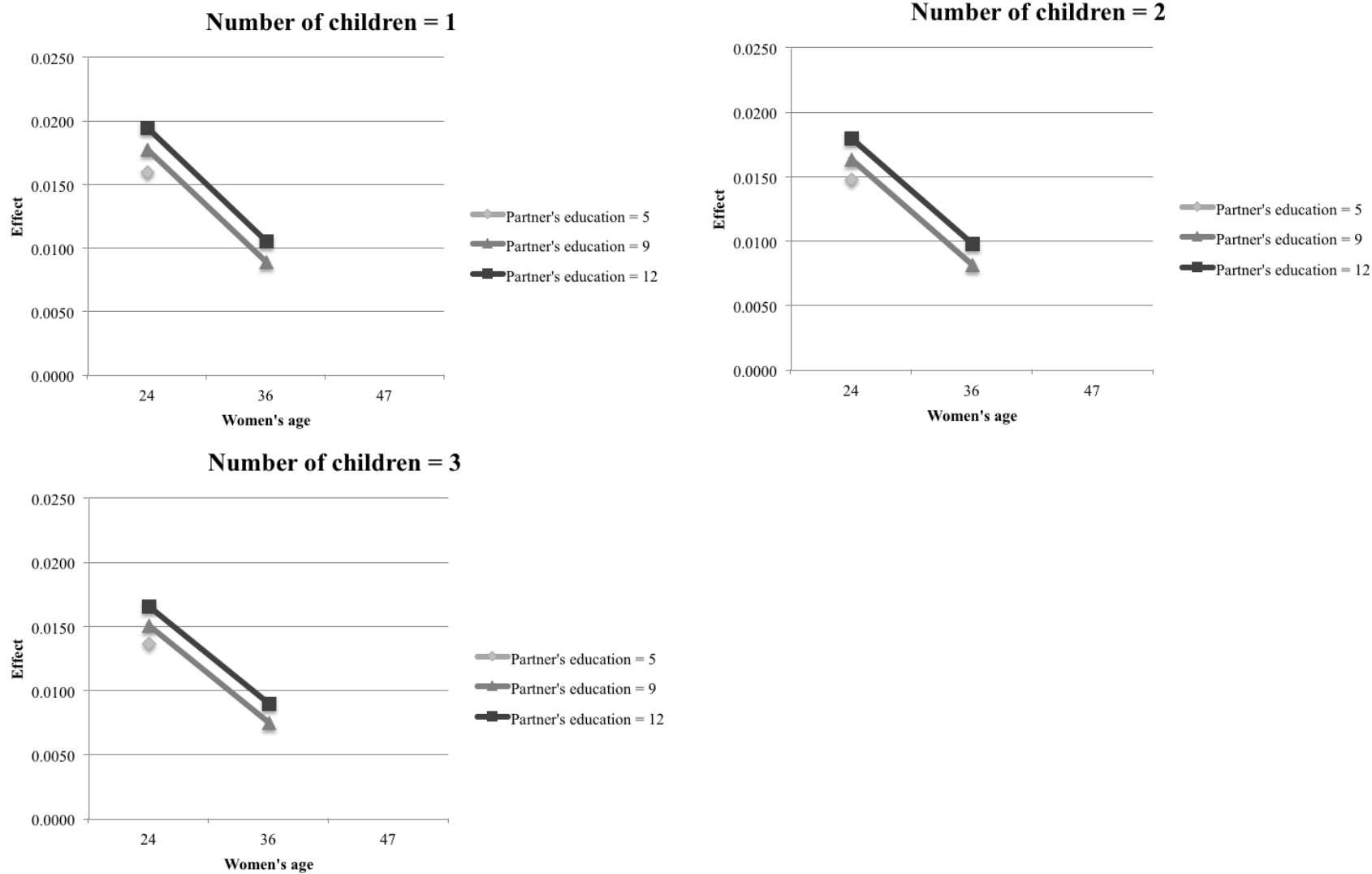
Table 5.18 presents a summary of the regression coefficients for all women and Table 5.19 summarizes the moderating direct and indirect effects of partner's education, women's age, and number of children for all women.

Graph 5.9 Significant indirect effects of female employment through housework (years of education  $\leq 6$ )



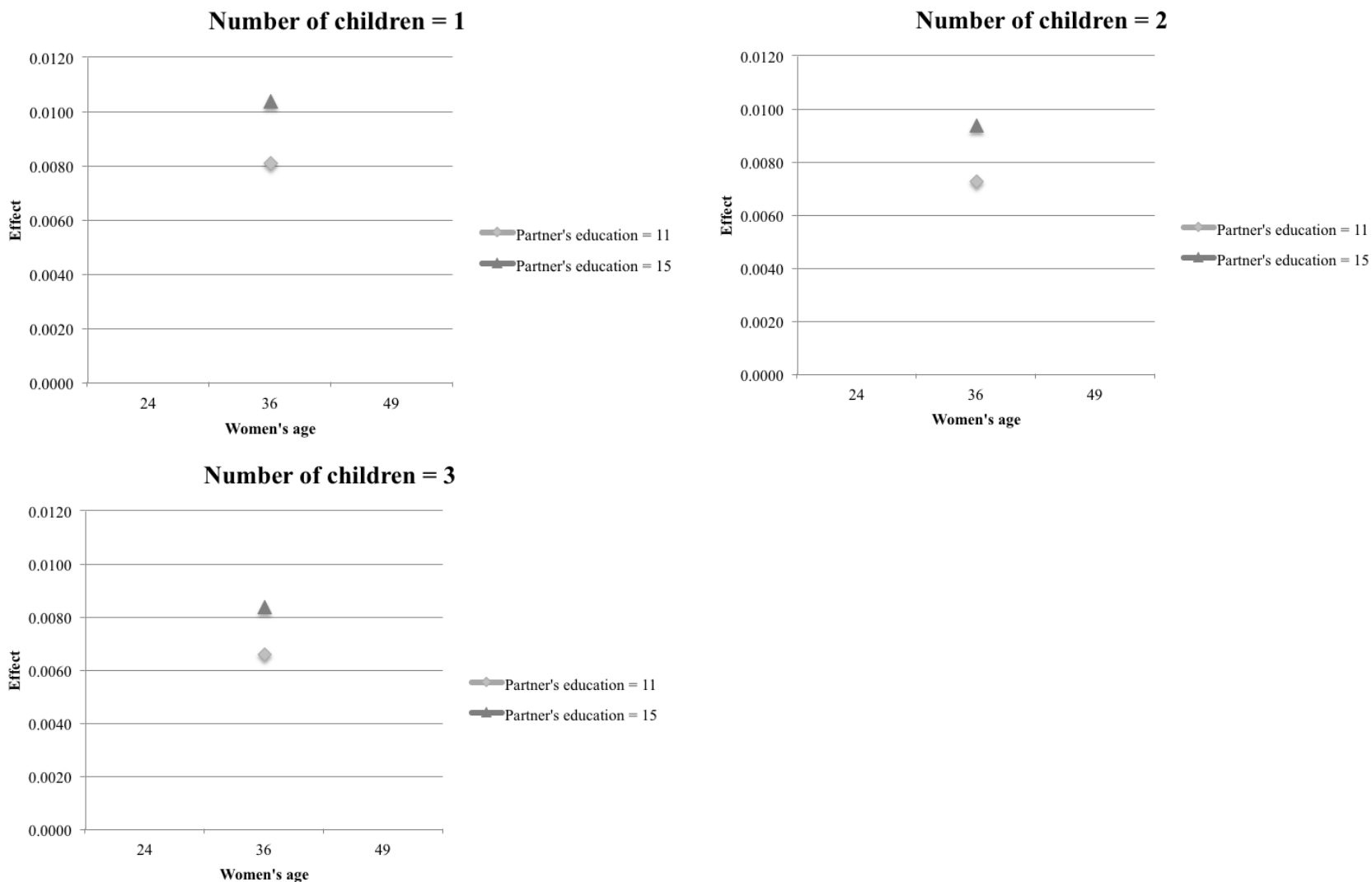
Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.  
 Note: all effects are significant at the 0.05 level.

Graph 5.10 Significant indirect effects of female employment through housework ( $6 < \text{years of education} \leq 9$ )



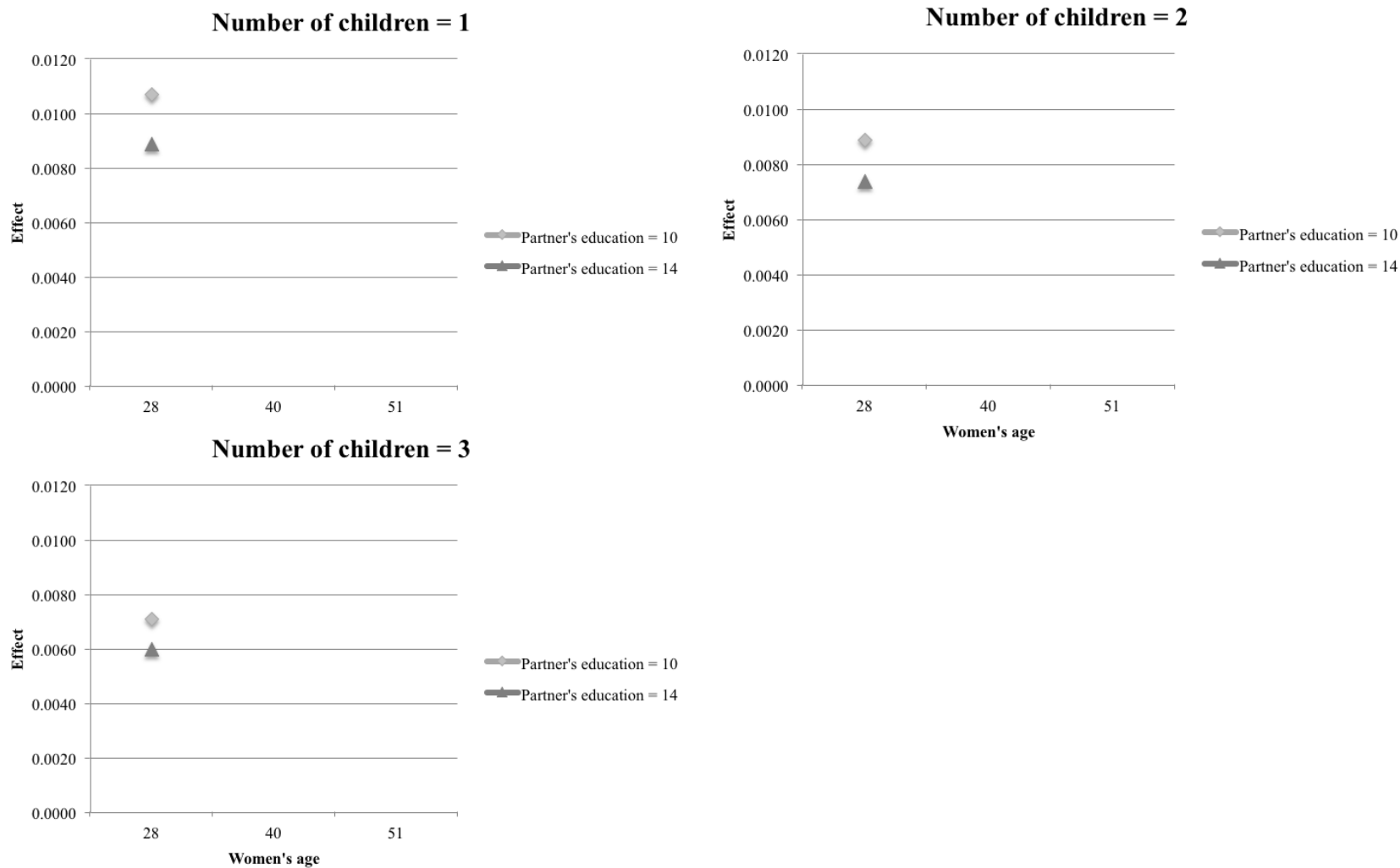
Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.  
 Note: all effects are significant at the 0.05 level.

Graph 5.11 Significant indirect effects of female employment through housework (9 < years of education ≤ 12)



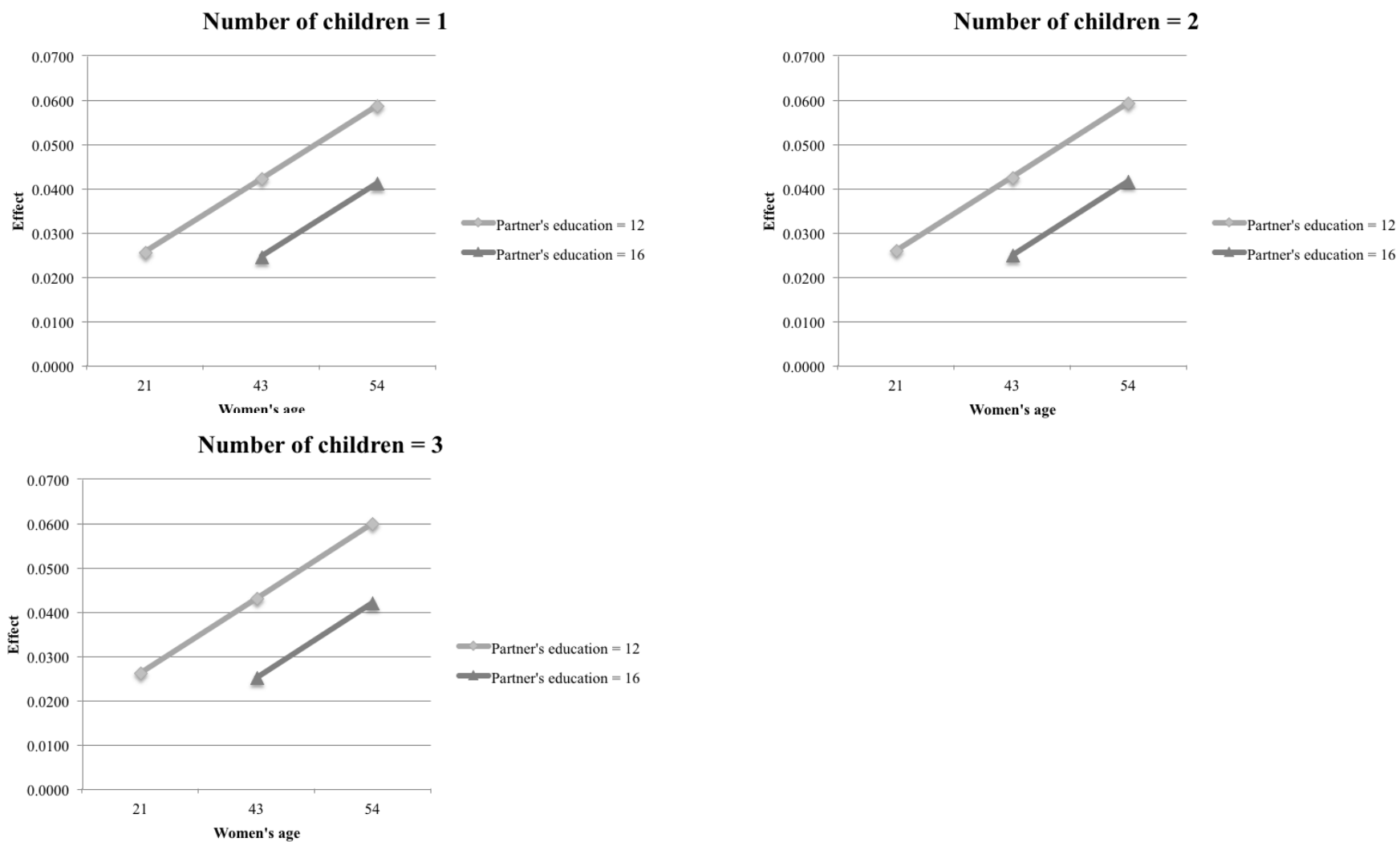
Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.  
 Note: all effects are significant at the 0.05 level.

Graph 5.12 Significant indirect effects of female employment through housework ( $12 < \text{years of education} \leq 17$ )



Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.  
 Note: all effects are significant at the 0.05 level.

Graph 5.13 Significant indirect effects of female employment through housework (years of education > 17)



Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.  
 Note: all effects are significant at the 0.05 level.



Table 5.18 Summary of regression coefficients, all women

Independent variable	Dependent variable		
	Attitudes toward gender equality	Social Interactions	Housework
Participation in the labor force	+	+	-
Housework	NS	NA	NA
Social Interactions	+	NA	NA
Number of children	NA	-	-
Women's age	-	NA	NA
Partner's education	+	NA	NA

Source: own elaboration.

Note: NA: not applicable.

Table 5.19 Summary of the moderating direct and indirect effects, all women

Moderating variable	Direct effect of female employment		Indirect effect of female employment through social interactions		Indirect effect of female employment through housework	
	Lower effect	Higher effect	Lower effect	Higher effect	Lower effect	Higher effect
Partner's education	More educated	Less educated	More educated	Less educated	Less educated	More educated
Women's age	Younger women	Older women	Younger women	Older women	Older women	Younger women
Number of children	NA	NA	More children	Fewer children	More children	Fewer children

Source: own elaboration.

Note: NA: not applicable.

Table 5.20 Summary of the moderating direct effects of female employment, by women's education level

Moderating variable	Years of education $\leq 6$		6 < Years of education $\leq 9$		9 < Years of education $\leq 12$		12 < Years of education $\leq 17$		Years of education > 17	
	Lower effect	Higher effect	Lower effect	Higher effect	Lower effect	Higher effect	Lower effect	Higher effect	Lower effect	Higher effect
Partner's education	More educated	Less educated	More educated	Less educated	More educated	Less educated	More educated	Less educated	Less educated	More educated
Women's age	Younger women	Older women	Younger women	Older women	Younger women	Older women	Younger women	Older women	Younger women	Older women

Source: own elaboration.

Note: The direct effect of female employment is not significant when: women have between 12 and 17 years of education, are young and have partner with high education levels. Women have more than 17 years of education and their partners have low education levels.

Table 5.21 Summary of the moderating indirect effects of female employment through social interactions, by women's education level

Moderating variable	Years of education $\leq 6$		6 < Years of education $\leq 9^*$		9 < Years of education $\leq 12$		12 < Years of education $\leq 17$		Years of education $> 17$	
	Lower effect	Higher effect	Lower effect	Higher effect	Lower effect	Higher effect	Lower effect	Higher effect	Lower effect	Higher effect
Partner's education	Less educated	More educated	Less educated	More educated	NS	NS	More educated	Less educated	Significant only among women with partners with average educational levels	
Women's age	Younger women	Older women	Younger women	Older women	NS	NS	Younger women	Older women	Significant only among older women	
Number of children	Significant only among women with a large number of children		Significant only among women with a large number of children		NS	NS	Significant only among women with a number of children below the average		Significant only among women with a large number of children	

Source: own elaboration.

Note: \* The impact is negative among women in this group. NS: not significant.

Table 5.22 Summary of the moderating indirect effects of female employment through housework, by women's education level

Moderating variable	Years of education $\leq 6$		6 < Years of education $\leq 9$		9 < Years of education $\leq 12$		12 < Years of education $\leq 17$		Years of education > 17	
	Lower effect	Higher effect	Lower effect	Higher effect	Lower effect	Higher effect	Lower effect	Higher effect	Lower effect	Higher effect
Partner's education	Negative effect with low educated partners	Positive effect with more educated partners	Less educated	More educated	Significant only when partners have education levels above the average		Significant only when partners have education levels below the average		Significant only when partners have education levels below the average	
Women's age	Negative effect among older women	Positive effect among young women	Significant and higher among younger women		Significant only among women in the average age		Significant only among young women		Younger women	Older women
Number of children	More children	Fewer children	More children	Fewer children	More children	Fewer children	More children	Fewer children	More children	Fewer children

Source: own elaboration.

## **Chapter 6**

### **Post hoc modeling of women's attitudes toward gender equality**

In Chapter 5, first I explored the casual relationship between women's participation in the labor market and their attitudes. Then, I analyzed the impact of female employment on women's attitudes toward gender equality mediated by housework and social interactions. These relationships were moderated by number of children, partner's education, and women's age. Findings from chapter 5 raise a number of questions related to the influence of employment and women's characteristics on their attitudes toward gender equality in Mexico.

First, as women's entry into the labor market increases the development of an egalitarian culture, a number of other socioeconomic characteristics than labor force participation may influence women's attitudes toward gender equality (Plutzer, 1988). Thereby, the gap in women's egalitarian attitudes between employed women and full-time housewives could derive from differences in their education level, age, and level of support within the household rather than from their employment related characteristics. In this regard, it can be argued that women who participate in the labor force have more egalitarian attitudes because they are younger, more educated, have fewer children and are less committed to family life. Therefore, a positive and significant impact of employment on

women's attitudes toward gender equality may capture differences in background characteristics between working and nonworking women.

Second, findings reveal a wide variability of women's attitudes toward gender equality in Mexico. Mexico is characterized by its extensive diversity of localities. It can be argued that differences in women's attitudes toward gender equality derive also from the characteristics of the locality where they live. Different regions provide particular contexts regarding gender equality. People residing in urban areas are more exposed to less traditional ideas about gender roles compared to individuals who live in smaller localities (Bolzendahl & Myers, 2004). Larger localities bring people a diversity of human interactions that free individuals from closed social circles and bring them options to base their lives in more autonomous choices (Inglehart, 1990). Therefore, urban environments are more likely to encourage the development of egalitarian attitudes.

This chapter addresses these two questions and presents post hoc modeling of women's attitudes toward gender equality. In the first section of this chapter, I compare the impact of women's participation in the labor market, and other socioeconomic characteristics on women's attitudes toward gender equality in Mexico using the Blinder-Oaxaca decomposition method. The second section examines the influence of locality size on women's attitudes toward gender equality using hierarchical lineal modeling.

### **Blinder-Oaxaca decomposition**

A Blinder-Oaxaca analysis was used to deconstruct the gap in average level of attitudes toward gender equality between working women and nonworking women in Mexico. This method allows identifying the various components that contribute to the differences in the gap between both groups. The Blinder-Oaxaca approach suggests that the gap in average attitudes toward gender equality may stem from three different sources of differences in selected determinants of attitudes toward gender equality (Kitagawa, 1955; Pillai, 1987). The first source is attributed to changes in the mean levels of selected determinants of attitudes toward gender equality between working and non-working women given the base line effects of the determinants on gender equality among non-working women. A second source is attributed to changes in the effects of selected determinants of attitudes toward gender equality between working and nonworking women given the base line selected determinants/characteristics of nonworking women. A final source is attributed to the interaction effects of the two sources mentioned above. More formally, two models are:

$$y_w = \alpha_w + \beta_w X_w \tag{9}$$
$$y_{nw} = \alpha_{nw} + \beta_{nw} X_{nw}$$

where  $w$  denotes working women and  $nw$  nonworking women.  $Y$  represents women's attitudes toward gender equality and  $X$  is a vector of predictors.

