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INTERGENERATIONAL ECHOES: THE INFLUENCE OF MOTHERS' ROLES ON THEIR DAUGHTERS' WORK PREFERENCES

ECOS INTERGENERACIONALES: LA INFLUENCIA DEL ROL DE LAS MADRES EN LAS PREFERENCIAS LABORALES DE SUS HIJAS

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Abstract

This study explores the intergenerational impact of maternal roles observed during childhood on women's work preferences across different life stages, underscoring the importance of early socialization and socioeconomic context. By utilizing two subsamples from the Fertility Survey (INE, 2018), the work preferences of childless women aged 25–31 and mothers aged 32–49 are analyzed. Findings from Structural Equation Models (SEM) reveal that while maternal roles indirectly influence work preferences among younger women through educational attainment, this effect diminishes in the older cohort, where education alone drives work orientation. These insights deepen the understanding of labor dynamics for women, highlighting the role of early socialization and structural opportunities in shaping work preferences, and provide context for discussions on gender equality and work-life balance.

Keywords: Intergenerational transmission; maternal roles; preferences; sexual division of labor; educational attainment.

Resumen

Este estudio explora el impacto intergeneracional de los roles maternos observados durante la infancia en las preferencias laborales de las mujeres en diferentes etapas de la vida, subrayando la importancia de la socialización temprana y el contexto socioeconómico. Utilizando dos submuestras de la Encuesta de Fecundidad (INE, 2018), se analizan las preferencias laborales de las mujeres sin hijos de 25 a 31 años y de las madres de 32 a 49 años. Los hallazgos de los Modelos de Ecuaciones Estructurales (SEM) revelan que, mientras que los roles maternos influyen indirectamente en las preferencias laborales de las mujeres más jóvenes a través del nivel educativo, este efecto se reduce en el grupo de mayor edad, donde es la educación, por sí sola, la que impulsa la orientación laboral. Estos resultados profundizan en la comprensión de las dinámicas laborales femeninas, destacando el papel de la socialización temprana y de las oportunidades estructurales en la configuración de las preferencias laborales, y aportan contexto a los debates sobre igualdad de género y equilibrio entre trabajo y vida personal.

Palabras clave: Transmisión intergeneracional; roles maternos; preferencias; división sexual del trabajo; nivel educativo.

INTRODUCTION[1]

In modern times, with ever-changing gender roles, the shift in women's dynamics, aspirations, and work preferences has garnered significant attention in academic, social, and political sectors. This research aims to explore the roles of both early socialization, observed through the roles held by mothers within women's childhood households, and the socioeconomic context surrounding their family sphere in shaping and expressing certain work preferences in adulthood, specifically pre- and post-motherhood stages. This study examines the potential intergenerational influence of maternal roles on women's career preferences. The study is framed within the ongoing debates surrounding gender equality, work-life balance, and the sexual division of labor. Understanding the origins of women's career inclinations is a significant task in this context.

Previous studies have highlighted the importance of a mother's work status during her daughter's childhood in shaping her work attitudes and practices (Baydar and Brooks-Gunn 1991; Crompton and Harris 1998; Cunningham 2001). However, there are some gaps in the literature regarding the influence of these factors on personal preferences. In attempting to comprehend the intergenerational transmission dynamics, paradigms such as socialization theories or attainment status have been deemed crucial for an extensive analysis of this phenomenon. A literature review has highlighted key inquiries regarding the correlation between maternal family roles witnessed during childhood and women's employment preferences at varying stages of their lives. The initial query is whether a direct relationship exists between mothers' roles observed during childhood and their daughters' work preferences before and after the motherhood stage. The objective is to examine whether maternal roles have an impact on their daughters' work preferences in adulthood, and if this influence changes due to motherhood. Additionally, we aim to explore changes in the determining power of primary socialization on current preferences, as well as the possibility that these also change due to family life context.

The study also considers the potential impact of educational attainment and number of children as mediating factors in the relationship between mothers' roles and their daughters' work preferences. If such roles are reproduced through these two events, it is important to explore the relationship between, for example, a mother's full-time caregiving role and her daughter's likelihood of attaining university studies, which could potentially influence her work orientations. The same question arises in the case of women who are mothers: Is the number of children influenced by the roles observed and does this influence current work preferences?

By using two subsamples of the Fertility Survey (Instituto Nacional de Estadística 2018), one of childless women aged 25–31 and the other of mothers aged 32–49, we have attempted to identify possible differences in the impact of maternal roles at different stages of life. The approach entails a thorough assessment of both present and retrospective data, employing Structural Equation Models (SEM) to untangle the intricate connections between the observation of maternal roles during childhood and current work orientations.

The results of this research contribute both to the understanding of the complex mechanisms at work in women's labor market choices and to the numerous academic debates on this issue. Furthermore, an understanding of women's labor market participation could provide new perspectives for social and political actors working towards egalitarian goals beyond academic circles.