The difference in levels of attitudes toward gender equality between working and nonworking women is expressed in Equation 10.

$$(Y_w - Y_{nw}) = (X_w - X_{nw})\beta_{nw} + (\beta_w - \beta_{nw})X_{nw} + (\beta_w - \beta_{nw})(X_w - X_{nw}) \quad (10)$$

The term  $\beta_{nw}(X_w - X_{nw})$  indicates how much of the gap between working and nonworking women is attributed to differences in individual characteristics. This component is called the endowment effect. The second component captures the contribution of differences in the coefficients and intercept between working and nonworking women and is called the coefficients effect. The last component is an interaction term that captures the differences in endowments and coefficients simultaneously.

Predictors are women's education, age, social interactions, place of residence, and empowerment. Women's education, age, and social interactions variables are described in Chapter 4. Place of residence is a dichotomous variable that is equal to 1 to indicate that women live in a rural area and 0 if they reside in an urban area. Empowerment variable is a composite scale estimated using factor scores from principal components analysis. The empowerment variable is composed of four variables presented in Chapter 4: housework, number of



children, partner's education, and age at marriage. Each of the four variables had a factor loading above 0.60.

### **Results from the Oaxaca-Blinder decomposition**

Regression coefficients of women's attitudes toward gender equality for working and nonworking women separately on selected determinants are provided in Table 6.1. As expected, younger women are more likely to develop higher levels of attitudes toward gender equality than older women. Higher levels of empowerment, education and social interactions positively affect women's attitudes toward gender equality. Further, women who reside in urban areas are more likely to be more supportive of gender equality than those who live in rural areas.

However, variables affect women's gender-role orientations differently depending on their employment status. The Chow test was conducted to determine whether coefficients are different. Results indicate that parameter estimates for both groups are statistically different. Broadly, the impact of all variables on women's attitudes toward gender equality is stronger among nonworking women than among working women. When analyzing all women, results indicate that female participation in the labor force has a positive impact on women's attitudes toward gender equality.

Table 6.1 Regression of women's attitudes toward gender equality on selected determinants, by employment status

Variable	Working women	Nonworking women	All women
Women's education	0.0621 (0.0017)	0.0949 (0.0017)	0.0817 (0.0013)
Women's age	-0.0098 (0.0005)	-0.0128 (0.0004)	-0.0131 (0.0003)
Social interactions	0.0350 (0.0045)	0.0807 (0.0046)	0.0638 (0.0034)
Empowerment	0.0708 (0.0081)	0.1241 (0.0076)	0.1043 (0.0058)
Rural (1 = rural; 0 = urban)	-0.3932 (0.0197)	-0.4834 (0.0136)	-0.4841 (0.0112)
Participation in the labor force	--	--	0.1201 (0.0095)
Constant	11.1093 (0.0309)	10.7008 (0.0272)	10.8450 (0.0210)
F	1098.38	3023.71	3999.08
R <sup>2</sup>	0.1604	0.2105	0.2192
R <sup>2</sup> adj	0.1603	0.2104	0.2191
n	28,748	56,731	85,479

Source: own elaboration with information from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: standard error in parenthesis. All estimates are significant at the 0.01 level. Differences between coefficients are significant at the 0.01 level.

Table 6.2 shows the Blinder-Oaxaca decomposition of the differences in the levels of attitudes toward gender equality among working and nonworking women. The predictor variables report the average value of the predicted outcome variable for working and nonworking women and the difference in prediction. A positive difference indicates that working women are more supportive of gender equality than nonworking women.

Table 6.2 Blinder-Oaxaca decomposition of the difference in women's attitudes toward gender equality

Attitudes toward gender equality	Coefficient	Standard Error	z
<b>Differential</b>			
Prediction working women	11.4486	0.0063	1807.04
Prediction nonworking women	10.9261	0.0064	1716.91
Difference	0.5225	0.0090	58.19
<b>Decomposition</b>			
Endowments	0.4529	0.0063	72.10
Coefficients	0.2199	0.0093	23.76
Interaction	-0.1503	0.0061	-24.44

Source: own elaboration with information from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Almost 87 percent  $((0.45/0.52)*100)$  of the difference in women's attitudes toward gender equality between working and nonworking women is due to the differences in the mean levels of the selected women's characteristics. The 'endowment component' indicates the extent of the difference in levels of attitudes toward gender equality between working women and nonworking due to differences in their characteristics. This component captures the fact that working women are more supportive of gender equality because they are more educated, have fewer children, do less housework, are younger, have more social interactions, live in urban areas, and get married older than nonworking women. The rest of the difference in levels of attitudes toward gender equality between working and nonworking women is not determined by the predictor variables, but by their participation in the labor force.

### **Hierarchical linear model of contextual effects**

The finding that changes in women's attitudes toward gender equality was primarily due to changes in the composition of a number of selected characteristics such as education, raises a number of research questions with respect to the influence of significant moderators. In order to address the likelihood of the presence of significant moderators, I first re-evaluate assumptions with respect to the distribution of gender attitudes among women across various Mexican regions. Since several factors such as media exposure and presence of women's organizations are subject to economies scale, it is likely that women's attitudes toward gender equality may depend upon the size of their residence locality. In order to further explore the role played by locality on women's attitudes toward gender equality, I explore the nature of the contextual effects of localities on women's attitudes. The hierarchical linear modeling approach provides an adequate analytical frame to explore the role of contextual factors such as size of the locality of residence on women's attitudes toward gender equality.

Hierarchical linear modeling was conducted to analyze the structure where women (level 1) are nested within localities (level 2). The primary interest of the analysis was the relationship between women's attitudes toward gender equality and both the level-1 predictors and locality size. Hierarchical linear model analysis was conducted in 4 stages: unconstrained model (null), random

coefficients model, means as outcome model, and intercepts and slopes as outcomes model. Level-1 model, level-2 model, and mixed model were estimated using Equation 11 and 12.

Level-1 model

$$Y_{ij} = \beta_{0j} + \beta_{kj}X_{ij} + r_{ij} \quad (11)$$

where:

$Y_{ij}$  = women's attitudes toward gender equality for woman  $i$  (level-1 unit) in locality  $j$  (level-2 unit).

$X_{ij}$  = values on the level-1 predictors for woman  $i$  in locality  $j$  (women's age, years of education, employment status, social interactions, empowerment level).

$\beta_{0j}$  = intercept for locality  $j$ .

$\beta_{kj}$  = regression coefficients associated with predictor  $k$  for in locality  $j$ .

$r_{ij}$  = random error associated with woman  $i$  in locality  $j$ .

Level-2 model

$$\beta_{0j} = \gamma_{00} + \gamma_{01}G_j + U_{0j} \quad (12)$$

$$\beta_{kj} = \gamma_{k0} + \gamma_{k1}G_j + U_{kj}$$

where:

$\beta_{0i}$  = intercept for locality  $j$ .

$\beta_{ki}$  = slope of predictor  $k$  for locality  $j$ .

$G_j$  = locality size in locality  $j$ .

$\gamma_{00}$  = overall mean intercepted adjusted for values on the predictors.

$\gamma_{k0}$  = overall mean intercepted of predictor  $k$  adjusted for values on predictor  $k$ .

$\gamma_{01}$  = regression coefficient associated with predictors relative to level-2 intercept.

$\gamma_{k1}$  = regression coefficient associated with predictor  $k$  relative to level-2 intercept.

$u_{0j}$  = random effects of locality  $j$  adjusted for predictors on the intercept.

$u_{kj}$  = random effects of locality  $j$  adjusted for predictor  $k$  on the slope.

Level-1 predictors are the same included in Equation 9 and 10. Regarding locality size, the ENDIREH 2011 contains information regarding the state and population range of the locality where women live. Locality size is classified into six categories depending on the population size: i) less than 2,500 inhabitants; ii) between 2,500 and 5,000 inhabitants; iii) 5,000 or more, but less than 15,000 inhabitants; iv) 15,000 or more, but less than 50,000; v) between 50,000 and 100,000 inhabitants; vi) 100,000 or more inhabitants. Each woman is identified by the locality size and state where they reside. There are 32 states and 6 population ranges. Because in the survey all states do not have localities with all population ranges, 177 groups were formed.

The variance within groups ( $\sigma^2$ ) and the variance between groups ( $\tau_{00}$ ) are provided in Table 6.3. The chi-square value of the unconstrained model is statistically significant. A significant chi-square reveals that there is variance in women's attitudes toward gender equality by the locality size groupings. Thereby, there is statistical justification for conducting hierarchical linear modeling. The unconstrained model produced an intra-class correlation (ICC) of 0.0847 ( $\tau_{00}/(\tau_{00} + \sigma^2)$ ), which indicates that 8.47% of the variance in women's attitudes toward gender equality is between-localities and 91.53% of the variance is between-women within a locality. Given the existence of variance at both levels, predictor variables are included at each level in the subsequent phases of analysis.

Table 6.3. Estimation of variance components

Random Effect	Standard Deviation	Variance Component	d.f.	$\chi^2$	p-value
Intercept , $r_0$	0.40656	0.16529	176	10382.72	<0.001
level-1, $e$	1.33619	1.78539			
$\sigma^2 = 1.78539$					
$\tau_{00} = 0.16529$					

Source: own elaboration with information from the ENDIREH 2011.

To estimate the random intercepts model, level-1 predictors were included in the analysis and the variance component of the intercept. The random intercepts model is presented in Equation 13 and 14. Table 6.4 provides the variance component of the intercept. The estimated variance among the means is

0.16588 with a significant chi-square value. From these results, it can be inferred that significant differences exist among the 177 localities means.

Level-1 model:

$$Y_{ij} = \beta_{0j} + \beta_{kj}X_{ij} + r_{ij} \quad (13)$$

Level-2 model:

$$\beta_{0j} = \gamma_{00} + U_{0j} \quad (14)$$

$$\beta_{kj} = \gamma_{k0} + U_{kj}$$

Table 6.4 Variance component of the intercept  
(random coefficients model)

Random Effect	Standard Deviation	Variance Component	<i>d.f.</i>	$\chi^2$	<i>p</i> -value
Intercept, $r_0$	0.40729	0.16588	176	12404.26	<0.001
level-1, $e$	1.22237	1.49418			

Source: own elaboration with information from the ENDIREH 2011.

Then, the variance components of the slopes were included in the random coefficient model. Table 6.5 presents the regression coefficients of women's attitudes toward gender equality from the random coefficients model. All regression coefficients related to women's attitudes toward gender equality are statistically significant at the 0.01 level. Women's age is negatively related to women's attitudes toward gender equality ( $\beta = -0.013020$ ,  $p < 0.001$ ). Meanwhile, women's education ( $\beta = 0.094892$ ,  $p < 0.001$ ), social interactions ( $\beta = 0.080200$ ,  $p < 0.001$ ), participation in the labor market ( $\beta = 0.140313$ ,  $p < 0.001$ ), and



empowerment ( $\beta = 0.090117$ ,  $p < 0.001$ ) positively affects their development of egalitarian attitudes.

Table 6.5 Regression coefficients of women's attitudes toward gender equality (random coefficients model)

Fixed Effect	Coefficient	Standard Error	t-ratio	Approx. d.f.	p-value
Intercept, $\pi_0$					
Intercept, $\beta_{00}$	10.944451	0.031399	348.56	176	<0.001
Age slope, $\pi_1$					
Intercept, $\beta_{10}$	-0.013020	0.000589	-22.09	176	<0.001
Education slope, $\pi_2$					
Intercept, $\beta_{20}$	0.094892	0.002636	36.00	176	<0.001
Employment status slope, $\pi_3$					
Intercept, $\beta_{30}$	0.140313	0.012595	11.14	176	<0.001
Social interaction slope, $\pi_4$					
Intercept, $\beta_{40}$	0.080200	0.005335	15.03	176	<0.001
Empowerment slope, $\pi_5$					
Intercept, $\beta_{50}$	0.090117	0.006900	13.06	176	<0.001

Source: own elaboration with information from the ENDIREH 2011.

Table 6.6 presents the variance components of the intercept and slopes. The results from this model suggest that 18.16% ( $(\sigma_{\text{null}}^2 - \sigma_{\text{random}}^2) / \sigma_{\text{null}}^2$ ) of the variance in women's attitudes due to level-1 predictors when locality size is held constant. As shown in table 6.6, the variance of the slopes are significant, which indicates that the relationship between the predictors and women's attitudes within localities vary significantly across all women in Mexico.

Table 6.6 Variance components of the intercept and slopes  
(random coefficients model)

Random Effect	Standard Deviation	Variance Component	d.f.	$\chi^2$	<i>p</i> -value
Intercept, $r_0$	0.40777	0.16628	176	12683.20	<0.001
Age slope, $r_1$	0.00557	0.00003	176	381.71	<0.001
Education slope, $r_2$	0.02902	0.00084	176	845.33	<0.001
Employment slope, $r_3$	0.08770	0.00769	176	256.19	<0.001
Social interactions slope, $r_4$	0.04450	0.00198	176	333.28	<0.001
Empowerment slope, $r_5$	0.04290	0.00184	176	261.46	<0.001
level-1, $e$	1.20876	1.46109			

Source: own elaboration with information from the ENDIREH 2011.

In the next phase, locality size variable was included in the level-2 model and level-1 predictors were removed. In the random coefficients model and means as outcomes model, level-1 predictors and level-2, respectively, variables were entered independently to yield more accurate estimates of the intercepts as shown in Equation 15 and 16. This model assesses whether the significant variance at the intercepts found in the random intercepts model is related to locality size. The regression coefficient relating locality size to women's attitudes toward gender equality are provided in Table 6.7. Locality size coefficient was positive and significant ( $\beta = 0.171815$ ,  $p < 0.001$ ). Thus, result from the means as outcomes model indicate that women's attitudes toward gender equality differ when women are grouped by the locality size where they reside. Women in bigger localities are more likely to hold more egalitarian attitudes women living in smaller localities.

Locality size explains 56.28%  $((\tau_{00} - \tau_{MEANS})/\tau_{00})$  of the between measure variance in women's attitudes toward gender equality.

Level 1 Model

$$Y_{ij} = \beta_{0j} + \pi_{ij} \quad (15)$$

Level 2 Model

$$\beta_{0j} = \gamma_{00} + \gamma_{01}G_j + U_{0j} \quad (16)$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}G_j + U_{1j}$$

Table 6.7 Regression coefficients of women's attitudes toward gender equality (means as outcomes model)

Fixed Effect	Coefficient	Standard Error	t-ratio	d.f.	p-value
Intercept, $\pi_0$					
Intercept, $\beta_{00}$	10.941924	0.021562	507.45	175	<0.001
Locality size, $\beta_{01}$	0.171815	0.012132	14.16	175	<0.001
$\sigma^2 = 1.78547$					
$\tau_{00} = 0.07227$					

Source: own elaboration with information from the ENDIREH 2011.

Finally, the intercepts and slopes as outcomes model was estimated with all variables included simultaneously to test the interactions of the level-1 predictors with the level-2 locality size variable. Equation 17 presents the mixed model. This model assesses whether the significant differences in intercepts and slopes of level-1 predictors are related to locality size. Table 6.8 presents the correlations between residuals of  $\pi_{0i}$  and  $\pi_{ji}$ .

$$Y_{ij} = \gamma_{00} + \gamma_{k0}X_{ij} + \gamma_{01}G_j + \gamma_{k1}G_jX_{ij} + U_{ki}X_{ij} + U_{0j} + \tau_{ij} \quad (17)$$

Table 6.8 Correlations between residuals of intercepts

Variable	Correlation
Age	0.345
Women's education	-0.742
Employment status	-0.407
Social interactions	-0.009
Empowerment	-0.716

Source: own elaboration with information from the ENDIREH 2011.

Table 6.9 presents the fixed effects of the intercepts and slopes as outcome model. Locality size is positively related to women's attitudes toward gender equality ( $\beta = 0.170896$ ,  $p < 0.001$ ). The interaction terms are significant only for women's education ( $\beta = -0.012335$ ,  $p < 0.001$ ), participation in the labor market ( $\beta = -0.022158$ ,  $p < 0.001$ ), and empowerment ( $\beta = -0.009236$ ,  $p < 0.009$ ). The significance of the interaction terms provides support that there is cross-level interaction of locality size with women's education, participation in the labor market, and empowerment. It can be concluded that locality size influences the strength of the relationships of women's education, participation in the labor market, and empowerment to their attitudes toward gender equality. The impact of female employment, women's education and empowerment is higher in smaller localities.

Table 6.9 Regression coefficients of women's attitudes toward gender equality (intercepts and slopes as outcomes model)

Fixed Effect	Coefficient	Standard Error	t-ratio	Approx. d.f.	p-value
Intercept, $\pi_0$					
Intercept, $\beta_{00}$	10.943069	0.021743	503.28	175	<0.001
Locality size, $\beta_{01}$	0.170896	0.012308	13.89	175	<0.001
Age slope, $\pi_1$					
Intercept, $\beta_{10}$	-0.013035	0.000608	-21.44	175	<0.001
Locality size, $\beta_{11}$	0.000332	0.000304	1.09	175	0.277
Education slope, $\pi_2$					
Intercept, $\beta_{20}$	0.095729	0.002085	45.91	175	<0.001
Locality size, $\beta_{21}$	-0.012335	0.001036	-11.91	175	<0.001
Employment status slope, $\pi_3$					
Intercept, $\beta_{30}$	0.144674	0.013494	10.72	175	<0.001
Locality size, $\beta_{31}$	-0.022158	0.006192	-3.58	175	<0.001
Social interactions slope, $\pi_4$					
Intercept, $\beta_{40}$	0.080339	0.005424	14.81	175	<0.001
Locality size, $\beta_{41}$	-0.004879	0.002622	-1.86	175	0.064
Empowerment slope, $\pi_5$					
Intercept, $\beta_{50}$	0.086193	0.007520	11.46	175	<0.001
Locality size, $\beta_{51}$	-0.009236	0.003505	-2.64	175	0.009

Source: own elaboration with information from the ENDIREH 2011.

Table 6.10 presents the residual variance of the slopes. There is a reduction when comparing results from Table 6.10 to the variance components in Table 6.6. The chi-square values of all variance components indicate that there is statistically significant residual variance in the slopes. In addition, results suggest that 81.45% ( $\tau_{00(\text{null})}/(\tau_{00(\text{null})} + \tau_{00(\text{fitted})})$ ) of the parameters variation in women's attitudes toward gender equality is explained by the locality size variable.

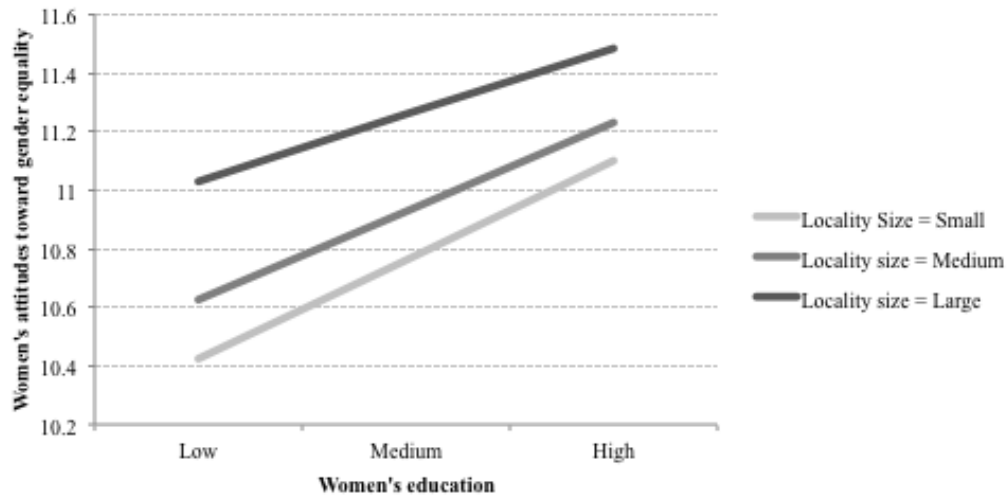
Table 6.10 Variance components of the intercept and slopes  
(intercepts and slopes as outcomes model)

Random Effect	Standard Deviation	Variance Component	<i>d.f.</i>	$\chi^2$	<i>p</i> -value
Intercept, $r_0$	0.27505	0.07565	175	2903.74	<0.001
Age slope, $r_1$	0.00557	0.00003	175	374.45	<0.001
Education slope, $r_2$	0.01809	0.00033	175	314.37	<0.001
Employment status slope, $r_3$	0.07672	0.00589	175	228.60	0.004
Social interactions slope, $r_4$	0.04362	0.00190	175	323.63	<0.001
Empowerment slope, $r_5$	0.04848	0.00235	175	242.78	<0.001
level-1, $e$	1.20873	1.46103			

Source: own elaboration with information from the ENDIREH 2011.

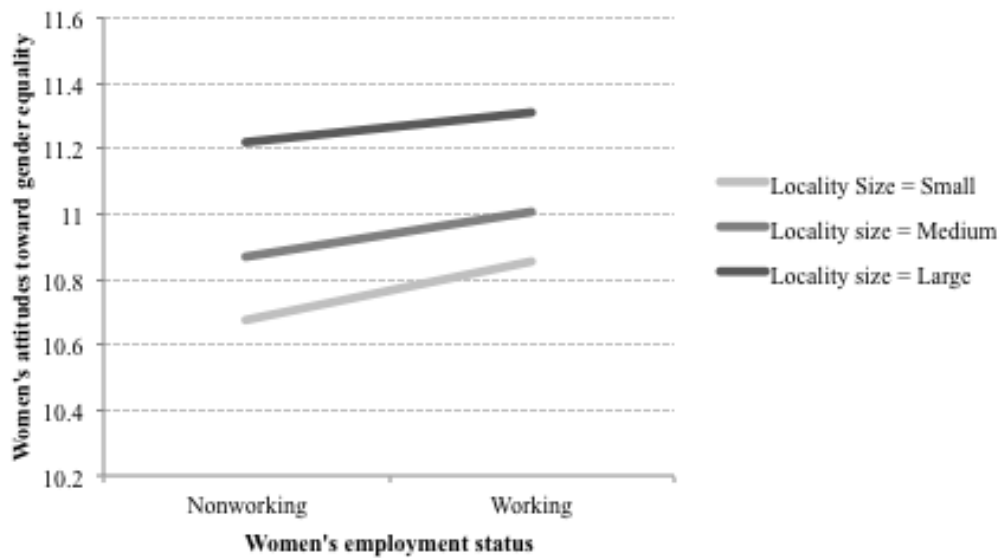
Graph 6.1, 6.2 and 6.3 show the effect of women's education, employment status, and empowerment level, respectively, on their attitudes toward gender equality by locality size. Women who live in large-sized localities hold in average more egalitarian attitudes than women who reside in smaller localities. The differences in the slopes show that the effect of women's education, employment and empowerment levels is higher among women living in smaller localities.

Graph 6.1 Effect of women's education on their attitudes toward gender equality, by locality size



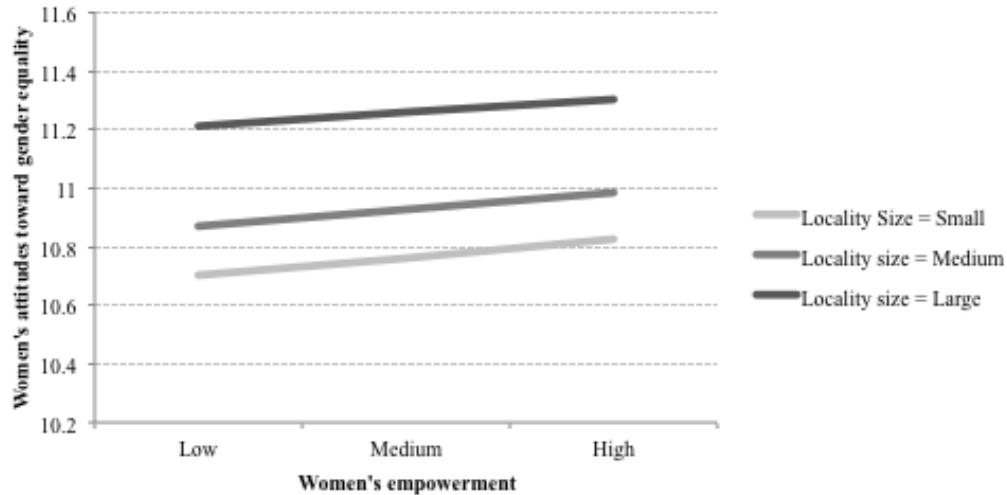
Source: own elaboration with information from ENDIREH, 2011.

Graph 6.2 Effect of women's employment status on their attitudes toward gender equality, by locality size



Source: own elaboration with information from ENDIREH, 2011.

Graph 6.3 Effect of women’s empowerment on their attitudes toward gender equality, by locality size



Source: own elaboration with information from ENDIREH, 2011.

Finally, I re-estimated equation 17 removing the non-significant interaction terms of locality size with women’s age and social interactions. Table 6.11 presents the fixed effects and Table 6.12 shows the residual variance of the slopes. After removing the non-significant interaction terms, the signs of the relationships remain as the shown in Table 6.9. Age is negatively related to women’s attitudes toward gender equality. Women’s education level, participation in the labor force, social interactions, and empowerment positively affect their attitudes. Also, the sign of the interaction terms remained unchangeable for women’s education ( $\beta = -0.012368$ ,  $p < 0.001$ ), participation in the labor market ( $\beta = -0.017818$ ,  $p < 0.001$ ), and empowerment ( $\beta = -0.009359$ ,  $p < 0.008$ ).



Table 6.11 Regression coefficients of women's attitudes toward gender equality  
(re-estimation)

Fixed Effect	Coefficient	Standard error	<i>t</i> -ratio	Approx. <i>d.f.</i>	<i>p</i> -value
Intercept, $\pi_0$					
Intercept, $\beta_{00}$	10.943138	0.021742	503.33	175	<0.001
Locality size, $\beta_{01}$	0.171084	0.012287	13.92	175	<0.001
Age slope, $\pi_1$					
Intercept, $\beta_{10}$	-0.013015	0.000601	-21.67	176	<0.001
Education slope, $\pi_2$					
Intercept, $\beta_{20}$	0.095855	0.002074	46.22	175	<0.001
Locality size, $\beta_{21}$	-0.012368	0.001032	-11.98	175	<0.001
Employment status slope, $\pi_3$					
Intercept, $\beta_{30}$	0.144858	0.013524	10.71	175	<0.001
Locality size, $\beta_{31}$	-0.017818	0.005789	-3.08	175	0.002
Social interactions slope, $\pi_4$					
Intercept, $\beta_{40}$	0.078863	0.005373	14.68	176	<0.001
Empowerment slope, $\pi_5$					
Intercept, $\beta_{50}$	0.086302	0.007525	11.49	175	<0.001
Locality size, $\beta_{51}$	-0.009359	0.00351	-2.67	175	0.008

Source: own elaboration with information from ENDIREH, 2011.

Table 6.12 Variance components of the intercept and slopes  
(intercepts and slopes as outcomes model)

Random Effect	Standard Deviation	Variance Component	<i>d.f.</i>	$\chi^2$	<i>p</i> -value
Intercept, $r_0$	0.27503	0.07564	175	2903.29	<0.001
Age slope, $r_1$	0.00557	0.00003	176	381.66	<0.001
Education slope, $r_2$	0.01800	0.00032	175	314.23	<0.001
Employment status slope, $r_3$	0.07763	0.00603	175	229.83	0.004
Social interactions slope, $r_4$	0.04451	0.00198	176	331.63	<0.001
Empowerment slope, $r_5$	0.04889	0.00239	175	242.74	<0.001
level-1, $e$	1.20872	1.46101			

Source: own elaboration with information from ENDIREH, 2011.

## **Chapter 7**

### **Conclusions**

#### **Summary**

This chapter presents a review of the findings and limitations of this research. Then, I discuss implications for social policy and social work. Finally, this chapter presents directions for future research. This dissertation presented an analysis of the impact of female employment on Mexican women's attitudes toward gender equality. More specifically, the objective was to identify different mechanisms through which female employment affects women's adoption of egalitarian attitudes. The focus of the analysis was to identify the direct and indirect effects of women's participation in the labor market through social interactions and housework.

In carrying out the study, I employed three methodological strategies. First, I examined the causal relationship between women's participation in the labor force and their attitudes toward gender equality. Second, once the causal relationship between these variables was determined in the case of Mexico, I analyzed the direct and indirect effects of female employment on women's attitudes toward gender equality. Housework and social interactions were included as mediators of the impact of women's participation in the labor market on their attitudes. Number of children, women's age, and partner's education

moderated these relationships. Third, I presented a post hoc modeling of women's attitudes toward gender equality. I deconstructed the effect of women's participation in the labor force and explored the effect of locality size on women's attitudes toward gender equality.

Results from the causality test reveal that from 2003 to 2011, female employment is influenced by women's education level and previous experience in the labor force. Meanwhile, women's current attitudes toward gender equality partially result from their education level and previous experience in the labor market.

The first hypothesis related to the effects of married or cohabiting women's participation in the labor market on their attitudes toward gender equality. It was hypothesized that working women are more likely to hold significantly higher levels of egalitarian attitudes than non-working women. Findings reveal that women's participation in the labor market has a significant strong impact on the development of their egalitarian attitudes. Nevertheless, the direct effect of female employment is conditional on women's age and partner's education. The direct impact of women's participation in the labor force is higher among older women with less educated partners.

Controlling the analysis by women's education level revealed additional findings. The conditional direct effect of women's participation in the labor force is higher among women with low educational attainments. Further, the effect of

women's participation in the labor force was found to be stronger among older women than among younger women with the same education level. The moderating effect of partner's education is mixed. Among women with less than 17 years of education, the direct effect of female employment is higher when women have less educated partners. For women having more than 17 years of education, the impact of employment is not significant when they have partners with low educational attainments and it increases as the partner has more years of education. In general, as women have lower levels of education, differences in the direct effects of female employment are more influenced by women's age and partner's education.

The hypothesis regarding the effect of age was partially supported. Age was found to affect women's attitudes negatively. However, the direct impact of female employment is higher among older women. An explanation is that younger women hold more egalitarian attitudes than older women because their formative experiences in different spheres have been more conducive to promoting gender equality. Thereby, the marginal effect of employment will be lower in younger women. Meanwhile, older women are more likely to participate in arenas where social circles promote more traditional ideas about gender roles. Their exposure to egalitarian ideas through employment may be one of their limited interactions with less traditional practices. In this sense, some existing egalitarian practices in

the labor market may represent attitudes that younger women already hold. Thus, these practices will not produce additional changes among younger women.

Contrary to the expectations, the indirect effect of female employment through household chores is higher among younger women. For women with less than 6 years of education, employment has a negative effect among women aged above the mean. Conversely, the impact of women's participation in the labor force is not significant among elderly women with more than 6, but less than 17 years of education.

Concerning partner's education, the data does not completely support the hypothesis that the effect of women's participation in the labor market on their attitudes toward gender equality is higher when they have more educated partners. On the one side, the direct effect of female employment is higher among women with less educated partners. On the other side, results from the indirect effects are mixed. The indirect effect mediated by social interactions among women with less than 6 years of education is higher when they have more educated partners, negative for women with secondary schools, and not significant among women having between 9 and 12 years of education. For women with more than 12 years of education, this indirect impact is higher when women have less educated partners. Regarding the indirect effect of female employment through housework, the significant impacts among women with more than 12 years of education are higher when they have less educated partners. For women with less than 12 years

of education, the significant indirect effects of women's participation in the labor force are higher when they are younger and have more educated partners.

Women's participation in the labor force positively affects social interactions. However, this relationship was found only among women with more than 12 and less than 17 years of education. For the rest of the groups, the hypothesis of a positive relationship between social interactions and female participation in the labor force is not supported. Meanwhile, the results confirm that women with more social interactions are more likely to hold more egalitarian attitudes than women with fewer interactions. However, when analyzing according to women's education levels, social interactions have no significant effect among women with less than 9 years of education and women with a graduate level of education.

Regarding domestic chores, a negative relationship between women's participation in the labor market and housework was found for all women. Reductions in housework caused by women's participation in the labor force among women with less than 17 years of education are stronger as women have attained higher education levels. For women with a graduate level of education, the effect of female employment is not statistically different from the impact among women with less than 6 years of education.

Contrary to the hypothesis, household chores and number of children have a negative relationship. This effect is significant only among women with less

than 6 years of education and women with more than 12, but less than 17 years of education. In addition, number of children moderates the indirect effects of female employment. The indirect effect of women's participation in the labor force through housework is higher when women have fewer children.

With regard to the indirect effect of women's participation in the labor force through social interactions, for women with more than 12, but less than 17 years of education this indirect impact is not significant when women have more than 2 children. For the rest of the groups, the indirect effect of female employment through social interactions is significant when women have a large number of children.

Results from the post hoc modeling indicate that changes in women's attitudes toward gender equality are primarily due to changes in the composition of a number of selected characteristics such as education, number of children, housework, social interactions, and place of residence. This is, working women are more supportive of gender equality because they are more educated, have fewer children, do less housework, are younger, have more social interactions, live in urban areas, and get married older than nonworking women. Also, findings from the analysis of place of residence reveal that women who live in large-sized localities hold more egalitarian attitudes than women who reside in smaller localities. Locality size influences the strength of the relationships of women's

education, participation in the labor market, and empowerment to their attitudes toward gender equality.

Five key conclusions can be drawn from these empirical findings in the Mexican context. First, women's participation in the labor force is an important predictor of women's attitudes toward gender equality. Working women are more likely to adopt egalitarian attitudes than nonworking women. Second, a large share of the difference in levels of support for gender equality between nonworking and working women may be attributed to broad level socioeconomic changes and the locality size where they reside. Third, it can be expected that traditional attitudes will continue to decline as younger cohorts replace older cohorts. Fourth, women's education affects the impact of female employment, social interactions, and housework on women's attitudes toward gender equality. Finally, households' characteristics strongly moderate the impact of women's participation in the labor force on their attitudes toward gender equality. The importance of these variables indicates that the goal of developing more egalitarian attitudes cannot be achieved solely through changes in women's characteristics, but through the support of resources residing inside and outside the household that allow women to improve their individual resources and capabilities. In sum, the results from this dissertation reveal the importance of considering the influence of background factors when analyzing the direct and



indirect impacts of female employment on women's attitudes toward gender equality.

### **Significance of female employment**

Mexican women have increased their participation in the labor force significantly during the last six decades. Indeed, predictions indicate that this process will not be reversed, but continue to increase in the coming decades (Partida, 2008). Female employment has been documented as a vehicle for social change, especially in developing countries. However, its indirect effect on women's lives and variables that moderate its effects have been scarcely explored in the Mexican context.

Findings from this research study confirm that Mexican married and cohabiting women who participate in the labor market exhibit higher levels of egalitarian attitudes than nonworking wives. However, it is worth highlighting that more egalitarian attitudes do not necessarily contribute to changes in women's wellbeing. Despite women's attitudes toward gender equality are a necessary condition for improving their lives, they are not sufficient determinants of better living standards. Changes in attitudes need to be accompanied by environments conducive to gender equality.

Although it has been demonstrated that female participation in the labor force affects women's attitudes toward gender equality, employment experience

and conditions are relevant to this relationship. The high incidence of intermittent employment in Mexico reduces the potential positive effects that women's participation in the labor market has on their lives. When women continue to work after marriage, important decisions, such as number of children or spacing of births, will be affected (Cerrutti, 1997). Women who participate full time in the labor force are more likely to hold more egalitarian attitudes than women who work part time (Cassidy & Warren, 1996; Glass, 1992). Nevertheless, poorly educated and married women are more likely to engage in the informal sector, and enter and exit the labor market based on the household's needs (Cunningham, 2001). In addition, the high gender stratification prevailing in the labor market may moderate the impact of female employment. It could be expected that economic activities typified as feminine have a lower effect on women's gender-role orientations than jobs where men and women participate equally.

Findings from this research that attribute a higher level of importance to partner's education than number of children in women's lives are consistent with other studies in Mexico (Levine, 1990). However, while women's entry into the labor market has been a result of concurrent socioeconomic changes in Mexico, this process has not been accompanied by substantial transformations of men's attitudes toward gender equality (Casique, 1999). Evidence suggests that in developing countries women are more egalitarian than men (McDaniel, 2008). Despite a growing female contribution to family income, most men continue to

perceive this contribution as marginal and believe in traditional division of labor in the household (Ribeiro, 2011). In this regard, women's low status is associated with several social structural factors as well as a normative climate that justifies women's subjugation (Damián, 2011; Levine, 1990). In the face of poor appreciation for modern ideas exposed by women through female employment, marital conflicts may arise.

Figure 7.1 presents the relationships between women's participation in the labor force and partner's egalitarian attitudes. Each quadrant represents different scenarios with different combinations of women's participation in the labor force and men's attitudes toward gender equality. Although the reality is more complex and other variable intervene in gender relations, this diagram intends to illustrate the importance of men's attitudes in achieving egalitarian gender relations in developing countries where women's participation in the labor force is still low.

In the left upper quadrant, women's attitudes and practices are determined by existing cultural norms. As women increase their participation in the labor force, they are exposed to more egalitarian ideas and increase their interest in gender equality (Bolzendahl & Myers, 2004). However, if this exposure is not accompanied by egalitarian attitudes in men, women might hold more egalitarian attitudes, but their action would be embedded in a patriarchal system. When changes in women's attitudes toward gender equality are complemented by egalitarian attitudes of their partners, egalitarian gender relations arise.

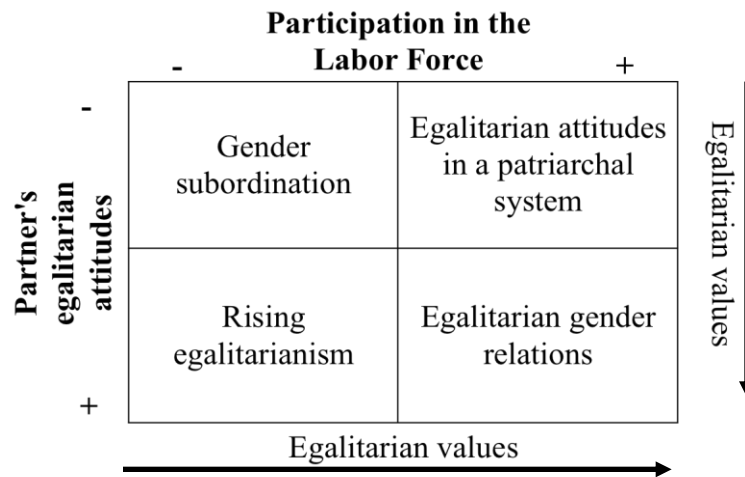


Figure 7.1 Relationships between women's participation in the labor force and partner's attitudes toward gender equality

In regard to housework, the effect of reductions in women's involvement in domestic chores on their attitudes was not found to be significant among some groups of women. Despite the fact that women's participation in the labor market reduces their involvement in domestic chores, this reduction is not translated into more egalitarian attitudes among all groups of women. The indirect impact of employment through housework on egalitarian attitudes among elderly women with low education levels was found to be negative, and it is not significant for women with more than 6, but less than 17 years of education. Some cultural norms regarding the appropriate roles of women and men, promoted since childhood, can be more resistant to change than others, especially among older people (Inglehart, 1990). Both men's and women's perceptions of appropriate

division of labor in the household are crucial for potentiating women's resources. Although some well educated women may expect a higher involvement of their partners in domestic chores, the prevalence of traditional values among men in conjunction with women's convictions of being responsible for the domestic chores may reinforce women's responsibility for domestic and caregiving tasks (Casique, 1999).

Yet another relevant finding is the negative relationship between number of children and housework among women with less than 6 years of education and women having between 12 and 17 years of education. These results are consistent with other studies in Mexico. Although there is a positive and significant correlation between men's involvement in housework as number of children increases, this does not necessarily imply significant reductions in women's participation in domestic chores. Studies from the 1990's in Mexico have found other explanations to reduction in women's housework. Results of these studies indicate that poor women tend to reduce their participation in the labor market when they have small children. When children get older, elder sons in poor households drop school and enter the labor market while daughters both participate in the labor market and increase their involvement in domestic chores to facilitate women's entry into the labor force (González de la Rocha, 1994). Meanwhile, in the presence of a larger number of children, additional sources of income are needed. As middle-class women increase their contribution to the

family income, households are better able to afford domestic help (Cerrutti, 1997).

In general, improvements in Mexican women's autonomy are likely the result of changes in the socioeconomic conditions. But higher levels of autonomy do not necessarily increase women's empowerment or change the distribution of housework. Likewise, there exists evidence showing that women reporting changes in values and beliefs enjoy higher levels of power (Casique, 1999). In this regard, this dissertation identified several factors that promote changes in women's attitudes toward their roles, which have the potential to improve their lives.

Regarding the post hoc modeling of women's attitudes toward gender equality, an important component of the differences in women's support for gender equality may be attributed to the fact that working women are younger and more educated. The changes in the structure and expansion of the occupational opportunities in Mexico have significantly facilitated the entry of women into the labor market (Levine, 1990). However, a higher prevalence of younger and more educated women in the labor force may indicate the existence of barriers for older and less educated women to be employed. Women who possess characteristics attractive to the labor market are more likely to participate in than the rest (Cerrutti, 1997). This tends to create social inequalities between women who participate in the labor force being able to be economically independent and

capable of asserting power both inside and outside the household and those who do not work.

### **Implications for social work and social policy**

Women's participation in the labor market is an important direct determinant of women's development of egalitarian attitudes. Women's employment has desirable effects on their attitudes toward gender equality through different channels. Implications for social work and social policy include improving both women's position in the labor market and conditions in households.

First, having high levels of educational attainments improves job status and increases the tendency to work after marriage and children's birth. However, although education exposes girls and boys to nontraditional ideas and also increases women's capacity to find suitable jobs, its impact may be subject to the influence of entrenched traditional values of educational institutions which at times promote traditional familial roles for women (Oropesa, 1997). Social policies should be directed towards ensuring women's access to education and promoting gender-neutral content in schools. Further, social programs that increase a feminist consciousness among men and promote their involvement in domestic and caregiving tasks will have beneficial results for women and children. Improvements in educational levels among women may contribute to

increases in women's agency and political power. Women's representation in political institutions and participation in policy making are likely to bring about changes in laws and policies that affect the wellbeing of working women as well (Hilger, Kuddo, & Rutkowski, 2014). A growing segment of educated and politically active women may increasingly share attitudes in favor of gender equality and become a political as well an economic force. Social workers have a crucial role to play as advocates in promoting and guiding women's organizations engaged in protecting women's right and wellbeing.

Second, in regard to the labor market, the existence of maternal leave may reduce employers' incentives to hire pregnant or married women. Increasing paternal leave may reduce employers' preferences for hiring men based on gender biases and increase fathers' involvement in child rearing. On the other hand, most married or cohabiting men in Mexico do not have access to daycare services. For instance, men who work for the State have access to daycare centers only if they are widowed or divorced and have full custody of their children (ISSSTE, 2012). Providing daycare services to married men may promote women's engagement in other activities that increase their capacity to enter the labor force.

Third, the structure of the occupational opportunities in Mexico rather than workers' characteristics strongly determines whether a woman will be employed or not and the employment conditions she will face (Levine, 1990). Despite the expansion of the service sector has increased the demand for female workforce in



Mexico, it has not improved the status of all women in the labor market (Rendón, 2008). Pregnant women, women with children, and older women have fewer opportunities to be employed in Mexico and are more likely to work with temporary contracts (Cerrutti, 1997). Although one of the reasons why married women with small children stop working in Mexico is because they prefer being full-time mothers, women also stop participating in the labor market due to the lack of accessible daycare centers and the difficulties in finding white collar part-time jobs commensurate with their level of education (Cerrutti, 1997). When women find work opportunities that are flexible and accommodative of the many roles they play within households, a large proportion of them may seek part time employment (Bonnal, Losch, Marzin & Parrot, 2015). Provision of accessible daycare services and enforcement of existing labor laws will promote women's entry and increase their duration of stay in the labor market. By enforcing labor legislations that protect the rights and well being of women in part time employment, attitudinal changes in favor of gender equality are likely to emerge (Khurana, 2015).

Finally, as shown in this dissertation, it is important to highlight that social policy interventions should take into account that diverse background factors, such as education, age, partner's education, number of children, locality size, promote egalitarian attitudes among women in Mexico and connote the impact that policy interventions will have on their lives.

## **Limitations**

This dissertation was primarily limited by the lack of data. More specifically, the lack of longitudinal datasets limited my ability to analyze the long-term impacts of employment. In terms of variables operationalization, gender equality is a multidimensional concept that encompasses different domains such as abortion, sexual rights, family organization, intrahousehold decision making, child rearing, among others (Bolzendahl & Myers, 2004). Thereby, the predictors of egalitarian attitudes in different domains may vary. In this sense, the magnitude of the impact of predictors on women's attitudes toward their role in intrahousehold decision making or sexual rights may differ from their attitudes regarding women's social interactions.

Evidence suggests that the effect of women's participation in the labor market is conditional on the type of job, whether women participate full time or work part time, and years of experience. In this dissertation, women's employment was measured through a dichotomous variable that indicates whether women work outside the home or not. In this sense, the use of a dichotomous variable to measure female employment ignores the variation in the nature of women's participation in the labor market.

In addition, the items employed to create the composite scales of women's attitudes toward gender equality, social interaction, and housework were also dichotomous variables. This may limit the identification of differences in the

extent of prevalence of these variables. For instance, women who go out with friends once a month exhibit a lower level of social interaction than those who interact with their friends every week. Women who believe women and men should share caregiving tasks under all circumstances hold more egalitarian attitudes than women who believe that both should share caregiving tasks only if women work outside the home. In this regard, having continuous measures of gender roles would have captured the variability in gender role expectations among women facilitating the use of sophisticated statistical methods, such as structural equation modeling.