THEORETICAL FRAMEWORK

In recent decades, modern societies have experienced a profound transformation in the sexual organization and division of paid and unpaid work. One of the most significant symptoms of this phenomenon is the increase in the number of women combining traditional family care roles with active participation in the labor force (Vidal, Lersch, Jacob, and Hank 2020: 1484). In the context of social change, several sociological fields (family, gender, work) have recently made this phenomenon one of their main subjects of study, with the aim of understanding the logic and dynamics that drive these transformations in the context of work-family organization. This study therefore seeks not only to cover the classical explanations of women's participation in the labor force but also to explore the factors determining their preferences in this respect. While educational attainment and occupational status have been widely studied, this research examines the potential influence of maternal work behavior during childhood on current work preferences in order to gain insight into the potential reproduction of such behavior in adulthood. Attitudes (Thornton and Freedman 1977; Thornton, Alwin, and Camburn 1983; Scott, Alwin, and Braun 1996; Schober and Scott 2012) and preferences (Hakim 2005; Fernández, Fogli, and

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Olivetti 2002; Escriche 2007; Moreno-Mínguez, Ortega-Gaspar, and Gamero-Burón 2019) have been two of the crucial concepts in the study of this issue.

Preferences theory

Throughout her work, Catherine Hakim (2005) develops the "Theory of preferences" to identify differences between men and women in terms of labor force participation (McRae 2003: 318). Her thesis is based on the idea that individually chosen lifestyle groups are gradually replacing social class and other socioeconomic factors as the most important determinants of work-family behavior (Hakim 2005: 1). She posits that personal preferences acquired during childhood and adolescence can shape and influence women's behavior regarding their choice of family role models, beyond societal constraints (Hakim 2003: 355). Hakim identifies three ideal family models and women's heterogeneous preferences for a life centered on a career in the public sphere, one centered on home and family life, or a combination of both. In other words, women's choices regarding matters such as working hours, childcare, and the utilization of family reconciliation policies are determined and guided by their position on the spectrum of these three dissimilar preference groups (Schleutker 2017: 2). This theory is directly related to the concept of the "modernisation process" put forward by other authors (Ortega Gaspar 2013: 708). The individualising nature of this process would essentially negate the influence of factors derived from birth, such as gender, age, social class of origin, etc., and prioritize the importance of effort and personal skills. As a result, the attitudes, perceptions, and preferences of individuals would be shaped accordingly.

Hakim argues that these preferences remain constant from adolescence onwards, and individuals actively pursue them in adulthood through personal choice mechanisms (Crompton R. 2006: 170). Nevertheless, numerous authors have analyzed the changes in attitudes, preferences, as well as in work status and caring strategies during the transition to motherhood (Dex, Joshi, Macran, and McCulloch 1998; Crompton and Harris 1998, 1999; Becker and Moen 1999; Schober and Scott 2012; Tomlinson 2006). Then, career choices are not only influenced by the preferences that are formed in childhood and adolescence, but can change "for a variety of reasons, including family composition change, occupational restructuring, self-development, or a shock, death, crisis" (Tomlinson 2006: 367).

Tomlinson (2006) identified three types of transitions for women who have been mothers, based on their relationship with constraints and preferences, from 62 in-depth interviews:

- Strategic transitions are intentional and preference-driven choices that are not influenced by normative or structural constraints.
- Reactive transitions occur in response to unforeseen changes in the women's work or family context. They deviate from personal preferences since they would not have taken place if no factors pertinent to their work-family arrangement altered.
- Committed choices encompass a blend of strategic and reactive choices. The contrast between these and the previous transitions is that committed choices are based on planning, although they are not made from as free a position as in the case of strategic transitions. In other words, committed choice transitions occur when constraints and preferences align with each other (Tomlinson 2006: 374).

Critics of Hakim's theory argue that ultimately, women's employment and family trajectories and choices are not solely determined by preferences and that such preferences cannot accurately predict them. Various factors, including education level (Cloïn, KeuzenKamp, and Plantenga 2011) and motherhood (Tomlinson 2006; Schober and Scott 2012), as well as socio-economic conditions, the availability of work-life balance policies, and individual preferences, constitute a complex relational process that shapes women's life choices.

In addition to changes in women's work and family orientations that go beyond their preferences, changes in the latter over the life course are also crucial for the purpose of this research. In this respect, some authors have identified an interdependence between changes in the direction of preferences and other factors. Both the interaction with public policies (Grunow, Begall, and Buchler 2018) and different work experiences (Kan 2007) are able to shape preferences regarding work-family organization.

Other authors engage in a dialogue with both preference theory and its critics, using cognitive dissonance from psychology to explain changes in women's attitudes and preferences across their life course (Schober and Scott 2012). Dissonance occurs when an individual's attitudes, beliefs, and preferences conflict with their behavior, potentially resulting in a transformation to alleviate the discomfort. This transformation is a possible solution to reduce the discrepancies between internal states and behavioral outcomes (Schober and Scott 2012: 515). Schober and Scott (2012) have identified that the attitudes and preferences of new mothers remain stable when their prenatal care does not clash with their economic and employment circumstances. They

present a model illustrating the interdependence between behavior and preferences, whereby the decisions made by mothers lead to a reciprocal influence between the two. Similarly, the Fertility Survey (INE 2018) reports that the majority of women who choose not to have children cites material impossibility due to their socioeconomic situation as the main reason, as observed by Castro, Cordero, and Seiz (2020).