### **Directions for future research**

Women's attitudes toward gender equality have been scarcely explored in the Mexican context. The majority of the studies on women have focused on the impact of different variables on women's autonomy, decision-making capacity, power, housework, and poverty levels. Thereby, additional examinations on women' and men's attitudes toward gender equality through different perspectives are necessary to deepen the understanding of egalitarian relations between men and women in Mexico.

Evidence points out that as women increase their participation in the labor force and a more egalitarian culture is developed, the impact of female employment on women's attitudes toward gender equality will decrease and new

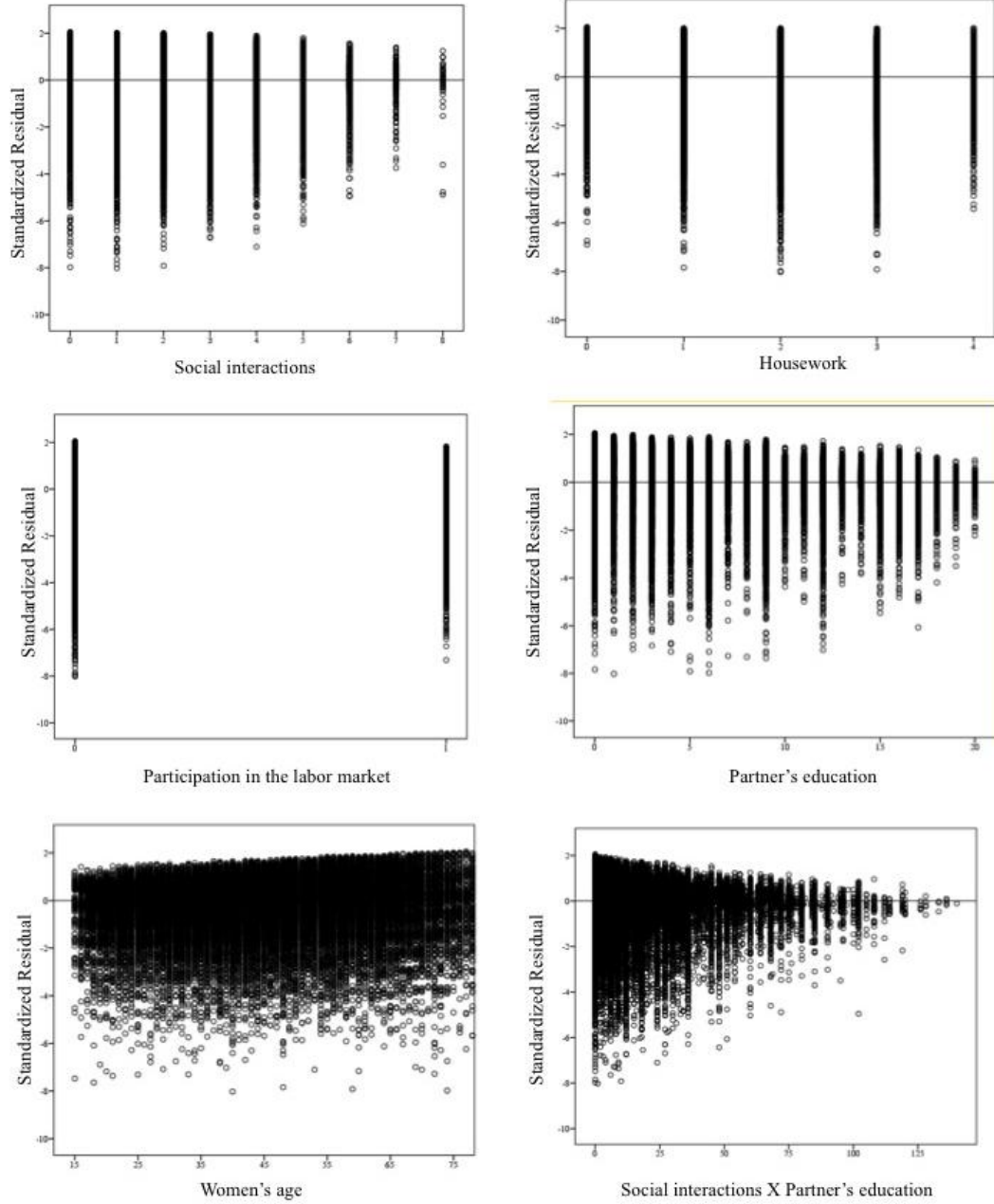
factors will be more likely to influence their attitudes toward gender equality. As mentioned, an important limitation of this dissertation was the lack of panel data to explore women's attitudes toward gender equality over time. In this regard, longer-term trajectories survey and studies would contribute to explore the long-term effects of women's employment.

The availability of panel data would allow exploring not only the trajectory of the relationships between women's employment and egalitarian attitudes, but also how these attitudes are translated into improvements in women's and household members' lives.

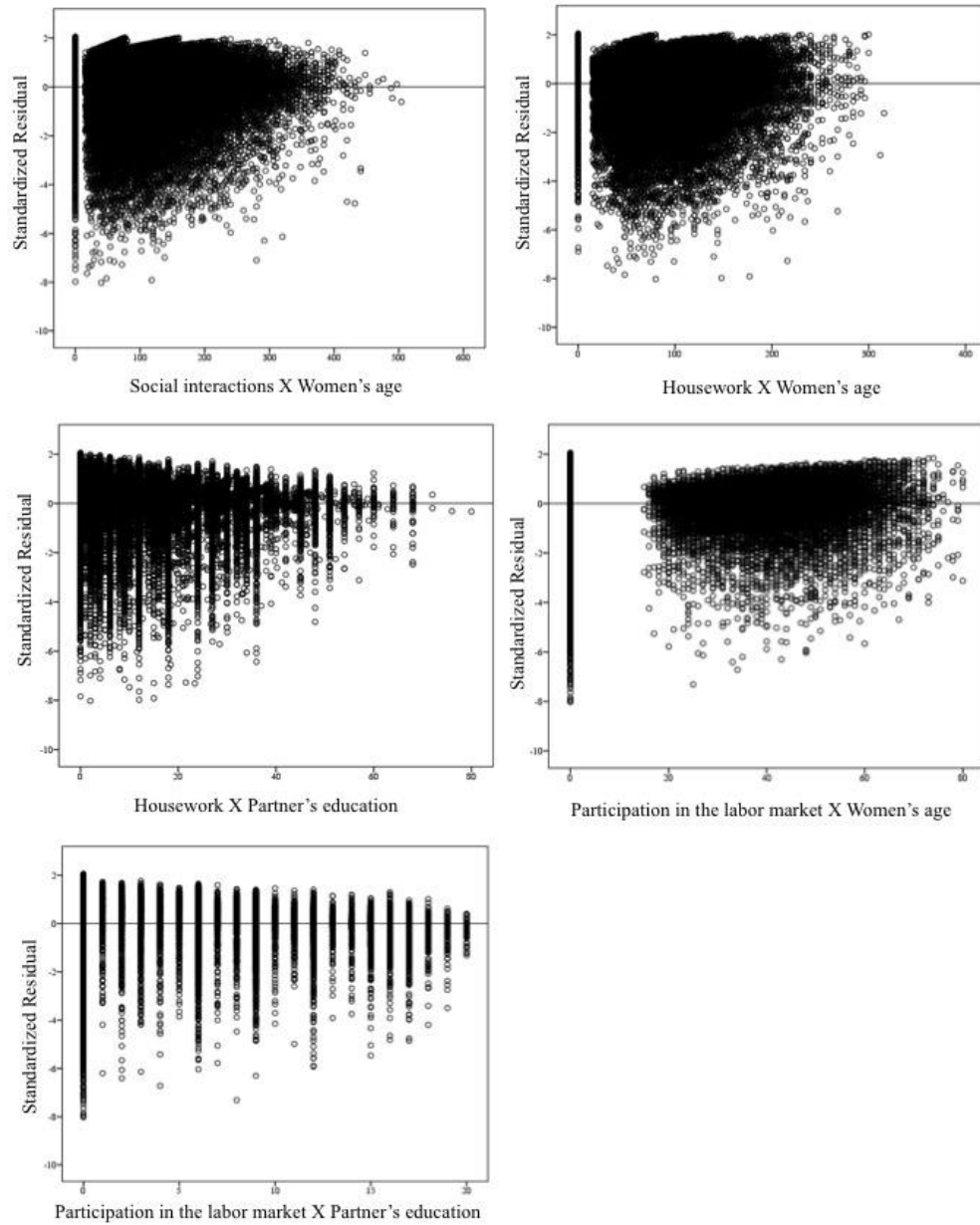
Another challenge for future research is to explore the effects of job conditions on women's egalitarian attitudes and the different dimensions of sex-gender orientations. Also, it is important to continue inquiring additional women's characteristics that moderate the effects on their attitudes toward gender equality.

Appendix A. Residual analysis of hypothesized variables on women's attitudes  
toward gender equality, all women

Appendix A. Residual analysis of hypothesized variables on women's attitudes toward gender equality, all women



Appendix A. (continued)

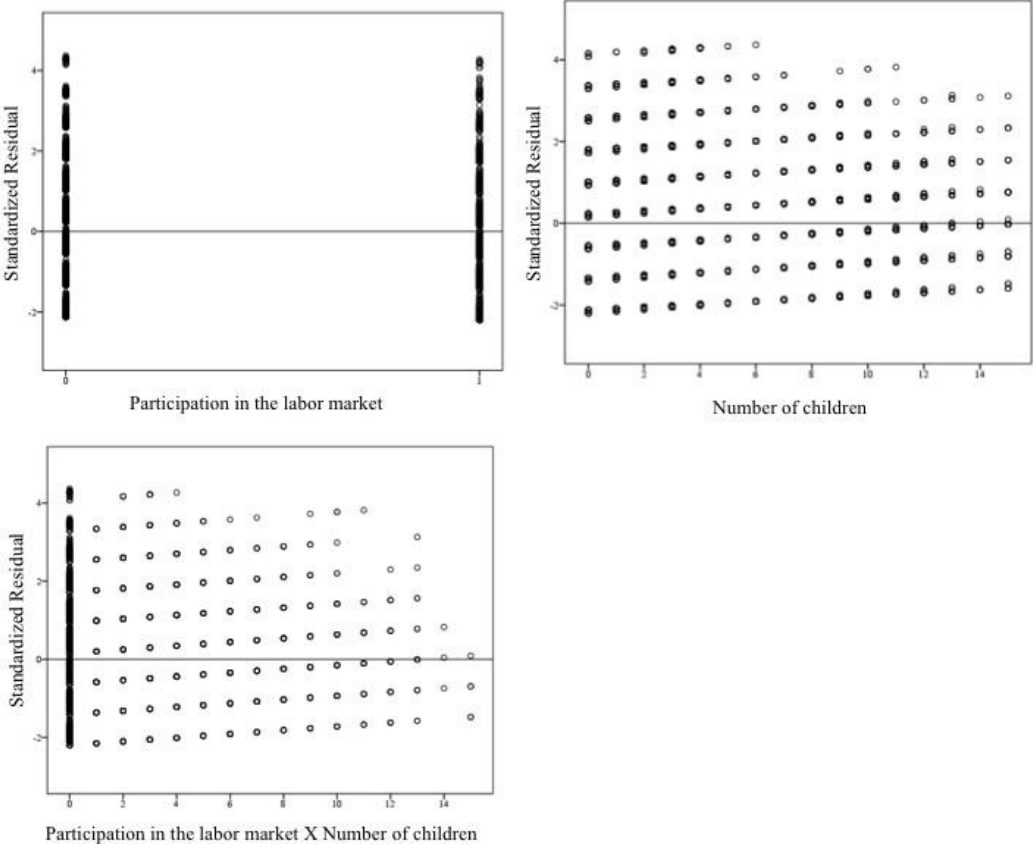


Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Appendix B. Residual analysis of hypothesized variables on social interactions,  
all women



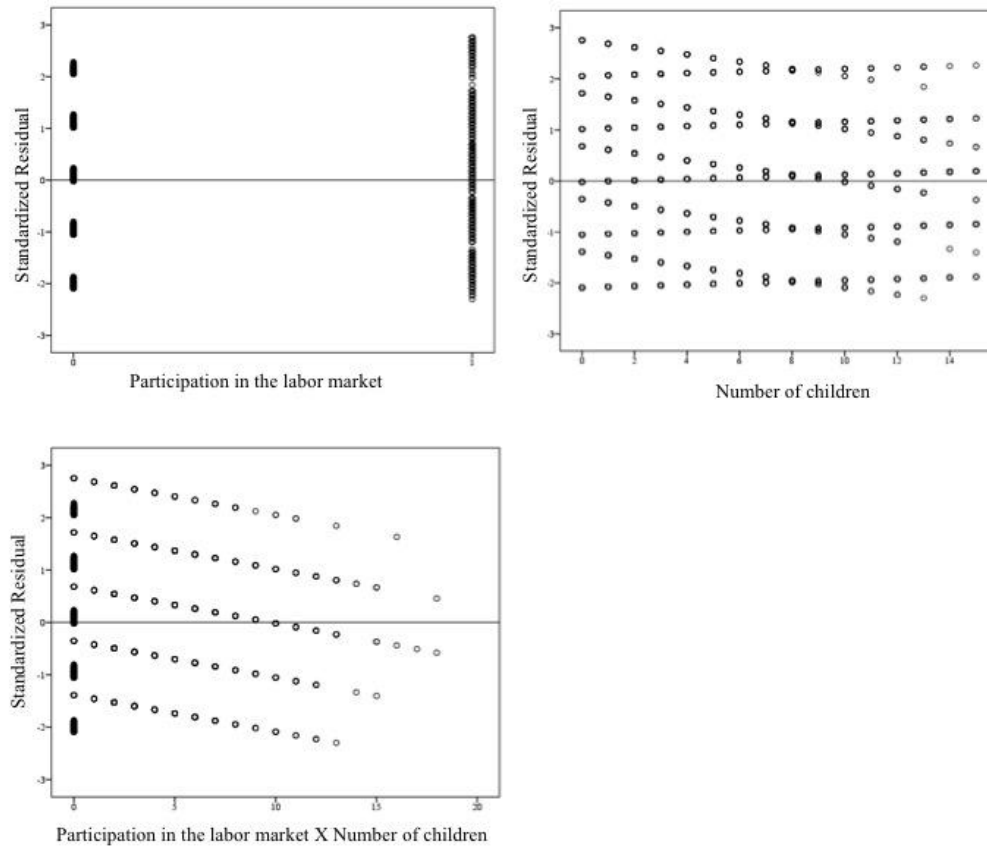
Appendix B. Residual analysis of hypothesized variables on social interactions, all women



Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Appendix C. Residual analysis of hypothesized variables on housework, all  
women

Appendix C. Residual analysis of hypothesized variables on housework, all women



Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Appendix D. Standardized coefficients of hypothesized variables on attitudes  
toward gender equality, by women's education level

Appendix D. Standardized coefficients of hypothesized variables on attitudes toward gender equality, by women's education level

Dependent variable: attitudes	Years of education $\leq 6$	6 < Years of education $\leq 9$	9 < Years of education $\leq 12$	12 < Years of education $\leq 17$	Years of education $> 17$
Social interactions	-0.0117*	0.0408*	0.1266	0.0861 <sup>+</sup>	0.0790*
Housework	-0.0063*	-0.0565 <sup>+</sup>	-0.0024*	-0.0719 <sup>x</sup>	-0.1359*
Participation in LF	0.1088	0.0891	0.1353	0.0761 <sup>x</sup>	-0.0567*
Partner's education	0.2167	0.1084	0.1760	0.1329	0.0127*
Women's age	-0.1466	-0.0916	-0.1241	-0.2129	-0.0626*
Social interactions x Partner's education	0.0199*	0.0324 <sup>x</sup>	-0.0988	-0.1222	-0.0713*
Social interactions x Women's age	0.0528	0.0188*	0.0494*	0.1229	0.0614*
Housework x Partner's education	-0.0397	-0.0093*	-0.0159*	0.0183*	0.2906 <sup>+</sup>
Housework x Women's age	0.0317*	0.0545 <sup>+</sup>	-0.0014*	0.0452*	-0.2468 <sup>+</sup>
Working x Partner's education	-0.0424	-0.0655	-0.0816	-0.0823	0.1499*
Working x Women's age	0.0205*	0.0474 <sup>+</sup>	0.0098*	0.0681 <sup>+</sup>	0.0255*
	F = 238.5421	F = 57.5219	F = 43.9750	F = 57.4015	F = 8.2956
	R <sup>2</sup> = 0.0755	R <sup>2</sup> = 0.0268	R <sup>2</sup> = 0.0332	R <sup>2</sup> = 0.0401	R <sup>2</sup> = 0.0758
	R adj = 0.0752	R adj = 0.0263	R adj = 0.0325	R adj = 0.0394	R adj = 0.0666
	n = 32,126	n = 23,009	n = 14,096	n = 15,123	n = 1,125
	F = 238.5421	F = 57.5219	F = 43.9750	F = 57.4015	F = 8.2956

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: \* Not significant; <sup>+</sup> significant at the 0.05 level; <sup>x</sup> significant at the 0.10 level; the rest of the coefficients are significant at the 0.01 level.

Appendix E. Differences in the effects of predictors on women's attitudes toward  
gender equality

Appendix E. Differences in the effects of predictors on women's attitudes toward gender equality

	Social interactions	Housework	Participation in LF	Partner's education	Women's age
Group 1 = Group 2	F = 2.27 Prob > F = 0.1315	F = 1.35 Prob > F = 0.2453	F = 5.16 Prob > F = 0.0231	F = 63.96 Prob > F = 0.0000	F = 14.59 Prob > F = 0.0001
Group 1 = Group 3	F = 6.18 Prob > F = 0.0129	F = 0.03 Prob > F = 0.8518	F = 3.49 Prob > F = 0.0617	F = 41.29 Prob > F = 0.0000	F = 10.28 Prob > F = 0.0013
Group 1 = Group 4	F = 1.77 Prob > F = 0.1835	F = 0.35 Prob > F = 0.5525	F = 7.99 Prob > F = 0.0047	F = 68.07 Prob > F = 0.0000	F = 3.71 Prob > F = 0.0542
Group 1 = Group 5	F = 0.12 Prob > F = 0.7328	F = 0.14 Prob > F = 0.7034	F = 1.44 Prob > F = 0.2295	F = 11.43 Prob > F = 0.0007	F = 2.58 Prob > F = 0.1080
Group 2 = Group 3	F = 1.13 Prob > F = 0.2869	F = 1.14 Prob > F = 0.2853	F = 0.03 Prob > F = 0.8672	F = 0.25 Prob > F = 0.6199	F = 0.00 Prob > F = 0.9801
Group 2 = Group 4	F = 0.02 Prob > F = 0.8830	F = 0.09 Prob > F = 0.7693	F = 0.67 Prob > F = 0.4124	F = 0.77 Prob > F = 0.3814	F = 1.25 Prob > F = 0.2631
Group 2 = Group 5	F = 0.00 Prob > F = 0.9905	F = 0.01 Prob > F = 0.9117	F = 0.36 Prob > F = 0.5470	F = 0.91 Prob > F = 0.3390	F = 0.26 Prob > F = 0.6087
Group 3 = Group 4	F = 0.59 Prob > F = 0.4439	F = 0.41 Prob > F = 0.5216	F = 0.84 Prob > F = 0.3588	F = 1.64 Prob > F = 0.2001	F = 0.99 Prob > F = 0.3189
Group 3 = Group 5	F = 0.07 Prob > F = 0.7921	F = 0.15 Prob > F = 0.6987	F = 0.42 Prob > F = 0.5186	F = 1.27 Prob > F = 0.2603	F = 0.27 Prob > F = 0.6053
Group 4 = Group 5	F = 0.00 Prob > F = 0.9765	F = 0.04 Prob > F = 0.8469	F = 0.15 Prob > F = 0.7024	F = 0.44 Prob > F = 0.5094	F = 0.81 Prob > F = 0.3691

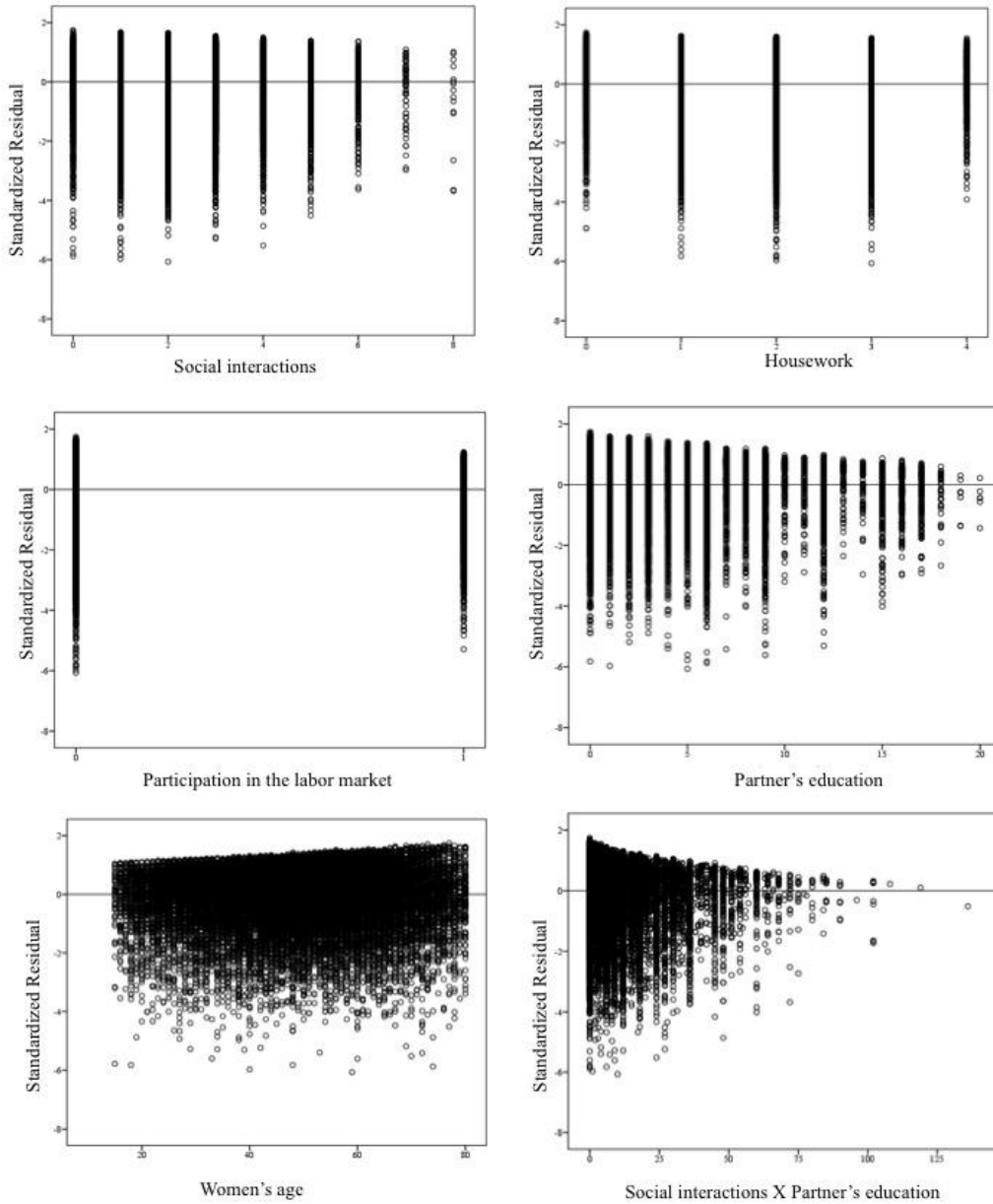
Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: Group 1: women with 6 or less years of education. Group 2: women with more than 6, but less than 9 years of education. Group 3: women with more than 9, but less than 12 years of education. Group 4: women with more than 12, but years than 17 years of education. Group 5: women with more than 17 years of education.