Evolving Gender Norms and Labor Dynamics in Spain

Beyond a brief exploration of "preferences" and the associated theoretical debates, it is essential to examine how preferences are formed and developed in light of the profound social changes seen in Spain in recent decades. There has been a notable shift toward more egalitarian gender roles, accompanied by a gradual movement away from traditional norms. In this evolving context, a critical question arises: to what extent do early influences, such as the mother's role in the household, shape adult work preferences compared to influences experienced later in life (Moen, Erickson, and Dempster-McClain 1997)? This question becomes particularly pertinent within the unique Spanish social landscape, where gender roles have transformed significantly but unevenly, shaped by Spain's specific historical, cultural, and economic conditions.

Given this study's focus on analyzing the intergenerational transmission of maternal roles observed in childhood and their reflection in adult work preferences, it is necessary to understand the family and work organization developed by successive generations of women in Spain. The age range of the women in the sample includes those born between 1969 and 1993, meaning that most of their mothers lived and raised their daughters during the Franco regime. During these decades, a pronounced "male breadwinner" model prevailed, with minimal labor force participation for women and limited social policies supporting work-family balance. Middle- and upper-class women adhered more closely to these norms, while working-class women were relegated to unskilled, low-paying, and often informal jobs (Carrasco and Rodríguez 2000). This social environment fostered a value system heavily oriented toward the nuclear family and traditional gender roles, even as other European countries, such as Sweden and France, progressively expanded women's labor force participation during the 1970s and 1980s and moved toward gender equality in the workplace (Esping-Andersen 2009; Ellingsæter 2014).

In Spain, women's large-scale participation in the workforce began only after the late 1960s and gained momentum following the country's transition to democracy, creating a social shift wherein working mothers assumed mixed roles. For example, between 1964 and 1998, women's labor force participation rose from 22.9 percent to 37.6 percent, with the most significant increases occurring among women aged 25 to 44—an age when many had children to care for. Married women, in particular, began to remain in their jobs after marriage, contributing to a marked decrease in full-time housewives, from 54.1 percent in 1978 to 32.1 percent in 1998 (Carrasco and Rodríguez 2000). In parallel, the educational boom of the 1980s and 1990s expanded access to higher education for women, enhancing education's role as a vehicle for social mobility and fostering aspirations for greater integration into the workforce (Davia and Legazpe 2014). Consequently, younger generations of women now navigate a social and economic environment that facilitates both educational attainment and greater autonomy in decisions regarding their labor participation.

Intergenerational Transmission Processes

In the context of intergenerational gender role transfer, childhood socialization theories and social status theories have been fundamental paradigms driving research in this field. In terms of social learning, it has been observed that children tend to imitate the actions and beliefs of their same-sex parents, who are important social role models (Bandura, 1986). For the authors of this line of theory, mothers' preferences and attitudes towards gender roles, as well as their own identities as breadwinners or housewives, are capable of influencing or determining the identities and beliefs of their daughters (Hoffman 1989; Moen et al. 1997: 282). Some research indicates that maternal employment status and participation in the labor force during their children's early years can significantly impact their future behavior and academic achievements, which may ultimately shape the extent to which cultural values and norms are perpetuated (Fernández et al. 2002; Baydar and Brooks-Gunn 1991: 942). This theoretical approach has concentrated on examining the transmission of attitudes related to the sexual division of labor and gender ideology through the beliefs and work behavior of mothers as observed by their daughters during childhood (Glass, Bengtson, and Dunham 1986), pointing to the relevance of these social models in the formation of adult attitudes (Cunningham 2001). Other authors have gone further, considering that the degree of mothers' participation in the labor force during their child-rearing years is able to predict to some extent their daughters' work behavior in their own child-rearing years (Sorhagen, Keiffer and Weinraub 2019; McGinn, Ruiz Castro and Lingo 2019), highlighting the tendency towards increased

labor force participation among daughters of working mothers (Van Putten, Dykstra, and Schippers 2008). Therefore, mothers' attitudes towards gender and gender roles, and their practical application in labor market participation, are crucial for the socialization of their daughters in this regard.

Another theoretical approach to this matter postulates that intergenerational similarities in preferences and beliefs may be determined by the socio-economic context in which children grow up, in addition to the primary socialization provided by their parents. It is possible that the transmission of values from mothers to daughters is not direct. Instead, intergenerational reproduction of cultural, social, and economic positions of children in their families may occur. It is suggested that the shared views on the reconciliation of work and family life between mothers and daughters are primarily shaped by the transfer of resources rather than by the reproduction of family roles that were experienced during childhood (Moen et al. 1997: 282). Several studies have shown that, compared to those who do not participate in the labor market, working mothers are better able to transfer labor resources to their daughters (Del Vento Bielby 1978; Van Putten et al. 2008: 437). Both the educational level of the mother and the educational level of the father are taken into account when analyzing intergenerational transmission since, as some authors argue, social class, changes in social class, and the educational level of mothers all influence this phenomenon (Kahn and Anderson 1992: 42). In brief, this theoretical framework infers that "parents' and children's attitudes, values, and preferences may be similar because of their shared social positions, background, and experiences. Similarly, parents' and children's childbearing behavior may be similar because of their shared social positions, background, and experiences" (Barber 2001: 222).