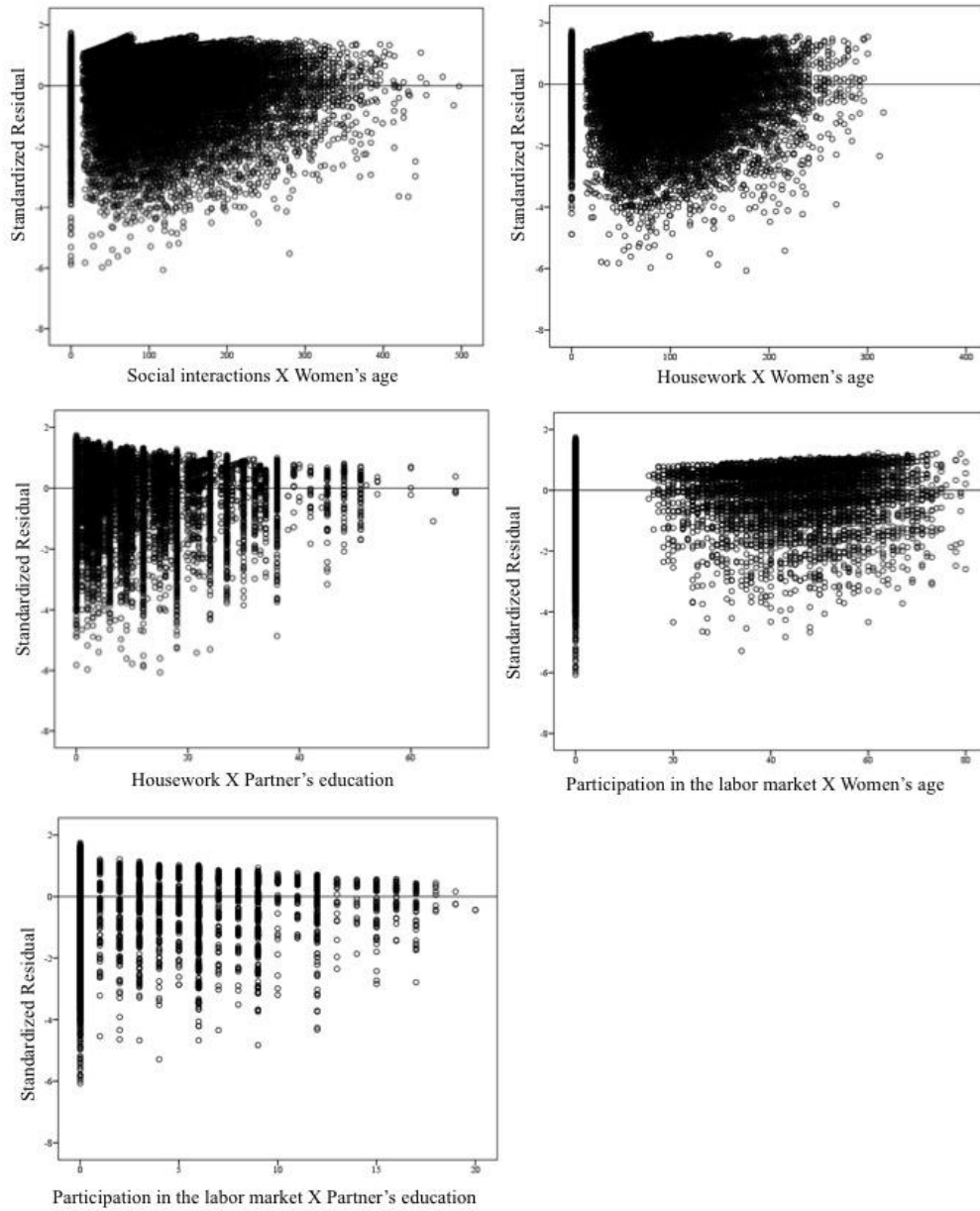
Appendix F. Residual analysis of hypothesized variables on women's attitudes  
toward gender equality,  $0 \leq \text{years of education} \leq 6$



Appendix F. Residual analysis of hypothesized variables on women's attitudes toward gender equality,  $0 \leq \text{years of education} \leq 6$



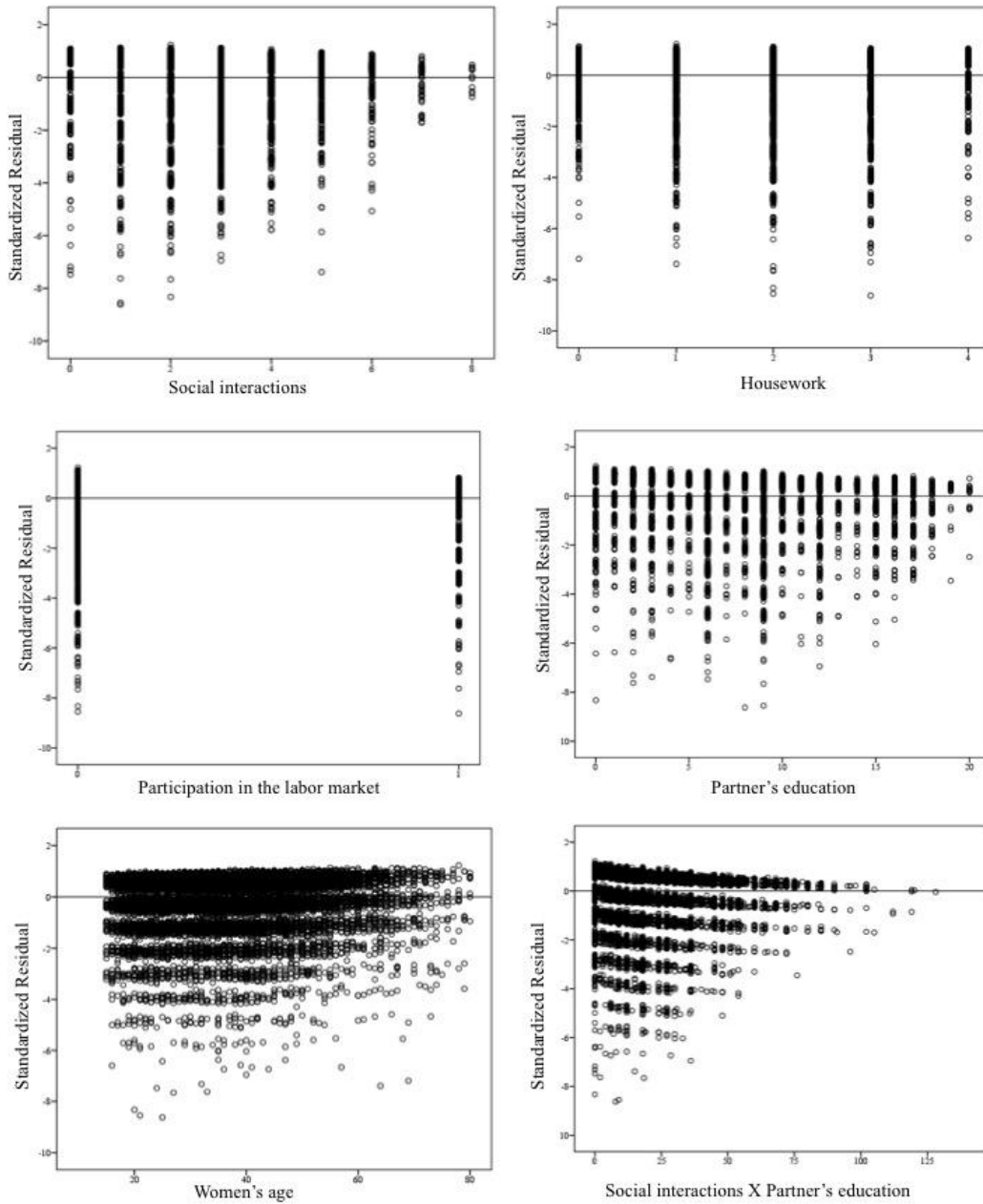
Appendix F. (continued)



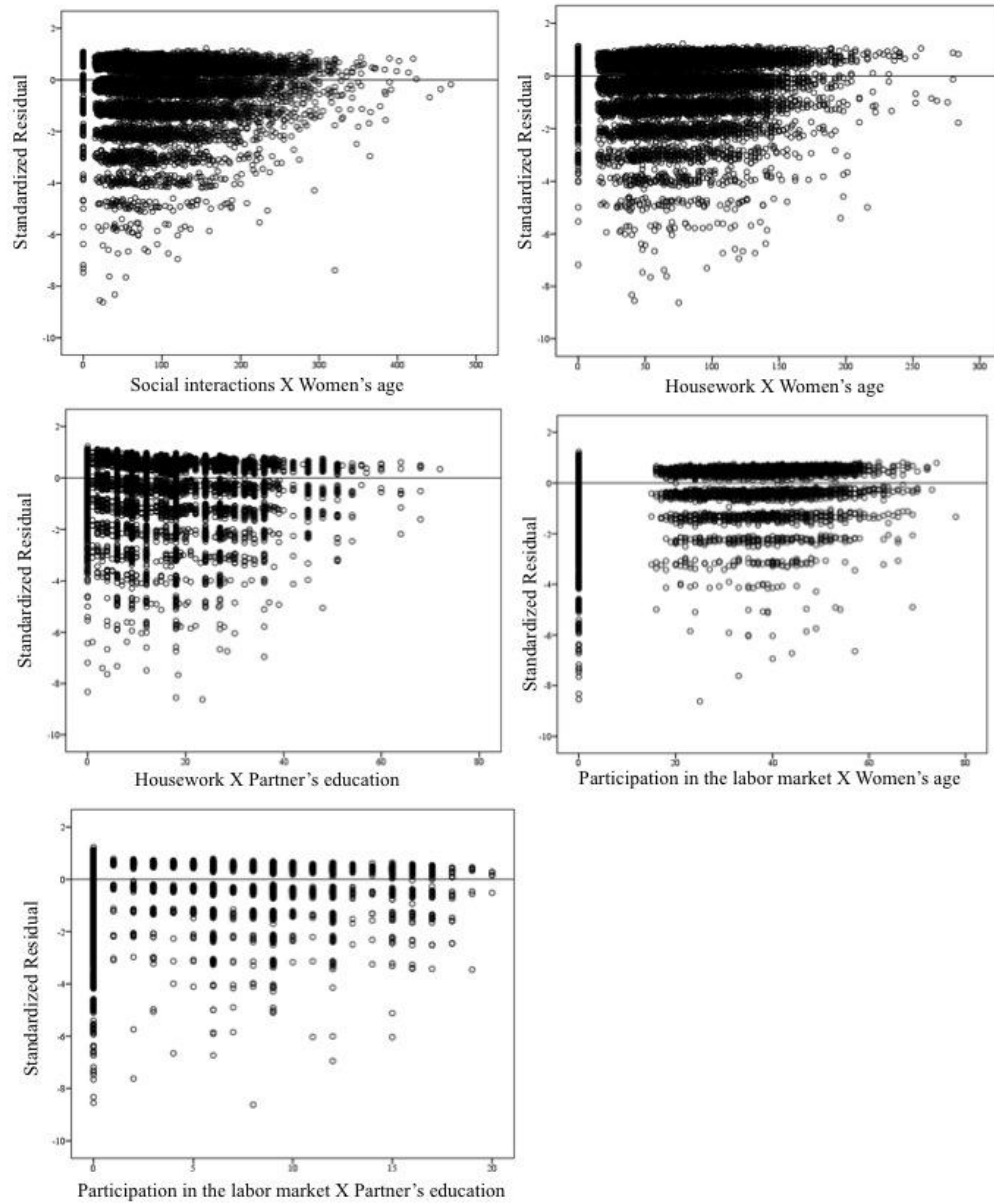
Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Appendix G. Residual analysis of hypothesized variables on women's attitudes  
toward gender equality,  $6 < \text{years of education} \leq 9$

Appendix G. Residual analysis of hypothesized variables on women's attitudes toward gender equality,  $6 < \text{years of education} \leq 9$



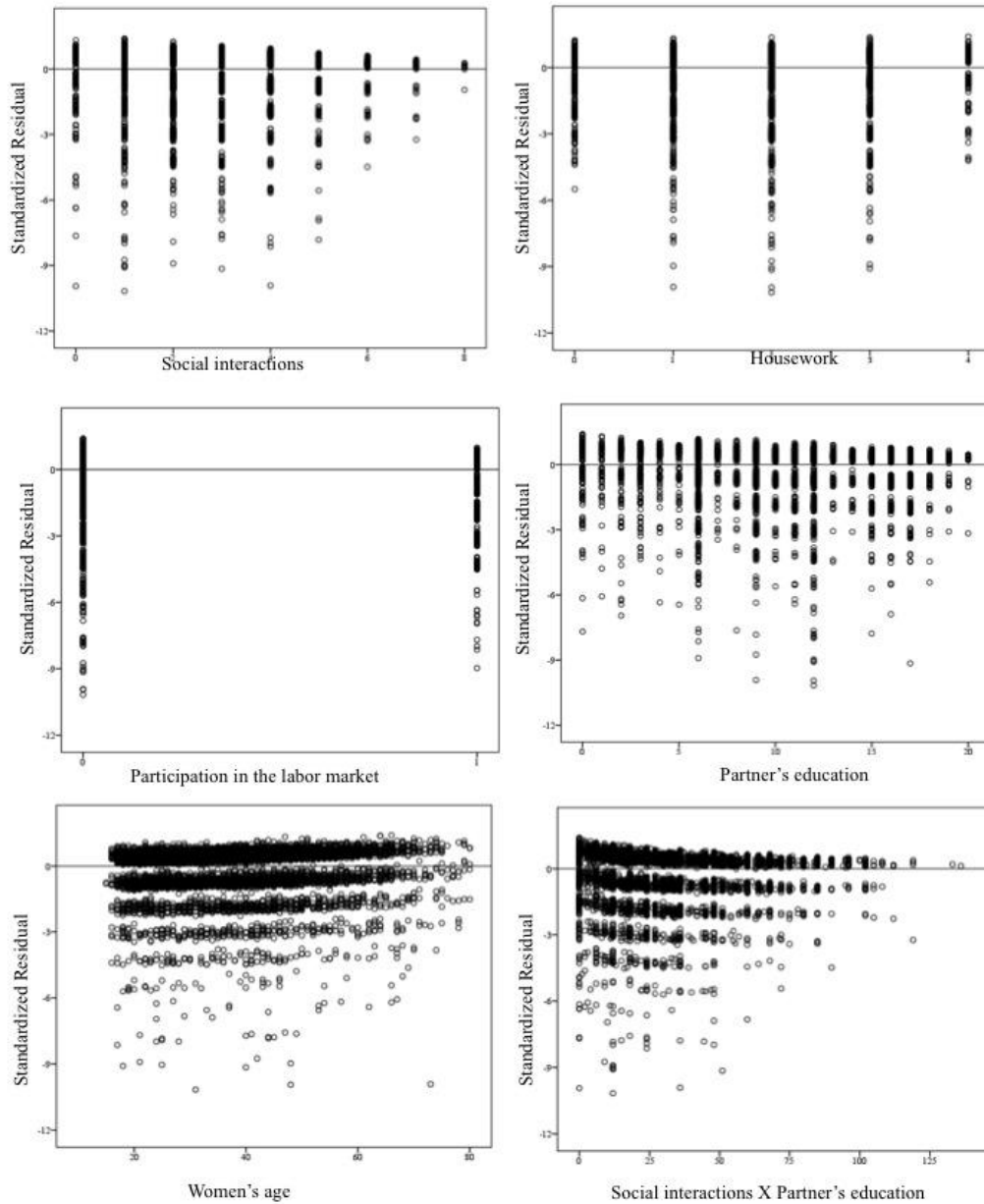
Appendix G. (continued)



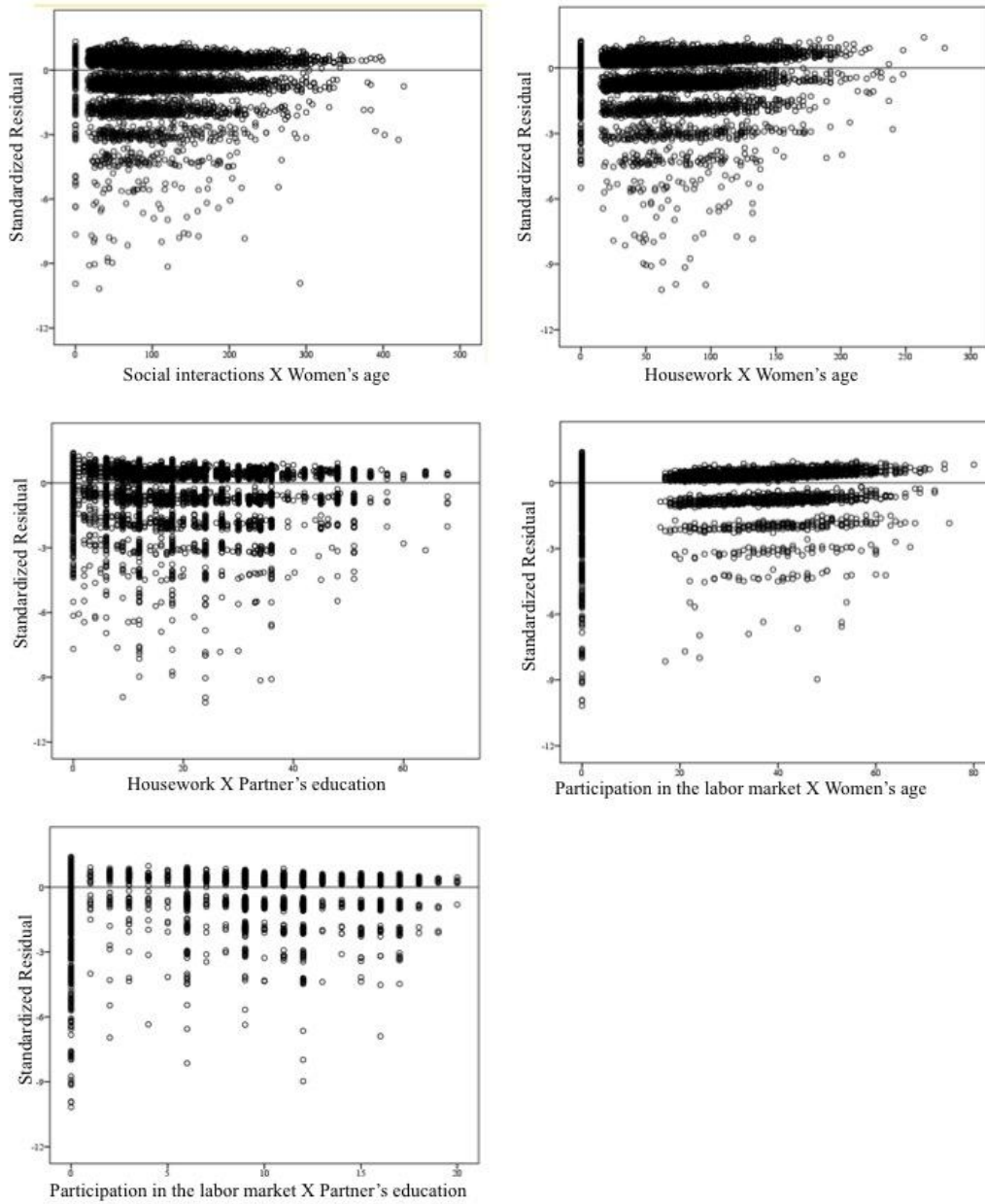
Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Appendix H. Residual analysis of hypothesized variables on women's attitudes  
toward gender equality,  $9 < \text{years of education} \leq 12$

Appendix H. Residual analysis of hypothesized variables on women's attitudes toward gender equality,  $9 < \text{years of education} \leq 12$



Appendix H. (continued)

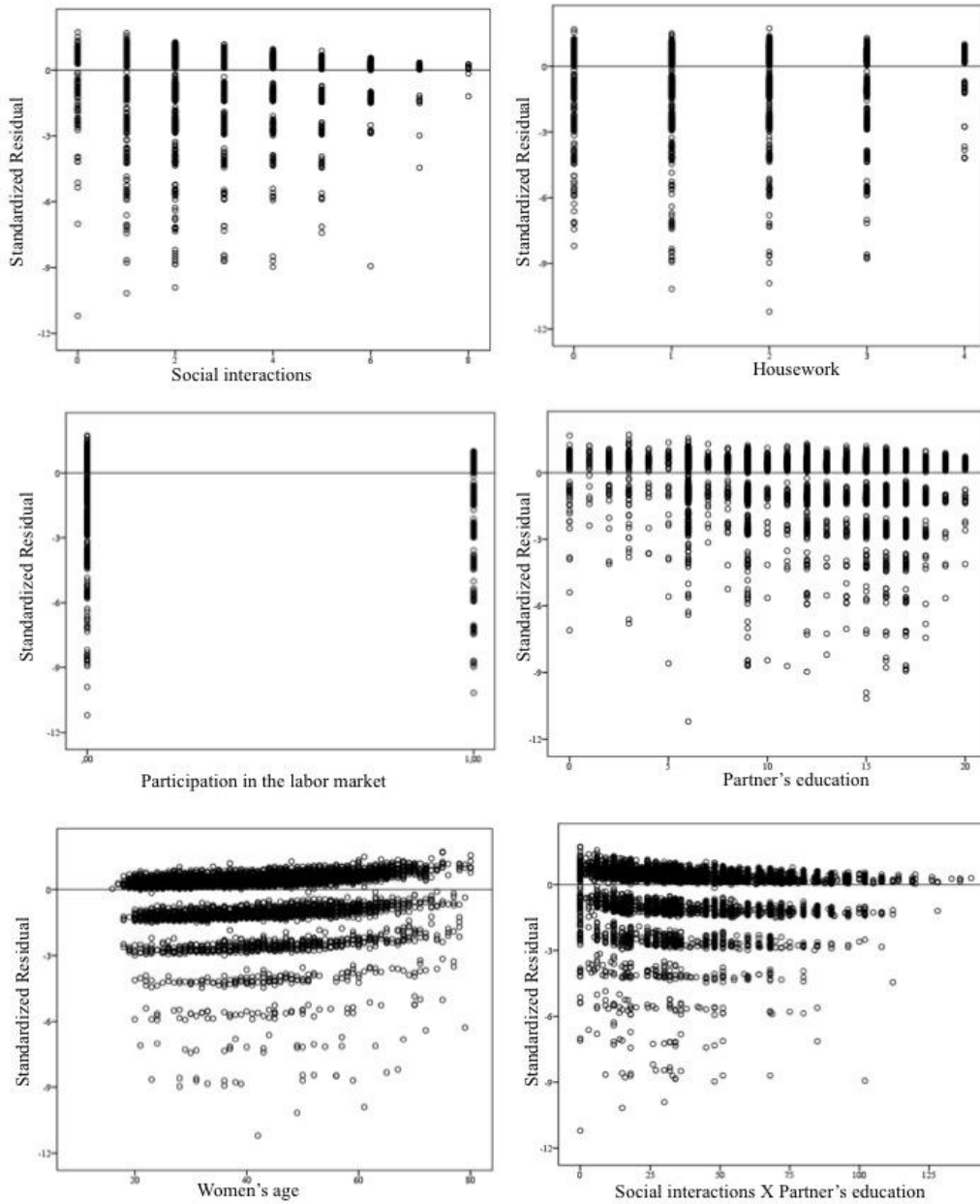


Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

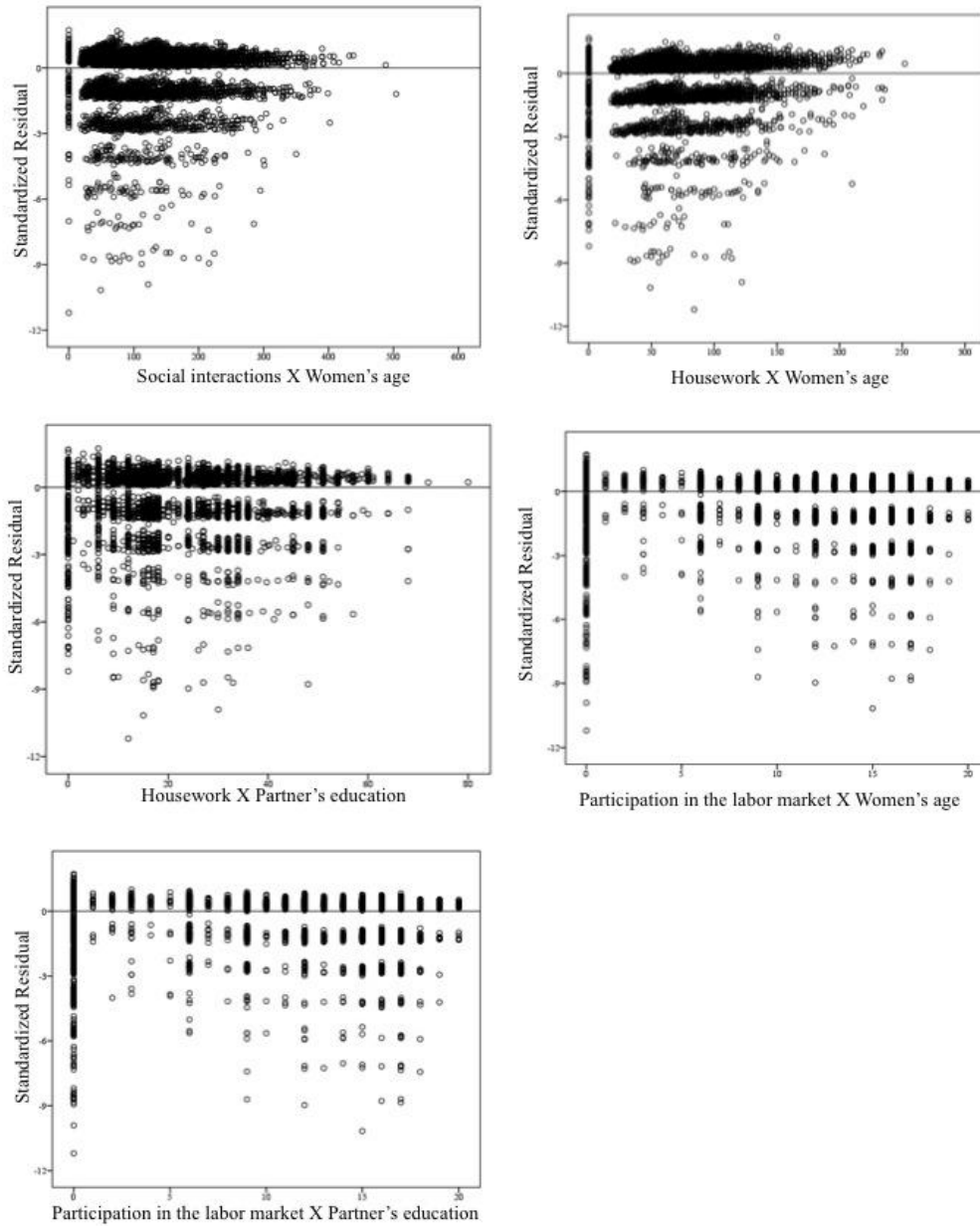


Appendix I. Residual analysis of hypothesized variables on women's attitudes  
toward gender equality,  $12 < \text{years of education} \leq 17$

Appendix I. Residual analysis of hypothesized variables on women's attitudes toward gender equality,  $12 < \text{years of education} \leq 17$



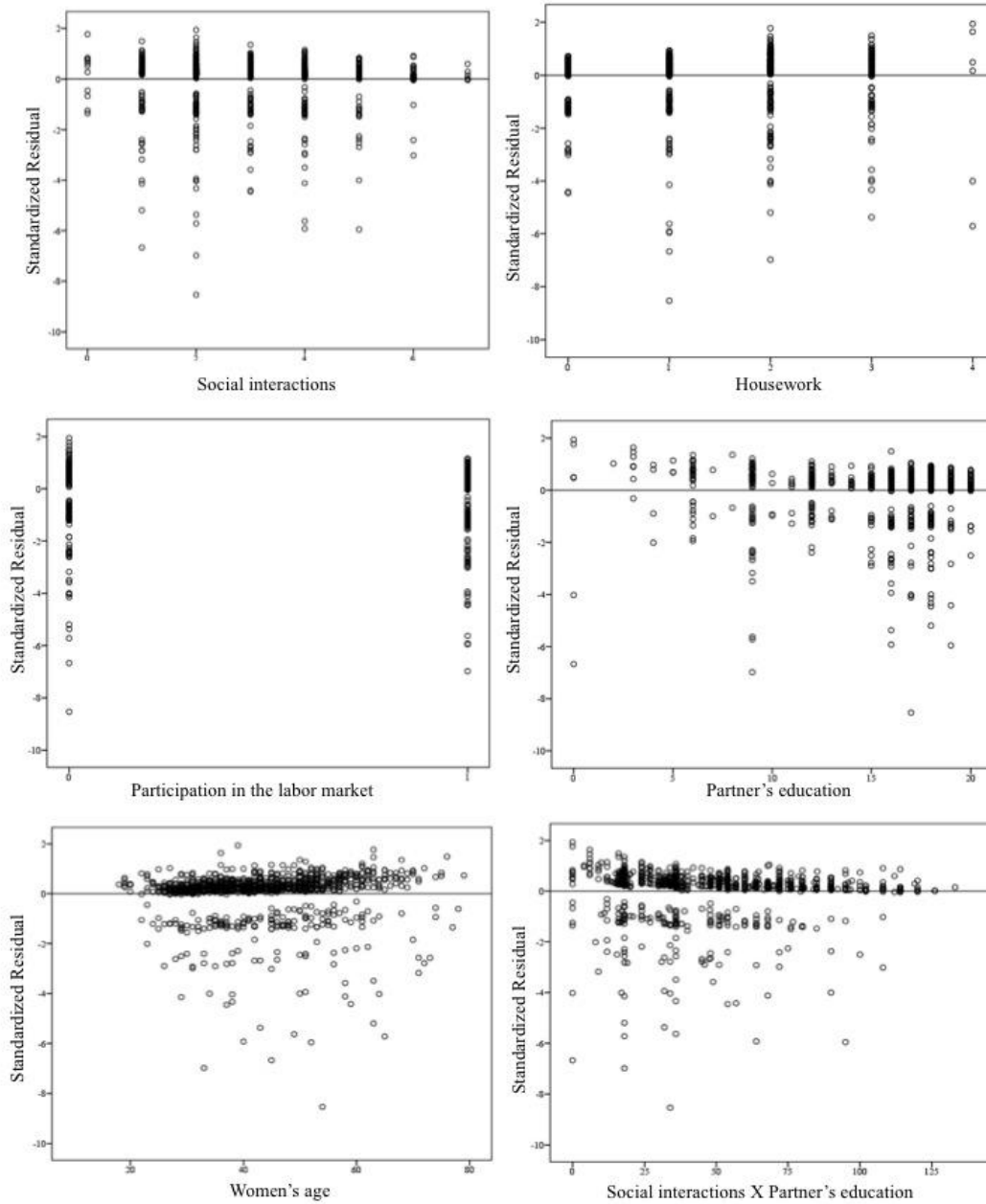
Appendix I. (continued)



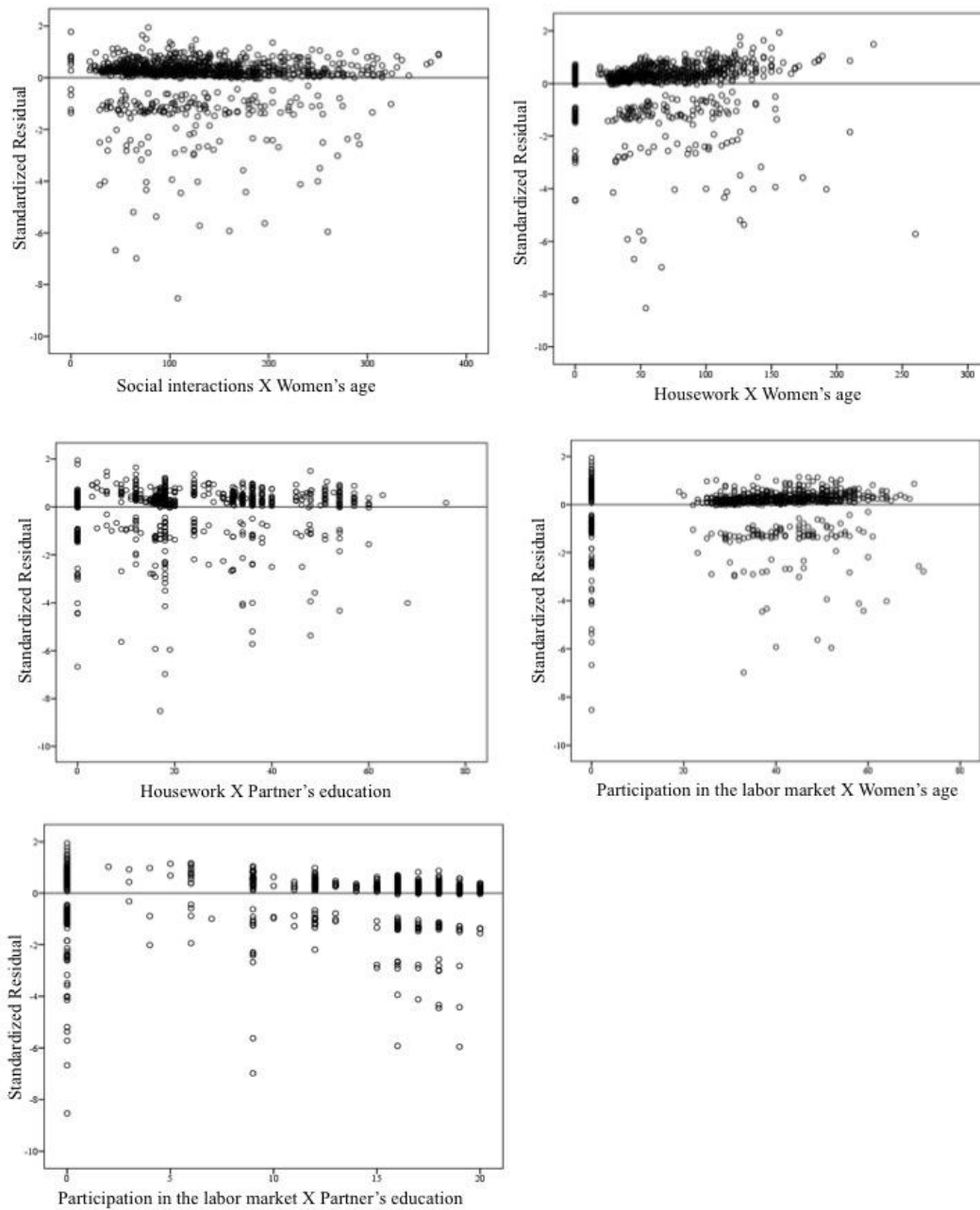
Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Appendix J. Residual analysis of hypothesized variables on women's attitudes  
toward gender equality, years of education > 17

Appendix J. Residual analysis of hypothesized variables on women's attitudes toward gender equality, years of education > 17



Appendix J. (continued)



Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Appendix K. Standardized coefficients of hypothesized variables on social interactions, by women's education level

Appendix K. Standardized coefficients of hypothesized variables on social interactions, by women's education level

Dependent variable: social interactions	Years of education $\leq 6$	6 < Years of education $\leq 9$	9 < Years of education $\leq 12$	12 < Years of education $\leq 17$	Years of education > 17
Participation in L.F.	-0.0173 <sup>x</sup>	0.0039*	0.0022*	0.0373 <sup>+</sup>	0.0109*
Number of children	-0.0838	-0.0263	-0.0537	-0.0604	-0.1271
Working x children	0.0237 <sup>+</sup>	-0.0176*	-0.0052*	-0.0252*	0.0576*
	F = 68.1108 R <sup>2</sup> = 0.0063 R adj = 0.0062 n = 32,126	F = 9.1211 R <sup>2</sup> = 0.0012 R adj = 0.0011 n = 23,009	F = 14.6100 R <sup>2</sup> = 0.0031 R adj = 0.0029 n = 14,096	F = 31.3156 R <sup>2</sup> = 0.0062 R adj = 0.0062 n = 15,123	F = 4.8525 R <sup>2</sup> = 0.0128 R adj = 0.0102 n = 1,125

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: \* Not significant; <sup>+</sup> significant at the 0.05 level; <sup>x</sup> significant at the 0.10 level; the rest of the coefficients are significant at the 0.01 level.



Appendix L. Differences in the effects of predictors on social interactions

Appendix L. Differences in the effects of predictors on social interactions

	Participation in the LF	Number of children
Group 1 = Group 2	F = 1.89 Prob > F = 0.1695	F = 6.93 Prob > F = 0.0085
Group 1 = Group 3	F = 1.32 Prob > F = 0.2508	F = 1.34 Prob > F = 0.2478
Group 1 = Group 4	F = 9.42 Prob > F = 0.0022	F = 3.93 Prob > F = 0.0475
Group 1 = Group 5	F = 0.33 Prob > F = 0.5679	F = 3.90 Prob > F = 0.0484
Group 2 = Group 3	F = 0.01 Prob > F = 0.9280	F = 6.35 Prob > F = 0.0118
Group 2 = Group 4	F = 2.93 Prob > F = 0.0871	F = 9.74 Prob > F = 0.0018
Group 2 = Group 5	F = 0.02 Prob > F = 0.8761	F = 5.33 Prob > F = 0.0209
Group 3 = Group 4	F = 2.78 Prob > F = 0.0953	F = 0.62 Prob > F = 0.4303
Group 3 = Group 5	F = 0.03 Prob > F = 0.8531	F = 2.74 Prob > F = 0.0981
Group 4 = Group 5	F = 0.16 Prob > F = 0.6847	F = 1.94 Prob > F = 0.1634

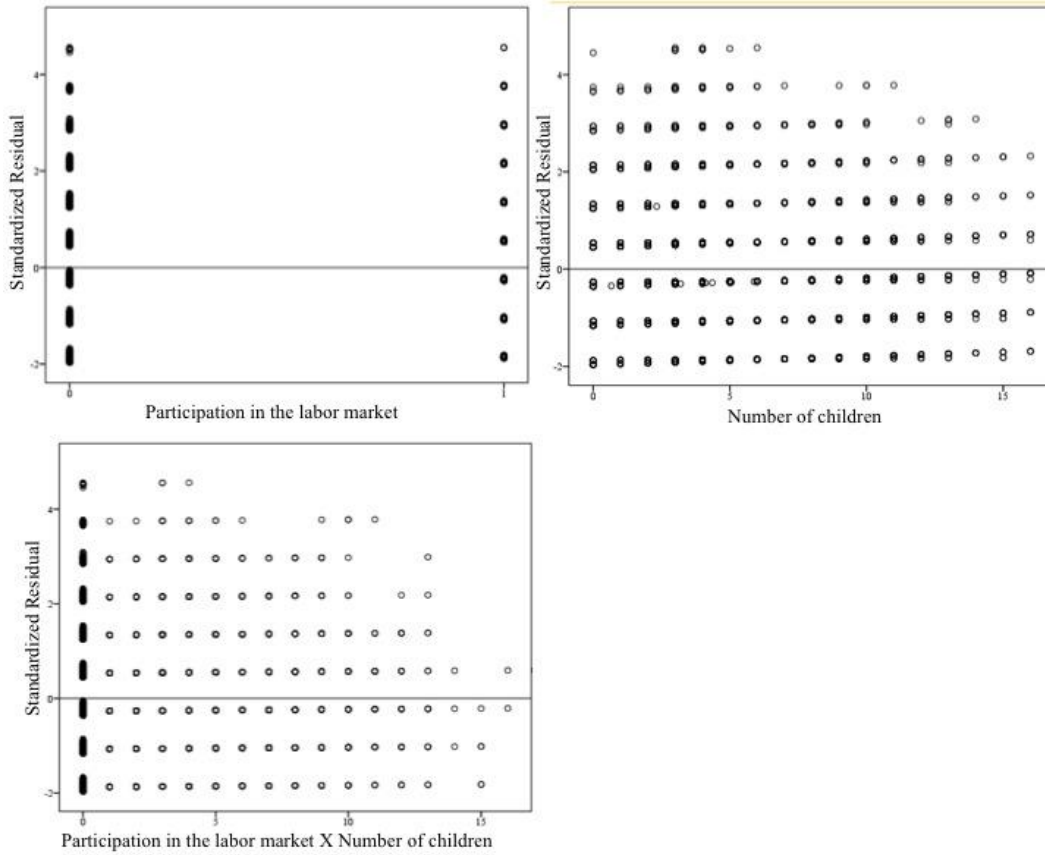
Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: Group 1: women with 6 or less years of education. Group 2: women with more than 6, but less than 9 years of education. Group 3: women with more than 9, but less than 12 years of education. Group 4: women with more than 12, but years than 17 years of education. Group 5: women with more than 17 years of education. LF: labor force.

Appendix M. Residual analysis of hypothesized variables on social interactions,

$0 \leq \text{years of education} \leq 6$

Appendix M. Residual analysis of hypothesized variables on social interactions,  
 $0 \leq \text{years of education} \leq 6$

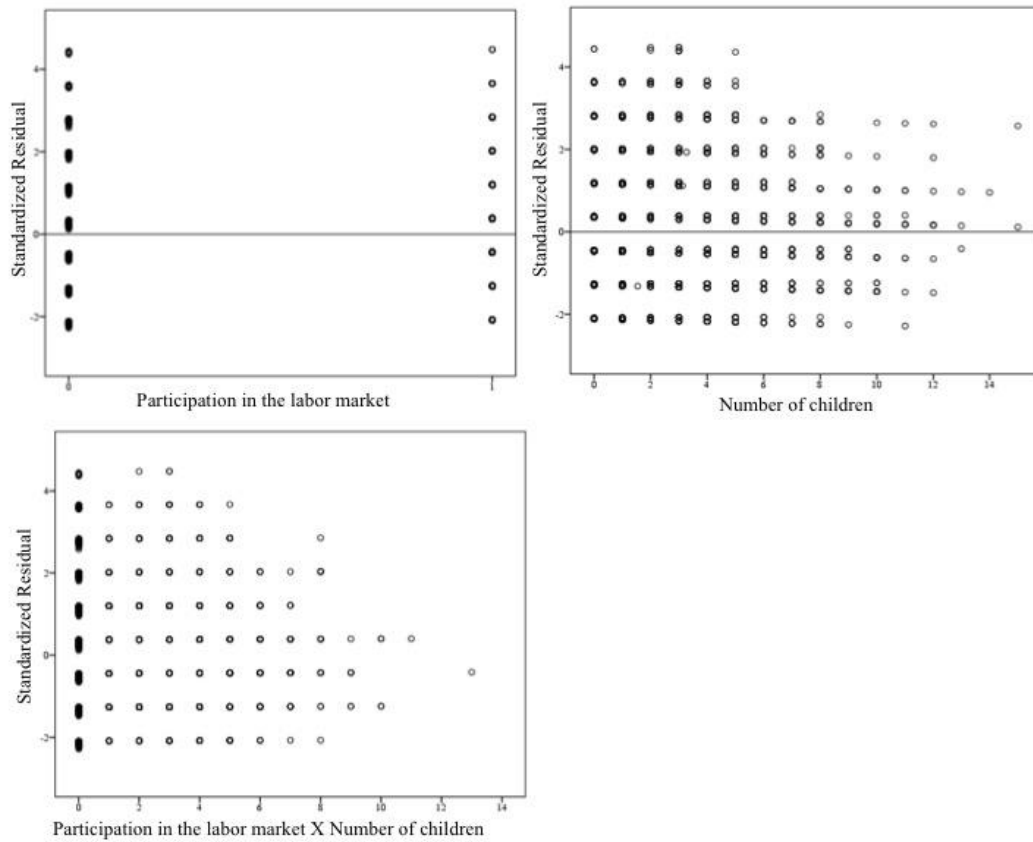


Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Appendix N. Residual analysis of hypothesized variables on social interactions,

$6 < \text{years of education} \leq 9$

Appendix N. Residual analysis of hypothesized variables on social interactions,  
 $6 < \text{years of education} \leq 9$