Educational Attainment as a Mediator of Work Preferences

Although direct intergenerational transmission from mothers to daughters is posited in the literature, this relationship may also be mediated by other factors. Educational attainment among daughters stands out as a potential key mediator, supported by evidence of the relationship between maternal employment status and daughters' educational achievements (Bielby 1978; Foon 1988; Mickelson and Velasco 1998; Korupp, Ganzeboom, and Lippe 2002; Farré and Vella 2012; McGinn, Ruiz Castro, and Lingo 2019; Choi, Kim, and Kim 2023) and, in turn, the link between daughters' educational levels and their adult work preferences (Davia and Legazpe 2014; Moreno-Mínguez 2015).

Human capital theory, as developed by Becker (1960, 1991), provides a valuable framework for understanding how education impacts both work and family decisions. Becker argued that education is an investment in capital that enhances individuals' productive skills, increasing their competitiveness in the labor market and their earning potential. As women achieve higher educational levels, the opportunity cost of leaving the workforce or assuming exclusive domestic roles rises, favoring their continued labor participation. In this view, educational attainment enables women to access professional and economic opportunities, reducing the attractiveness of traditional roles such as homemaking (Becker 1991). In this way, educational attainment not only broadens career opportunities but also frames work as a viable and fulfilling pursuit, thereby reinforcing work-centered preferences over family-exclusive orientations.

Furthermore, women with higher education levels often delay motherhood and have fewer children, choices that allow for greater investment in professional development. Studies suggest that highly educated women display stronger inclinations toward work-centered trajectories and a lesser interest in traditional life models (Davia and Legazpe 2014; Moreno-Mínguez 2015). Therefore, education not only impacts the decision between work and family but also fosters attitudes and values aligned with non-traditional preferences, facilitating an orientation toward professional achievement.

Number of Children as a Mediator of Work Preferences

Additionally, the number of children among women who are already mothers is also postulated as a crucial mediator in this relationship. This intergenerational transmission of work-family expectations may mean that daughters of working mothers internalize less traditional attitudes toward gender roles and display more flexibility in their approach to motherhood, which may include a tendency to delay or limit family size in favor of career development. Daughters of working mothers may have observed a role model where labor participation and economic independence took precedence over exclusive family dedication, leading them to choose fewer children in alignment with the example set by their mothers (McGinn, Ruiz Castro, and Lingo 2019).

Unlike educational attainment, which expands work aspirations, family size mediates work preferences through practical caregiving demands. As the number of children increases, caregiving responsibilities require greater flexibility in work arrangements, often leading to an inclination toward family-centered preferences,

rather than work-centered ones. In this sense, family size significantly shapes work preferences, particularly in contexts where balancing work and family responsibilities poses a challenge. For many women, especially those from lower-income households, the high cost of childcare and limited availability of affordable options for children under three create substantial barriers to sustained labor market participation. In Spain, where childcare coverage for young children remains notably low, women are frequently compelled to prioritize family duties over career advancement, often reinforcing traditional gender roles (Moreno-Mínguez 2015). The concept of cognitive dissonance offers further insight into the flexibility of work-family preferences, particularly for mothers navigating restrictive conditions such as limited childcare options. Faced with a scarcity of affordable childcare, many Spanish mothers experience a tension between their career aspirations and family obligations. This dissonance often leads them to adjust their work preferences, moving toward more flexible or family-centered ones (Schober and Scott 2012). Studies have shown that as the number of children increases, women often prioritize flexibility, leaning towards work arrangements that accommodate family responsibilities (Brewster and Rindfuss 2000). This shift in labor preferences arises not only from increased caregiving demands but also from the heightened barriers to professional continuity posed by motherhood (McRae 2003; Kahn et al. 2014).

In sum, educational attainment and family size jointly shape the framework within which daughters negotiate their own work and family preferences, integrating their inherited values with their personal life preferences.

HYPOTHESIS

The aim of this paper is to investigate the potential effects of maternal roles witnessed during childhood on women's work preferences in different stages of adulthood. To address this research problem, four hypotheses are formulated.

The first one focuses on women in pre-motherhood life stages, postulating a direct reproduction of family roles observed during childhood and adolescence that manifests in work preferences. This suggests that women with housewife-mothers are less likely to prioritize careers during pre-motherhood life stages compared to those without such maternal role models (H1).

In contrast to hypothesis one, it is suggested that the transmission from mothers to daughters may not happen through direct means, but rather through the level of education achieved by the daughters. In essence, daughters' educational level serves as a mediator in shaping their own work preferences. Therefore, women in the pre-motherhood stage whose mothers were full-time caregivers are likely to have lower levels of education and consequently to be less work-oriented compared to those whose mothers were employed (H2).

The third, fourth and fifth hypotheses focus on women who have at least one child. They postulate, firstly, that there is also a direct reproduction of maternal family roles observed during childhood, which is reproduced in post-maternal work preferences. Those mothers who observed full-time carer roles during their childhood are less likely to have work-oriented preferences than those with working mothers (H3).

Additionally, it's suggested that the transmission between observed maternal roles and daughters' preferences may not operate directly, but rather may be mediated by the number of children in the case of women who have already become mothers. In other words, women who observed full-time carer roles during their childhood tend to have more children than those who did not, which significantly influences their work preferences (H4).

Finally, the fifth hypothesis posits that for women who are already mothers, educational attainment also serves as a mediator between maternal roles observed in childhood and adult work preferences. This hypothesis suggests that women whose mothers were full-time caregivers are likely to have lower educational levels, which in turn influences their own work orientation. In essence, the educational level mediates the transmission of observed maternal roles, with lower educational attainment reinforcing preferences that are less work-oriented. Furthermore, compared to the number of children, educational attainment may hold a more significant influence over work preferences because it shapes not only practical opportunities but also the aspirational framework within which these preferences are formed, regardless of caregiving demands (H5).

DATA

The 2018 Fertility Survey conducted by the National Institute of Statistics (INE) was used for this study as it provides a significant amount of retrospective data on the respondents' parents, including variables such as educational level or employment status before and after childbirth, which is particularly pertinent to the research topic. The survey includes women aged 18 to 55 residing in family households across Spain, with a sample size of 14556 individuals. Data collection was carried out over 15 weeks, from March to June 2018, using a multi-stage, stratified sampling design. The primary aim of the survey is to identify the determinants of

fertility, providing crucial information on changes in family structures and fertility behaviors. This methodology ensures that the sample is representative at both the national and regional levels, offering robust data for analyzing factors that impact fertility trends in Spain.

Two sub-samples were drawn from the database. The initial sub-sample comprises 952 women between the ages of 25 and 31 who have not yet given birth. This sub-group was specifically designed for the purpose of analyzing work preferences prior to the experience of motherhood. By focusing on women who have not yet had children, the analysis can explore the influence of the observed maternal role during childhood and adolescence on their working preferences prior to the onset of family responsibilities. The analysis included women who were either pregnant during the survey or had attempted to conceive (2.08% and 2.17% of the sub-sample, respectively). The age range of this group reflects the current average age of first-time motherhood in Spain, which was approximately 31 years in 2018, according to the INE, so it comprises women who are at a critical stage in their professional development but have not yet encountered the demands of motherhood.

The second sub-sample comprises 2825 women aged 32 to 49 who have given birth to at least one child. This group was selected for the purpose of studying the impact of motherhood on work preferences and to explore whether the maternal role observed during childhood may continue to influence these women's preferences after becoming mothers. The focus on mothers in this sub-sample enables an examination of how women express their work preferences while balancing family responsibilities, with a particular emphasis on the potential long-term impact of maternal role models on these preferences. The analysis was limited to women with children in order to ensure that the focus remained on the intergenerational transmission of work preferences in the context of motherhood, where work-family balance may exert a significant influence on preferences.

As expected in this type of database, there is a substantial proportion of missing values in key variables related to the parents of the surveyed women, particularly in the second sub-sample. The overall percentage of missing values across both sub-samples is 44.46%, with sub-sample 1 (younger women without children) showing a missing rate of 32.29%, while sub-sample 2 (older women with children) has a significantly higher rate of 48.81%. Only cases where information was available for both father and mother were included in the analysis, after careful consideration of possible biases in the distribution of missing values.

When analyzing the distribution of missing values by educational level, there is a slight overrepresentation among lower educational categories (Table 1). For example, women whose mothers had primary education account for 10.37% of the missing data, compared to the 8.91% expected. Similarly, the group who had first stage of secondary education shows 11.31% of missing data, above the expected 9.35%. On the other hand, those who had higher educational levels, such as university degrees, tended to have fewer missing values than expected.

Table 1. Distribution of missing values among educational levels

		Non-missing	Missing	Total
Less than primary	**frequency**	30	36	66
	% expected	1.20	1.20	
	% observed	0.98	1.47	
Primary education	**frequency**	237	254	491
	% expected	8.91	8.91	
	% observed	7.75	10.37	
Lower secondary education and similar	**frequency**	238	277	515
	% expected	9.36	9.35	
	% observed	7.78	11.31	
Second stage of secondary education and similar	**frequency**	369	345	714
	% expected	12.96	12.96	
	% observed	12.06	14.09	
Post-secondary non-tertiary education	**frequency**	243	209	452
	% expected	8.21	8.21	
	% observed	7.94	8.53	

Vocational training	**frequency**	571	513	1084
	% expected	19.68	19.68	
	% observed	18.67	20.95	
University degrees, university diplomas, own university degrees of expert or specialist, and similar degrees	**frequency**	668	398	1066
	% expected	19.35	19.35	
	% observed	21.84	16.25	
University degrees, bachelor's degrees, master's degrees and specializations in Health Sciences by the residency system, and similar	**frequency**	665	387	1052
	% expected	19.10	19.10	
	% observed	21.74	15.80	
Doctoral studies	**frequency**	38	30	68
	% expected	1.23	1.23	
	% observed	1.24	1.22	
Total		3059	2449	5508

Regarding country of birth (Table 2), women born in countries with lower levels of gender equality are slightly overrepresented in the missing data, with 12.77% missing values compared to the expected 11.35%, whereas women born in Spain or in equally egalitarian countries, have a slightly lower rate of missing data than expected (88.08% observed vs. 88.65% expected).