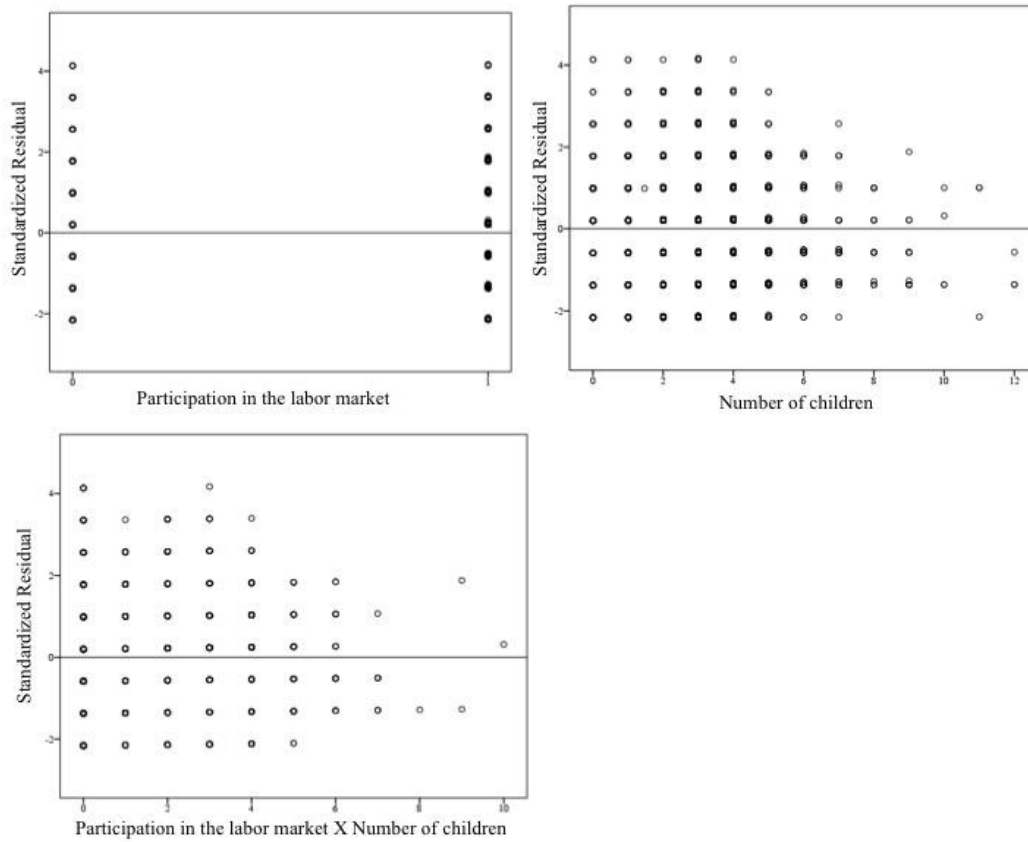


Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Appendix 0. Residual analysis of hypothesized variables on social interactions,

9 < years of education  $\leq$  12

Appendix 0. Residual analysis of hypothesized variables on social interactions,  
 $9 < \text{years of education} \leq 12$



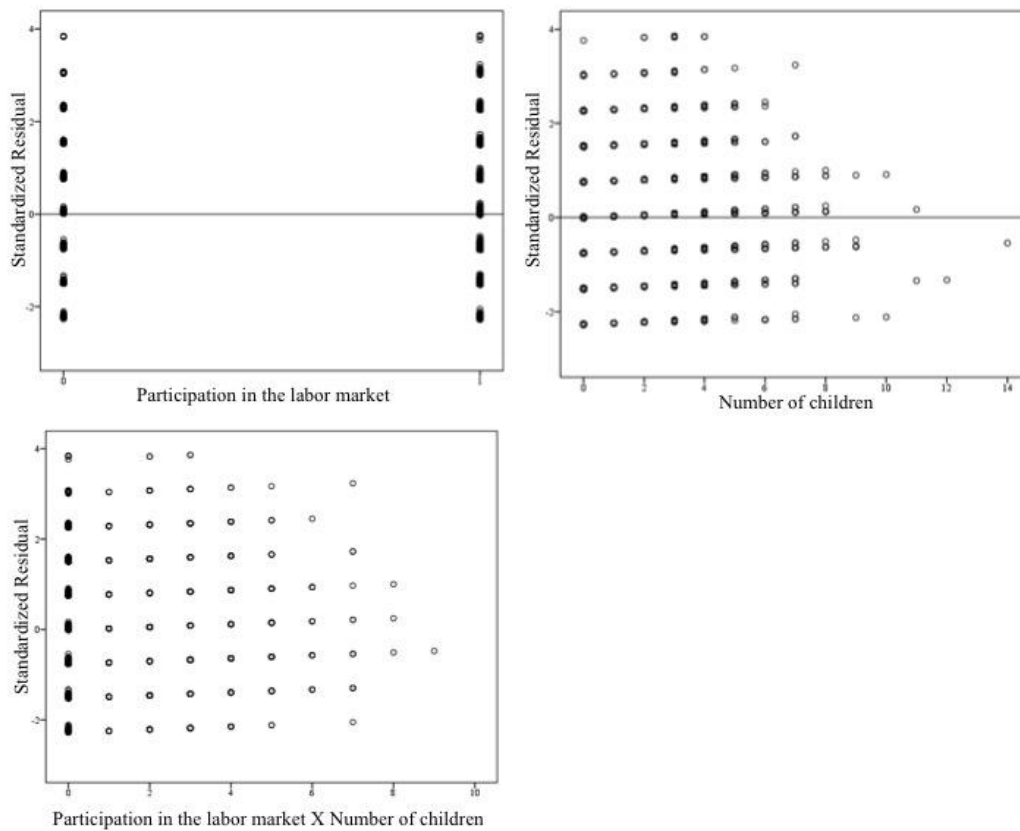
Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.



Appendix P. Residual analysis of hypothesized variables on social interactions,

$12 < \text{years of education} \leq 17$

Appendix P. Residual analysis of hypothesized variables on social interactions,  
 $12 < \text{years of education} \leq 17$

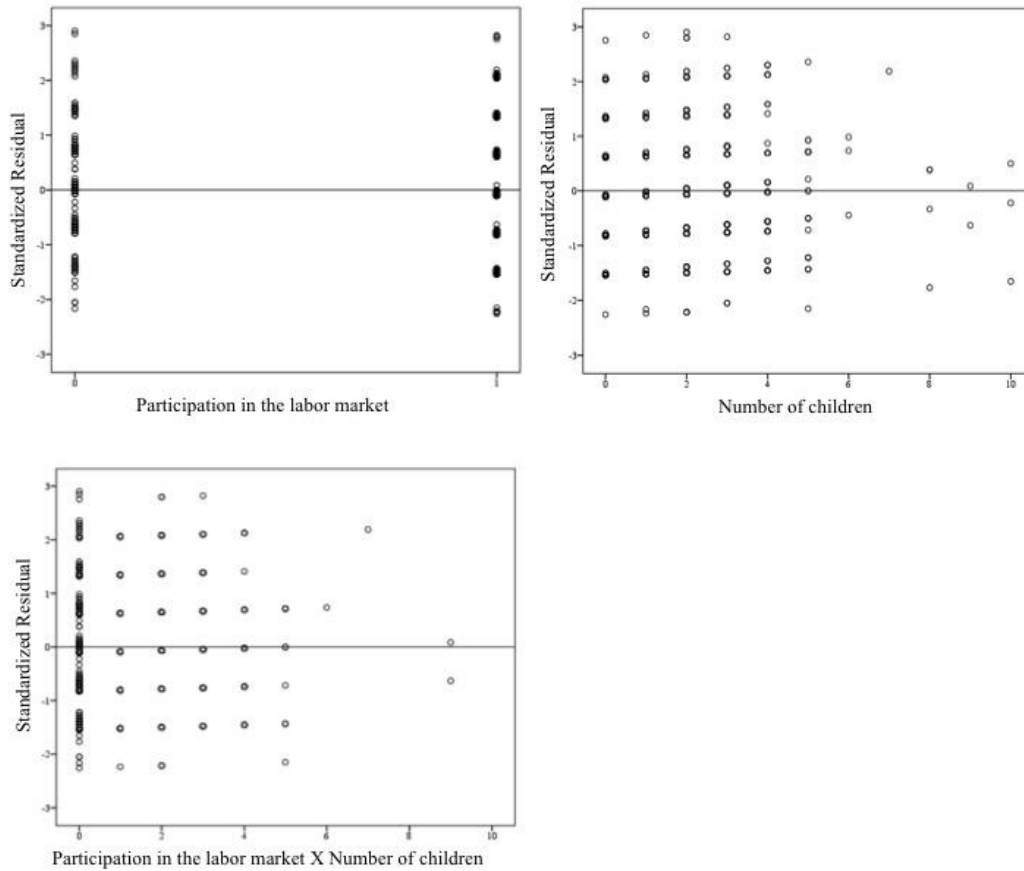


Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Appendix Q. Residual analysis of hypothesized variables on social interactions,

years of education > 17

Appendix Q. Residual analysis of hypothesized variables on social interactions, years of education > 17



Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Appendix R. Indirect effects of women's employment through social interaction,  
by education level

Appendix R. Indirect effects of women's employment through social interaction,  
by education level

Number of children	Partner's education	Women's age	Effect	SE	LLCI	ULCI
Years of education $\leq 6$						
1	2	33	-0.0011*	0.0010	-0.0041	0.0003
1	2	47	-0.0017*	0.0014	-0.0049	0.0008
1	2	62	-0.0024*	0.0019	-0.0064	0.0011
1	5	33	-0.0015*	0.0012	-0.0045	0.0006
1	5	47	-0.0021*	0.0017	-0.0056	0.0010
1	5	62	-0.0027*	0.0022	-0.0072	0.0014
1	9	33	-0.0018*	0.0015	-0.0054	0.0008
1	9	47	-0.0025*	0.0020	-0.0066	0.0012
1	9	62	-0.0031*	0.0025	-0.0083	0.0015
4	2	33	0.0005*	0.0007	-0.0006	0.0025
4	2	47	0.0008*	0.0010	-0.0011	0.0030
4	2	62	0.0011*	0.0014	-0.0016	0.0040
4	5	33	0.0007*	0.0009	-0.0009	0.0027
4	5	47	0.0010*	0.0012	-0.0014	0.0035
4	5	62	0.0013*	0.0016	-0.0018	0.0046
4	9	33	0.0009*	0.0011	-0.0012	0.0032
4	9	47	0.0012*	0.0015	-0.0016	0.0041
4	9	62	0.0015*	0.0018	-0.0020	0.0052
7	2	33	0.0021	0.0015	0.0001	0.0063
7	2	47	0.0034	0.0019	0.0002	0.0076
7	2	62	0.0046	0.0025	0.0002	0.0102
7	5	33	0.0029	0.0017	0.0002	0.0069
7	5	47	0.0041	0.0021	0.0001	0.0086
7	5	62	0.0053	0.0028	0.0001	0.0113
7	9	33	0.0036	0.0020	0.0002	0.0083
7	9	47	0.0048	0.0025	0.0001	0.0102
7	9	62	0.0060	0.0032	0.0002	0.0130
$6 < \text{Years of education} \leq 9$						
1	5	24	-0.0002*	0.0015	-0.0031	0.0028
1	5	36	-0.0002*	0.0016	-0.0034	0.0030
1	5	47	-0.0002*	0.0018	-0.0037	0.0033
1	9	24	-0.0002*	0.0017	-0.0036	0.0033
1	9	36	-0.0002*	0.0019	-0.0038	0.0035
1	9	47	-0.0002*	0.0020	-0.0042	0.0037
1	12	24	-0.0002*	0.0020	-0.0041	0.0037
1	12	36	-0.0002*	0.0021	-0.0043	0.0039

Number of children	Partner's education	Women's age	Effect	SE	LLCI	ULCI
1	12	47	-0.0003*	0.0022	-0.0047	0.0042
2	5	24	-0.0016*	0.0011	-0.0041	0.0003
2	5	36	-0.0018*	0.0012	-0.0043	0.0004
2	5	47	-0.0019*	0.0013	-0.0047	0.0004
2	9	24	-0.0019*	0.0013	-0.0045	0.0004
2	9	36	-0.0020*	0.0013	-0.0047	0.0005
2	9	47	-0.0022*	0.0014	-0.0051	0.0005
2	12	24	-0.0022*	0.0015	-0.0052	0.0005
2	12	36	-0.0023*	0.0015	-0.0054	0.0006
2	12	47	-0.0024*	0.0016	-0.0057	0.0006
4	5	24	-0.0031	0.0017	-0.0070	-0.0002
4	5	36	-0.0034	0.0018	-0.0072	-0.0002
4	5	47	-0.0036	0.0019	-0.0080	-0.0003
4	9	24	-0.0036	0.0019	-0.0076	-0.0001
4	9	36	-0.0039*	0.0020	-0.0079	0.0000
4	9	47	-0.0041	0.0021	-0.0085	-0.0001
4	12	24	-0.0041	0.0022	-0.0087	-0.0001
4	12	36	-0.0044*	0.0022	-0.0089	0.0000
4	12	47	-0.0046	0.0024	-0.0095	-0.0001
<b>9 &lt; Years of education ≤ 12</b>						
1	7	24	0.0001*	0.0022	-0.0042	0.0046
1	7	36	0.0002*	0.0025	-0.0048	0.0051
1	7	49	0.0002*	0.0028	-0.0053	0.0057
1	11	24	0.0001*	0.0016	-0.0030	0.0034
1	11	36	0.0001*	0.0019	-0.0036	0.0039
1	11	49	0.0001*	0.0022	-0.0042	0.0045
1	15	24	0.0001*	0.0011	-0.0020	0.0023
1	15	36	0.0001*	0.0013	-0.0025	0.0027
1	15	49	0.0001*	0.0016	-0.0031	0.0033
2	7	24	-0.0004*	0.0016	-0.0035	0.0028
2	7	36	-0.0004*	0.0018	-0.0039	0.0032
2	7	49	-0.0005*	0.0020	-0.0044	0.0035
2	11	24	-0.0003*	0.0012	-0.0026	0.0021
2	11	36	-0.0003*	0.0014	-0.0029	0.0024
2	11	49	-0.0004*	0.0016	-0.0035	0.0027
2	15	24	-0.0002*	0.0008	-0.0018	0.0013
2	15	36	-0.0002*	0.0009	-0.0021	0.0017
2	15	49	-0.0003*	0.0012	-0.0026	0.0020
3	7	24	-0.0009*	0.0023	-0.0055	0.0039

Number of children	Partner's education	Women's age	Effect	SE	LLCI	ULCI
3	7	36	-0.0010*	0.0026	-0.0062	0.0044
3	7	49	-0.0011*	0.0030	-0.0069	0.0048
3	11	24	-0.0006*	0.0017	-0.0040	0.0028
3	11	36	-0.0007*	0.0020	-0.0046	0.0033
3	11	49	-0.0008*	0.0023	-0.0053	0.0038
3	15	24	-0.0004*	0.0011	-0.0028	0.0018
3	15	36	-0.0005*	0.0014	-0.0033	0.0023
3	15	49	-0.0006*	0.0017	-0.0039	0.0028
12 < Years of education ≤ 17						
1	10	28	0.0036	0.0015	0.0011	0.0070
1	10	40	0.0049	0.0019	0.0014	0.0090
1	10	51	0.0062	0.0024	0.0018	0.0113
1	14	28	0.0024	0.0010	0.0007	0.0048
1	14	40	0.0037	0.0014	0.0011	0.0067
1	14	51	0.0050	0.0019	0.0014	0.0091
1	18	28	0.0012	0.0008	0.0001	0.0033
1	18	40	0.0025	0.0011	0.0007	0.0050
1	18	51	0.0038	0.0015	0.0011	0.0073
2	10	28	0.0022	0.0010	0.0004	0.0045
2	10	40	0.0029	0.0013	0.0005	0.0058
2	10	51	0.0037	0.0017	0.0006	0.0073
2	14	28	0.0015	0.0007	0.0003	0.0031
2	14	40	0.0022	0.0010	0.0004	0.0043
2	14	51	0.0030	0.0014	0.0005	0.0059
2	18	28	0.0007	0.0005	0.0001	0.0021
2	18	40	0.0015	0.0007	0.0003	0.0032
2	18	51	0.0023	0.0011	0.0004	0.0047
3	10	28	0.0007*	0.0014	-0.0020	0.0036
3	10	40	0.0009*	0.0019	-0.0027	0.0048
3	10	51	0.0012*	0.0024	-0.0033	0.0059
3	14	28	0.0005*	0.0009	-0.0013	0.0025
3	14	40	0.0007*	0.0014	-0.0020	0.0035
3	14	51	0.0010*	0.0019	-0.0027	0.0048
3	18	28	0.0002*	0.0005	-0.0006	0.0017
3	18	40	0.0005*	0.0010	-0.0014	0.0025
3	18	51	0.0007*	0.0015	-0.0021	0.0038
Years of education > 17						
1	12	31	0.0025*	0.0065	-0.0055	0.0230
1	12	42	0.0030*	0.0073	-0.0067	0.0249



Number of children	Partner's education	Women's age	Effect	SE	LLCI	ULCI
1	12	54	0.0035*	0.0088	-0.0076	0.0313
1	16	31	0.0020*	0.0046	-0.0048	0.0151
1	16	42	0.0025*	0.0054	-0.0063	0.0158
1	16	54	0.0030*	0.0071	-0.0068	0.0244
1	19	31	0.0015*	0.0045	-0.0036	0.0169
1	19	42	0.0020*	0.0049	-0.0045	0.0172
1	19	54	0.0025*	0.0065	-0.0054	0.0241
2	12	31	0.0054*	0.0060	-0.0012	0.0245
2	12	42	0.0065*	0.0063	-0.0008	0.0257
2	12	54	0.0076*	0.0077	-0.0013	0.0312
2	16	31	0.0043*	0.0041	-0.0006	0.0165
2	16	42	0.0054*	0.0042	-0.0005	0.0171
2	16	54	0.0065*	0.0060	-0.0008	0.0245
2	19	31	0.0032*	0.0045	-0.0022	0.0174
2	19	42	0.0043*	0.0045	-0.0011	0.0179
2	19	54	0.0054*	0.0060	-0.0017	0.0244
3	12	31	0.0084*	0.0083	-0.0014	0.0339
3	12	42	0.0101*	0.0083	-0.0003	0.0352
3	12	54	0.0118*	0.0101	-0.0011	0.0414
3	16	31	0.0067*	0.0057	-0.0003	0.0236
3	16	42	0.0084	0.0055	0.0007	0.0239
3	16	54	0.0101	0.0078	0.0000	0.0327
3	19	31	0.0050*	0.0066	-0.0034	0.0248
3	19	42	0.0067*	0.0063	-0.0011	0.0250
3	19	54	0.0084*	0.0082	-0.0021	0.0330

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: \*Not significant effect. The rest of effects are significant at the 0.05 level.

Appendix S. Standardized coefficients of hypothesized variables on housework,  
by women's education level

Appendix S. Standardized coefficients of hypothesized variables on housework, by women's education level

Dependent variable: housework	Years of education $\leq 6$	6 < Years of education $\leq 9$	9 < Years of education $\leq 12$	12 < Years of education $\leq 17$	Years of education > 17
Participation in L.F.	-0.1585032	-0.2451124	-0.2827936	-0.2969071	-0.1657588
Number of children	-0.0634763	-0.0048507*	-0.0076578*	-0.0337	0.0235727*
Working x children	0.088613	0.0331113	0.0477142	0.0912815	-0.0038165*
	F = 114.3455	F = 387.3032	F = 305.1499	F = 291.0525	F = 11.5070
	R <sup>2</sup> = 0.0106	R <sup>2</sup> = 0.0481	R <sup>2</sup> = 0.0610	R <sup>2</sup> = 0.0546	R <sup>2</sup> = 0.0299
	R adj = 0.0105	R adj = 0.0480	R adj = 0.0608	R adj = 0.0544	R adj = 0.0273
	n = 32,126	n = 23,009	n = 14,096	n = 15,123	n = 1,125

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: \* Not significant; the rest of the coefficients are significant at the 0.01 level. L.F.: labor force.

Appendix T. Differences in the effects of predictors on housework

Appendix T. Differences in the effects of predictors on housework

	Participation in L.F.	Number of children
Group 1 = Group 2	F = 20.52 Prob > F = 0.0000	F = 12.44 Prob > F = 0.0004
Group 1 = Group 3	F = 34.45 Prob > F = 0.0000	F = 3.90 Prob > F = 0.0483
Group 1 = Group 4	F = 49.94 Prob > F = 0.0000	F = 0.46 Prob > F = 0.4958
Group 1 = Group 5	F = 0.11 Prob > F = 0.7383	F = 1.22 Prob > F = 0.2700
Group 2 = Group 3	F = 3.10 Prob > F = 0.0783	F = 0.10 Prob > F = 0.7554
Group 2 = Group 4	F = 7.62 Prob > F = 0.0058	F = 5.93 Prob > F = 0.0149
Group 2 = Group 5	F = 1.02 Prob > F = 0.3131	F = 0.34 Prob > F = 0.5613
Group 3 = Group 4	F = 0.73 Prob > F = 0.3919	F = 3.52 Prob > F = 0.0605
Group 3 = Group 5	F = 2.51 Prob > F = 0.1129	F = 0.42 Prob > F = 0.5168
Group 4 = Group 5	F = 3.68 Prob > F = 0.0551	F = 1.59 Prob > F = 0.2069

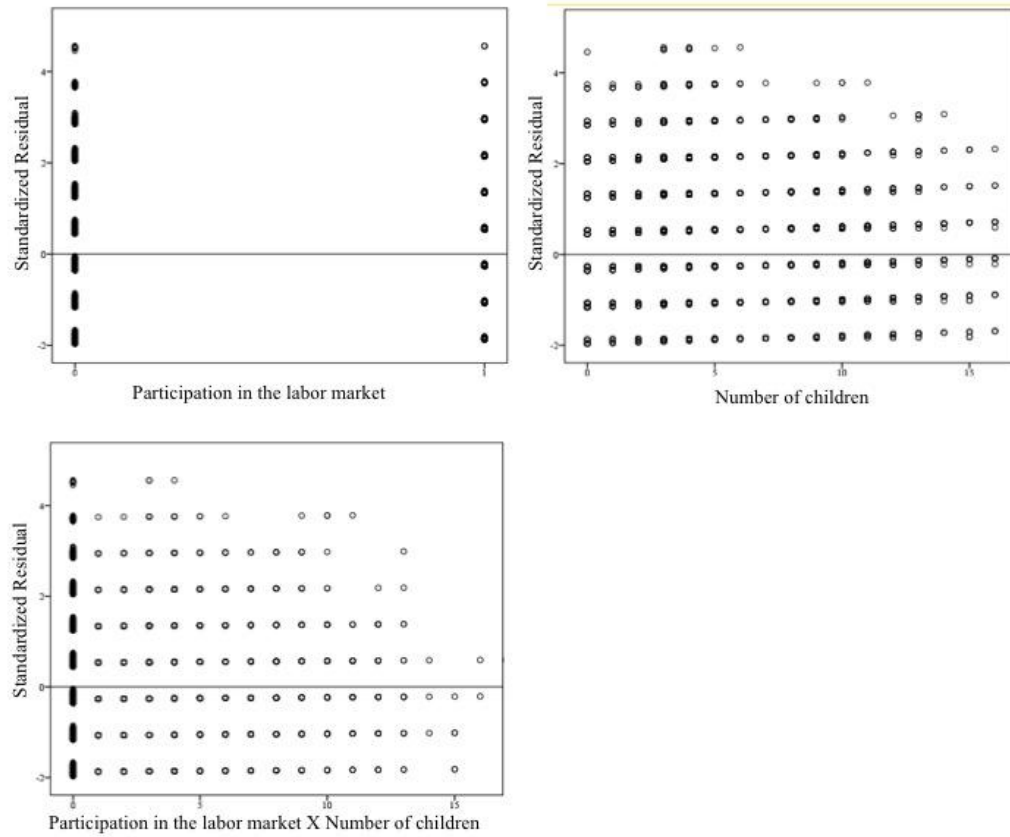
Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: Group 1: women with 6 or less years of education. Group 2: women with more than 6, but less than 9 years of education. Group 3: women with more than 9, but less than 12 years of education. Group 4: women with more than 12, but years than 17 years of education. Group 5: women with more than 17 years of education. L.F.: labor force.