Table 2. Distribution of missing values among country of birth

		Non-missing	Missing	Total
Less egalitarian than Spain	**frequency**	284	341	625
	% expected	11.35	11.35	
	% observed	9.06	12.77	
Spain/as or more egalitarian than Spain	**frequency**	2775	2108	4883
	% expected	88.65	88.65	
	% observed	90.72	88.08	
Total		3059	2449	5508

In terms of age groups, as shown in Table 3, younger women (25–31 years) have fewer missing values (18.54% missing vs. 25.53% expected), while older women (41–49 years) are slightly overrepresented in the missing data (37.40% missing vs. 33.82% expected).

Table 3. Distribution of missing values among age groups

		Non-missing	Missing	Total
25 to 31 years old	**frequency**	952	454	1406
	% expected	25.53	25.53	
	% observed	31.12	18.54	
32 to 40 years old	**frequency**	1160	1079	2239
	% expected	40.65	40.65	
	% observed	37.92	44.06	
41 to 49 years old	**frequency**	947	916	1863
	% expected	33.82	33.82	
	% observed	30.96	37.40	
Total		3059	2449	5508

Finally, employment status shows a relatively balanced distribution of missing data (Table 4). Women who are currently employed make up 69.54% of the missing data, which is close to the expected 70.37%, indicating that employment status is not heavily biased in the distribution of missing data.

Table 4. Distribution of missing values among employment status

		Non-missing	Missing	Total
Currently working	**frequency**	2173	1703	3876
	% expected	70.37	70.37	
	% observed	71.04	69.54	
Not currently working	**frequency**	866	746	1612
	% expected	29.63	29.63	
	% observed	28.96	30.46	
Total		3059	2449	5508

These results suggest some biases in missing data, particularly in relation to age, which could potentially influence the interpretation of the analysis, even though the samples are analyzed separately. While the analysis for each group remains independent, it is crucial to consider that these missing data patterns may introduce subtle biases in the results for each group. For the younger women, their processes and dynamics may be more robustly captured due to fewer missing values. Conversely, the increased rate of missing data in older women in the second sample could lead to an incomplete picture of how factors like motherhood impact the preferences of this demographic group.

METHOD

Structural Equation Modelling (SEM) is a statistical technique that enables the evaluation and modelling of complex relationships between observed and latent variables. It offers the unique ability to examine multiple dependence equations simultaneously, making it particularly useful for testing theories involving complex, multidimensional causal processes (Pearl 1998). Through this approach, it is possible to estimate relationships between variables and assess indirect effects and mediations, providing a deeper and more holistic understanding of the phenomena of interest (Baron and Kenny 1986). In other words, SEM is "a multivariate statistical modelling technique that allows us to test a hypothesis (model on the data) by postulating a data-generating model and this model may or may not fit the data" (Soriano 2022: 244).

The study employs Structural Equation Modelling (SEM) as a methodological tool to evaluate the potential indirect correlation between a mother's household role and her daughter's work preferences, mediated by the daughter's educational level. Furthermore, SEM is used to verify the validity of the proposed theoretical model by examining the practical relationships between variables (Kline 2016).

Dependent variable

The dependent variable selected for this study is "Work-orientation", defined as the preference for work as a source of personal and professional development rather than merely a means of subsistence or stability. The purpose of this variable is to capture how women's preferences align with work-related aspects that emphasize intrinsic satisfaction and growth, rather than pragmatic concerns such as financial security or family obligations.

The variable is constructed from question 9.20 of the Fertility Survey, where respondents rank the three most important aspects they value in a job from several options. The variable is binary and classifies women who selected "Good career prospects" and "An interesting job that satisfies me personally and professionally" as work-oriented (1). These two aspects were selected on the basis of their direct reflection of a focus on work as an end in itself, rather than as a means for stability or income. They capture intrinsic preferences for growth and satisfaction in the workplace, thereby aligning with the theoretical goal of examining personal fulfilment through work rather than pragmatic or economic motivations. This approach differs from the classical configuration of this type of variable, which typically emphasizes economic stability over vocational orientation.

This conceptual framework draws on the theoretical distinction between attitudes and preferences, which are crucial concepts for understanding this issue. On one hand, attitudes are linked to public perception and

concern for what is deemed appropriate for the wider community, exhibiting weakly correlated behavior. On the other hand, preferences are much more explicitly connected to behavior and are developed in the personal sphere, beyond judgments about society as a whole (Hakim 2005). Hofstede (1980) distinguishes between "desired" and "desirable" values in "Culture and Organizations". The former refers to personal preferences and what an individual wants for themselves, while the latter refers to attitudes and what is considered beneficial for society (Hofstede 1980). Table 5 presents the differentiation between desirability as a pragmatic choice related to the self and desirability as an evaluative ideological value directed towards the collective (Hofstede 1980). It is important to distinguish between attitudes and preferences when analyzing subjectivities to avoid erroneous results and conclusions.