Appendix U. Residual analysis of hypothesized variables on social interactions,

$0 \leq \text{years of education} \leq 6$

Appendix U. Residual analysis of hypothesized variables on social interactions,  
 $0 \leq \text{years of education} \leq 6$



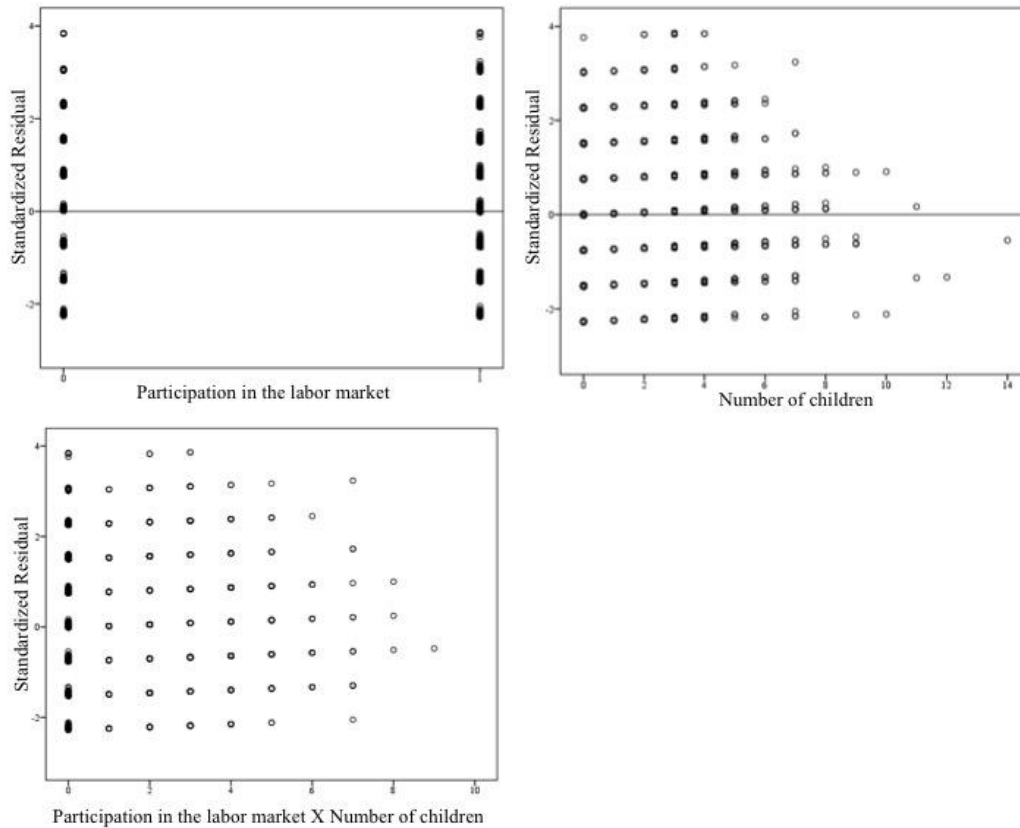
Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Appendix V. Residual analysis of hypothesized variables on social interactions,

$6 < \text{years of education} \leq 9$



Appendix V. Residual analysis of hypothesized variables on social interactions,  
 $6 < \text{years of education} \leq 9$

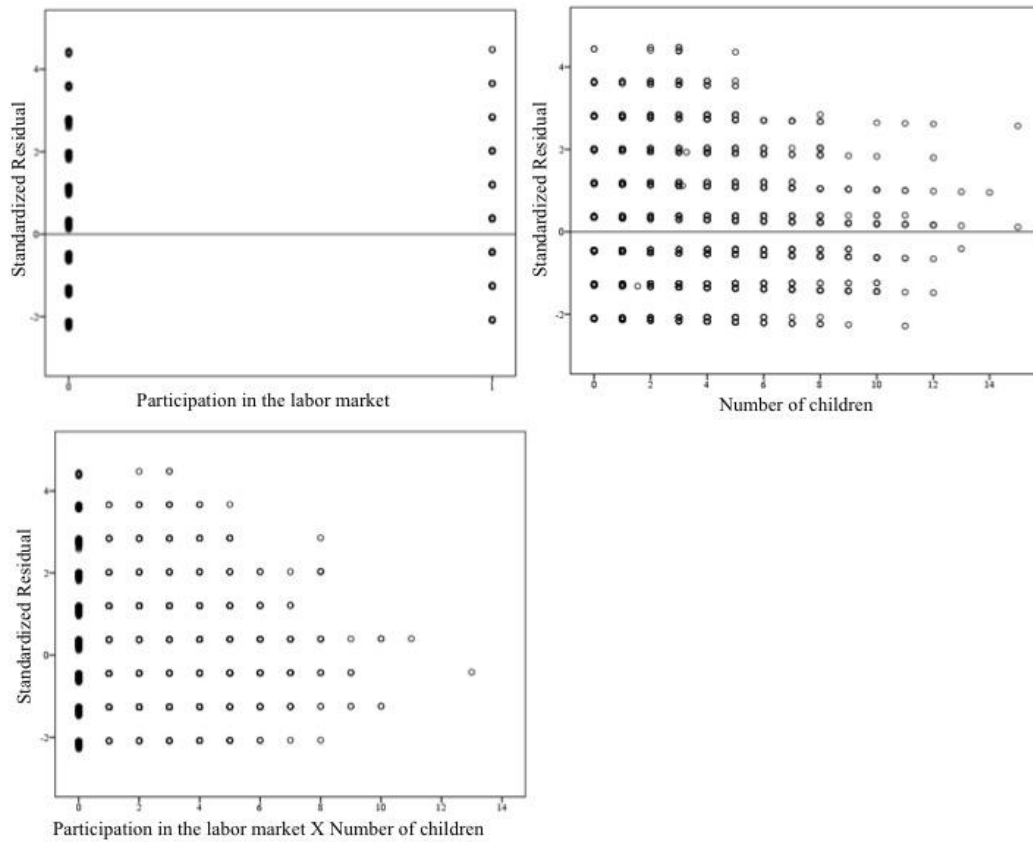


Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Appendix W. Residual analysis of hypothesized variables on social interactions,

$9 < \text{years of education} \leq 12$

Appendix W. Residual analysis of hypothesized variables on social interactions,  
 $9 < \text{years of education} \leq 12$

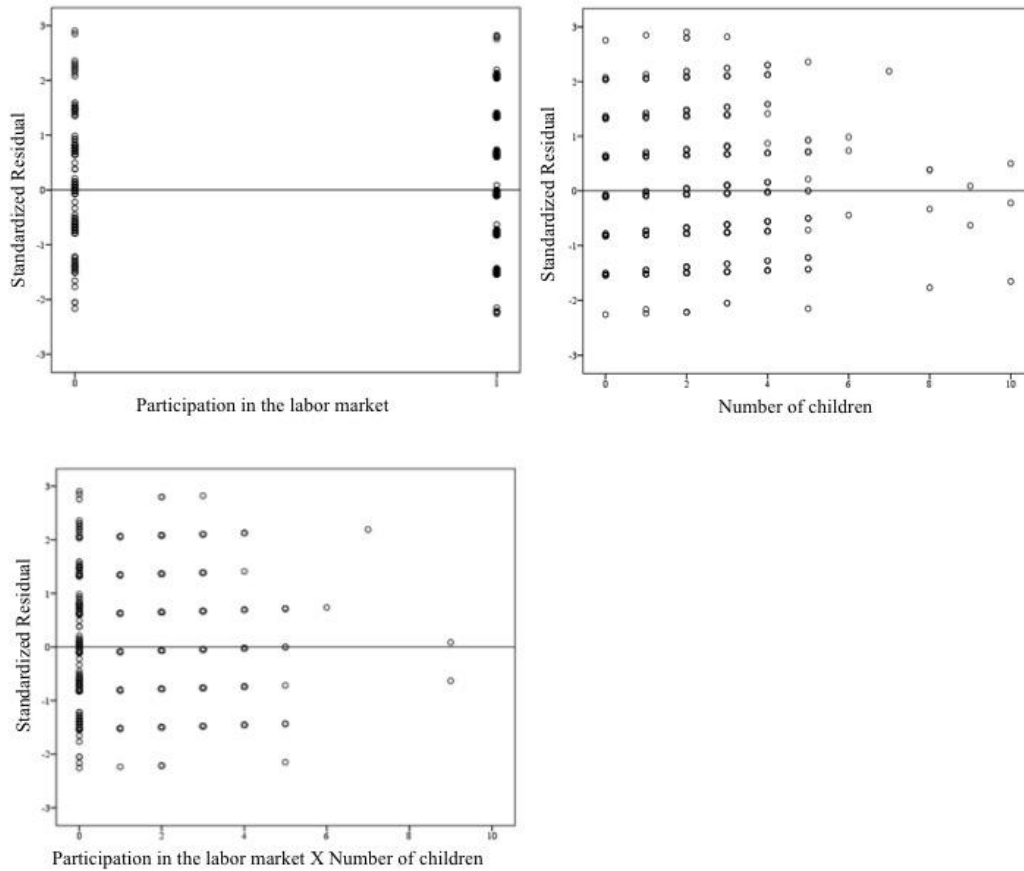


Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Appendix X. Residual analysis of hypothesized variables on social interactions,

$12 < \text{years of education} \leq 17$

Appendix X. Residual analysis of hypothesized variables on social interactions,  
12 < years of education ≤ 17

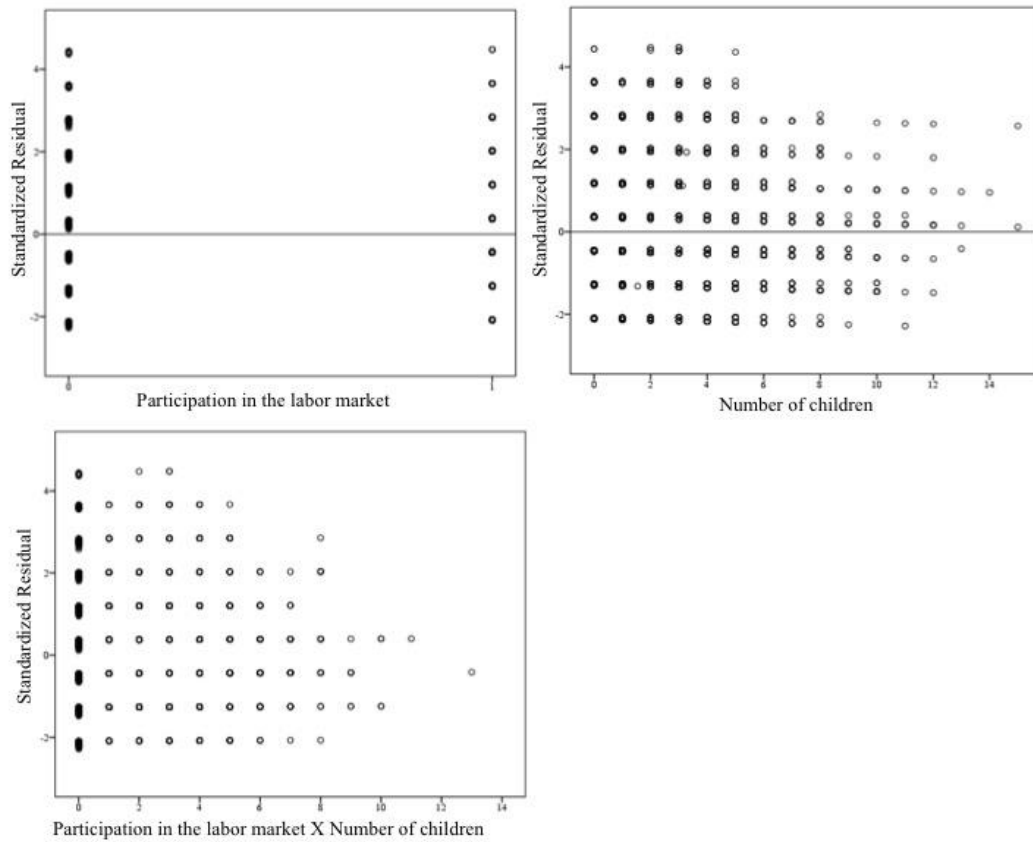


Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Appendix Y. Residual analysis of hypothesized variables on social interactions,

years of education  $> 17$

Appendix Y. Residual analysis of hypothesized variables on social interactions, years of education > 17



Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Appendix Z. Indirect effects of women's employment through housework, by  
education level



Appendix Z. Indirect effects of women's employment through housework, by education level

Number of children	Partner's education	Women's age	Effect	SE	LLCI	ULCI
Years of education $\leq 6$						
1	2	33	-0.0040*	0.0058	-0.0153	0.0073
1	2	47	-0.0088*	0.0046	-0.0180	0.0001
1	2	62	-0.0136	0.0053	-0.0242	-0.0033
1	5	33	0.0043*	0.0042	-0.0039	0.0128
1	5	47	-0.0005*	0.0030	-0.0063	0.0054
1	5	62	-0.0053*	0.0044	-0.0141	0.0033
1	9	33	0.0127	0.0044	0.0043	0.0217
1	9	47	0.0078	0.0038	0.0005	0.0153
1	9	62	0.0030*	0.0053	-0.0073	0.0132
4	2	33	-0.0023*	0.0034	-0.0090	0.0043
4	2	47	-0.0051*	0.0027	-0.0105	0.0000
4	2	62	-0.0079	0.0031	-0.0142	-0.0020
4	5	33	0.0025*	0.0025	-0.0022	0.0074
4	5	47	-0.0003*	0.0017	-0.0037	0.0032
4	5	62	-0.0031*	0.0026	-0.0082	0.0019
4	9	33	0.0074	0.0026	0.0025	0.0127
4	9	47	0.0046	0.0022	0.0003	0.0089
4	9	62	0.0017*	0.0031	-0.0042	0.0077
7	2	33	-0.0007*	0.0011	-0.0034	0.0010
7	2	47	-0.0014	0.0010	-0.0043	-0.0001
7	2	62	-0.0022	0.0014	-0.0060	-0.0004
7	5	33	0.0007*	0.0008	-0.0004	0.0030
7	5	47	-0.0001*	0.0005	-0.0013	0.0009
7	5	62	-0.0009*	0.0009	-0.0034	0.0003
7	9	33	0.0021	0.0012	0.0004	0.0052
7	9	47	0.0013	0.0009	0.0001	0.0037
7	9	62	0.0005*	0.0010	-0.0010	0.0030
6 < Years of education $\leq 9$						
1	5	24	0.0160	0.0066	0.0030	0.0290
1	5	36	0.0071*	0.0058	-0.0044	0.0187
1	5	47	-0.0017*	0.0076	-0.0170	0.0128
1	9	24	0.0178	0.0054	0.0072	0.0284
1	9	36	0.0089	0.0037	0.0017	0.0164
1	9	47	0.0000*	0.0056	-0.0115	0.0107
1	12	24	0.0195	0.0066	0.0069	0.0328
1	12	36	0.0106	0.0047	0.0016	0.0203

Number of children	Partner's education	Women's age	Effect	SE	LLCI	ULCI
1	12	47	0.0017*	0.0059	-0.0102	0.0128
2	5	24	0.0148	0.0061	0.0028	0.0268
2	5	36	0.0066*	0.0054	-0.0041	0.0172
2	5	47	-0.0016*	0.0070	-0.0157	0.0119
2	9	24	0.0164	0.0050	0.0065	0.0261
2	9	36	0.0082	0.0034	0.0015	0.0151
2	9	47	0.0000*	0.0052	-0.0107	0.0099
2	12	24	0.0180	0.0061	0.0064	0.0304
2	12	36	0.0098	0.0044	0.0014	0.0185
2	12	47	0.0016*	0.0054	-0.0094	0.0119
4	5	24	0.0137	0.0056	0.0026	0.0249
4	5	36	0.0061*	0.0050	-0.0038	0.0160
4	5	47	-0.0015*	0.0065	-0.0146	0.0110
4	9	24	0.0151	0.0046	0.0060	0.0243
4	9	36	0.0075	0.0032	0.0014	0.0138
4	9	47	0.0000*	0.0048	-0.0099	0.0091
4	12	24	0.0166	0.0056	0.0059	0.0283
4	12	36	0.0090	0.0040	0.0013	0.0171
4	12	47	0.0014*	0.0050	-0.0086	0.0110
<u>9 &lt; Years of education ≤ 12</u>						
1	7	24	0.0056*	0.0066	-0.0072	0.0188
1	7	36	0.0058*	0.0064	-0.0067	0.0182
1	7	49	0.0059*	0.0088	-0.0120	0.0231
1	11	24	0.0079*	0.0053	-0.0024	0.0185
1	11	36	0.0081	0.0038	0.0007	0.0155
1	11	49	0.0083*	0.0064	-0.0047	0.0206
1	15	24	0.0102*	0.0071	-0.0034	0.0243
1	15	36	0.0104	0.0051	0.0008	0.0206
1	15	49	0.0106*	0.0064	-0.0021	0.0233
2	7	24	0.0050*	0.0060	-0.0065	0.0170
2	7	36	0.0052*	0.0058	-0.0060	0.0164
2	7	49	0.0054*	0.0080	-0.0107	0.0209
2	11	24	0.0071*	0.0048	-0.0021	0.0168
2	11	36	0.0073	0.0034	0.0007	0.0140
2	11	49	0.0075*	0.0058	-0.0042	0.0186
2	15	24	0.0092*	0.0064	-0.0030	0.0221
2	15	36	0.0094	0.0046	0.0007	0.0187
2	15	49	0.0096*	0.0058	-0.0018	0.0211
3	7	24	0.0045*	0.0054	-0.0059	0.0154

Number of children	Partner's education	Women's age	Effect	SE	LLCI	ULCI
3	7	36	0.0047*	0.0052	-0.0054	0.0148
3	7	49	0.0048*	0.0072	-0.0095	0.0188
3	11	24	0.0064*	0.0043	-0.0019	0.0153
3	11	36	0.0066	0.0031	0.0006	0.0127
3	11	49	0.0067*	0.0052	-0.0037	0.0168
3	15	24	0.0083*	0.0058	-0.0027	0.0199
3	15	36	0.0084	0.0041	0.0006	0.0168
3	15	49	0.0086*	0.0053	-0.0015	0.0193
12 < Years of education ≤ 17						
1	10	28	0.0107	0.0050	0.0012	0.0206
1	10	40	0.0061*	0.0050	-0.0037	0.0157
1	10	51	0.0015*	0.0071	-0.0127	0.0148
1	14	28	0.0089	0.0039	0.0013	0.0166
1	14	40	0.0043*	0.0030	-0.0017	0.0100
1	14	51	-0.0003*	0.0054	-0.0115	0.0100
1	18	28	0.0071*	0.0054	-0.0030	0.0178
1	18	40	0.0025*	0.0042	-0.0055	0.0109
1	18	51	-0.0021*	0.0057	-0.0134	0.0089
2	10	28	0.0089	0.0042	0.0010	0.0172
2	10	40	0.0051*	0.0041	-0.0031	0.0130
2	10	51	0.0012*	0.0059	-0.0107	0.0124
2	14	28	0.0074	0.0032	0.0011	0.0138
2	14	40	0.0036*	0.0025	-0.0014	0.0084
2	14	51	-0.0002*	0.0045	-0.0095	0.0084
2	18	28	0.0060*	0.0045	-0.0025	0.0149
2	18	40	0.0021*	0.0035	-0.0046	0.0091
2	18	51	-0.0017*	0.0047	-0.0111	0.0075
3	10	28	0.0071	0.0034	0.0008	0.0139
3	10	40	0.0041*	0.0033	-0.0025	0.0105
3	10	51	0.0010*	0.0048	-0.0086	0.0100
3	14	28	0.0060	0.0026	0.0010	0.0112
3	14	40	0.0029*	0.0020	-0.0011	0.0069
3	14	51	-0.0002*	0.0036	-0.0077	0.0067
3	18	28	0.0048*	0.0036	-0.0020	0.0121
3	18	40	0.0017*	0.0028	-0.0037	0.0073
3	18	51	-0.0014*	0.0038	-0.0090	0.0060
Years of education > 17						
1	12	21	0.0257	0.0162	0.0018	0.0669
1	12	43	0.0422	0.0205	0.0120	0.0952

Number of children	Partner's education	Women's age	Effect	SE	LLCI	ULCI
1	12	54	0.0587	0.0299	0.0153	0.1385
1	16	21	0.0083*	0.0107	-0.0099	0.0335
1	16	43	0.0247	0.0113	0.0081	0.0542
1	16	54	0.0412	0.0214	0.0103	0.0993
1	19	21	-0.0092*	0.0167	-0.0463	0.0215
1	19	43	0.0073*	0.0121	-0.0132	0.0367
1	19	54	0.0238*	0.0182	-0.0022	0.0737
2	12	21	0.0260	0.0152	0.0009	0.0613
2	12	43	0.0426	0.0186	0.0137	0.0886
2	12	54	0.0593	0.0275	0.0162	0.1275
2	16	21	0.0083*	0.0105	-0.0108	0.0311
2	16	43	0.0250	0.0101	0.0093	0.0504
2	16	54	0.0416	0.0198	0.0112	0.0920
2	19	21	-0.0093*	0.0165	-0.0445	0.0221
2	19	43	0.0074*	0.0119	-0.0140	0.0337
2	19	54	0.0240*	0.0175	-0.0038	0.0684
3	12	21	0.0262	0.0157	0.0017	0.0652
3	12	43	0.0431	0.0195	0.0132	0.0931
3	12	54	0.0599	0.0289	0.0166	0.1366
3	16	21	0.0084*	0.0107	-0.0107	0.0326
3	16	43	0.0252	0.0107	0.0091	0.0531
3	16	54	0.0421	0.0208	0.0112	0.0974
3	19	21	-0.0094*	0.0168	-0.0470	0.0220
3	19	43	0.0074*	0.0121	-0.0139	0.0350
3	19	54	0.0242*	0.0181	-0.0036	0.0719

Source: own elaboration with data from the National Survey on the Dynamics of Households Relationships (ENDIREH), 2011.

Note: \*Not significant effect. The rest of effects are significant at the 0.05 level.

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