Table 5. Nature of values

Distinguishing characteristics	**Nature of the value**	
	The desired	**The desirable**
Dimensions of the value	Intensity	Direction
Nature of corresponding norms of value	Statistical, phenomenological, pragmatic	Absolute, deontological, ideological
Corresponding behavior	Choice and differential effort allocation	Approval or disapproval
Dominant outcome	Deeds and/or words	Words
Terms used in measuring instrument	Important, successful, attractive, preferred	Good, right, agree. Ought, should
Affective meaning of these terms	Activity plus evaluation	Evaluation only
Person referred to in measuring instrument	Me, you	People in general

Source. From "Culture and Organizations", by Geert Hofstede, 1980 International Studies of Management & Organization 10(4): 22.

Explanatory variable

In this study, the independent variable is designated as "Mother's Role in the Household." This variable is constructed with the objective of assessing the mother's employment status during pivotal periods of the respondent's childhood and adolescence. This variable is constructed from multiple items in the questionnaire and is coded as a binary variable, where a value of "1" indicates that the mother was a worker and a value of "0" signifies that she was not. A mother is classified as a worker if she satisfies either of the following two conditions: (1) she did not leave her job to care for her children, or (2) she was employed—either as self-employed or as an employee—when the respondent was 15 years old.

By incorporating these criteria, the variable captures whether the mother maintained active participation in the labor force during the respondent's formative years, ensuring that the daughter witnessed her mother's engagement in work within a family context. This operationalization provides a comprehensive measure of the mother's sustained employment role, which is crucial for examining the influence of maternal labor participation on the development of the daughter's work preferences in adulthood.

Mediating variables

The models hypothesize that educational attainment is a mediating variable for childless women, while the number of children is a mediating variable for mothers. Those variables also perform a double function in this study, serving as the dependent variable in some of the equations modelled through the SEM.

The first one is a binary variable with women grouped into two categories: "1" for those with university education and "0" for those with lower levels of education. For numerous authors, education level is closely linked to more egalitarian preferences as reflected in work orientation, so it was considered necessary to include this variable in the analysis in order to ensure an accurate analysis of the real influence of the intergenerational transmission of gender roles (Canzio 2020: 64).

The numerical variable for the number of biological children has been recoded into a binary variable with two categories: "one child" (0) and "more than one child" (1). Considering the demands of motherhood—which include the financial strain associated with child-rearing and the need to adjust working hours and schedules—work preferences and choices concerning the number of children may affect each other (Castro et al. 2020: 12). It is worth noting that the literature highlights a positive correlation between number of children and adherence to traditional beliefs. Despite this study's focus on work preferences, it is feasible that similar mechanisms are at play (Moen et al. 1997: 283).

Control variables

Regarding the control variables, it is worth noting that the statistically significant effect of maternal roles may reflect the impact of social and economic characteristics of the family environment where the respondent was raised, as pointed out by Farré and Vella's (2013) study on the intergenerational transmission of gender roles (Farré and Vella 2013: 230). This analysis includes variables related to the socio-economic context of families to examine maternal roles after implementing controls.

The country of birth has been classified based on its level of equality in relation to Spain, creating a binary variable through the Global Gender Gap Report (2018) with the categories "high gender equality" (1) and "low gender equality" (0). This classification controls for cultural differences and proves useful in understanding the impact of the country of origin's level of equality on the individual's experiences.

The educational levels of both parents have been coded similarly to the mediating variable "educational level", resulting in two binary variables: "university studies" (1) and "non-university studies" (0). The introduction of maternal and paternal educational level as control variables occurs in two ways. Firstly, they are considered as a mechanism to account for social and educational mobility, since education is the main factor of stratification, mobility, and social classification in Spain (Martínez Celorrio 2013: 46). Furthermore, the primary aim of utilising those variables as a control mechanism is the potential correlation with increased women's participation in the workforce after obtaining higher levels of education, as highlighted by Farré and Vella (2013). This, in turn, may foster positive attitudes toward labor participation among their offspring (Farré and Vella 2013: 230). In other words, mothers and fathers with university education may be predisposed to transmit less traditional roles.

Age and age at first birth have been included as continuous quantitative control variables in the mothers' subgroup model due to their strong correlation with the number of children. For instance, women who give birth at an early age may have more children in the future. Additionally, younger women are less likely to have a higher number of children than older women.

Finally, the analysis included the respondents' religious orientation as a control. The response has been coded using binary notation, with (1) representing "non-Christian religion" and (0) representing "other answers"[2]. The control of religious beliefs is crucial due to their close relationship and influence on the cultural values and beliefs of individuals. Some authors regard it as a key ethical guideline for decision-making (Farré and Vella 2013: 231). For instance, Algan and Cahuc (2004) conducted a study titled "Job Protection: The Macho Hypothesis" that examined the effect of religious context on attitudes and preferences for work-family arrangements (Algan and Cahuc 2004: 405).

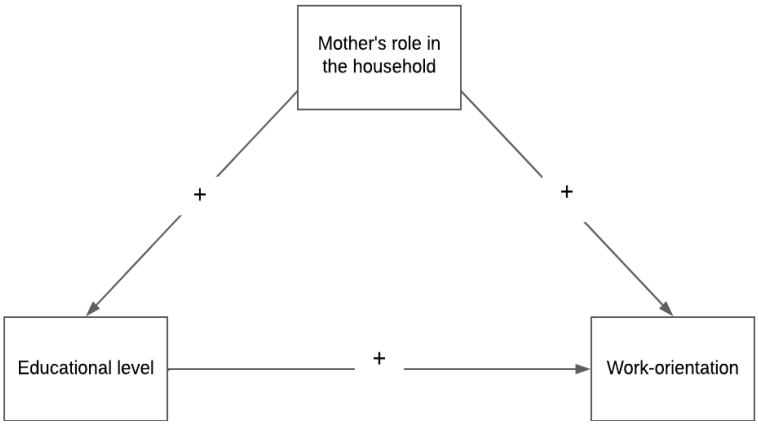
RESULTS

Women between 25 and 31 years old without children

The initial subgroup comprises 952 observations of women aged 25–31 who do not have children. The purpose of this first analysis is to confirm or refute the first two hypotheses. Therefore, Figure 1 models the potential relationships on which H1 and H2 are based. On the one hand, a direct and positive relationship is proposed between a mother's role in the household and her daughter's work orientation. This means that women whose mothers were workers are likely to have work-oriented preferences. However, there is an indirect relationship between the two variables, which is mediated by the educational level of the daughter. This means that women with working mothers tend to have higher educational levels and, as a result, work-oriented preferences.

2. In Spain, where Christian values and practices are culturally linked, the most significant differences are believed to be between those who profess other religions and those who do not, rather than between atheists and religious believers.

Figure 1. Hypothesized path analysis for H1 and H2



Descriptive statistics

Table 6 shows the basic descriptive statistics and correlations between the variables used in the path analysis of the first subgroup of women. Significant correlations are observed between some of the explanatory variables as well as with the dependent variable, according to the hypotheses of this study. For example, as modelled in the path analysis, there is a significant correlation between the variables "mother's role in the household" and educational attainment. It is important to note that control variables used in the analysis also have a significant impact on explaining the key variables.

Table 6. Descriptive statistics and correlations of the variables used in the path analysis of the first subgroup

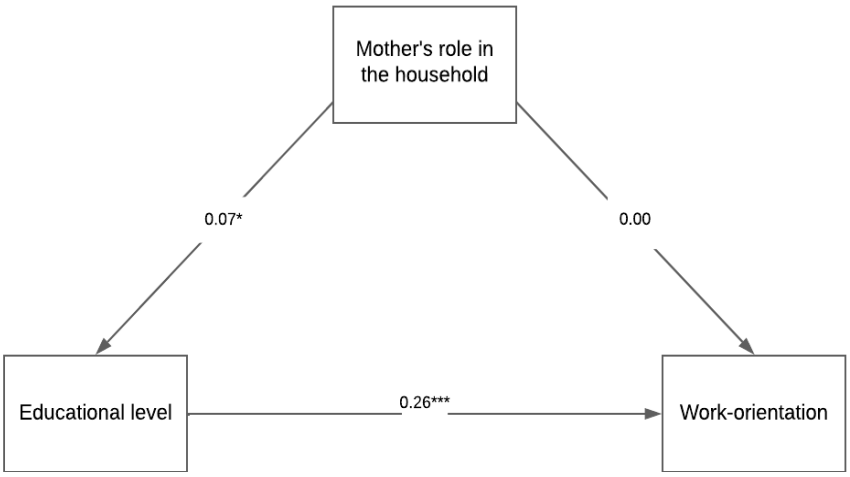
Variable	Mean	SD	Min	Max	N	1.	2.	3.	4.	5.	6.	7.
1. Work-orientation	0.52	0.50	0	1	952	1.00						
2. Educational level	0.57	0.50	0	1	952	0.26**	1.00					
3. Mother's role in the household	0.54	0.50	0	1	952	0.04	0.10**	1.00				
4. Country of birth	0.95	0.21	0	1	952	0.03	0.10**	-0.04	1.00			
5. Religion	0.02	0.15	0	1	952	-0.06	-0.09**	-0.04	-0.31**	1.00		
6. Mother's educational level	0.19	0.39	0	1	952	0.13**	0.23**	0.06	0.03	-0.03	1.00	
7. Father's educational level	0.17	0.37	0	1	952	0.10**	0.24**	0.20**	0.00	-0.02	0.48**	1.00

Spearman's correlation: (**) Statistically significant at 0.01 (bilateral); (*) Statistically significant at 0.05 (bilateral).

Path analysis

The structural equation modelling technique was used to develop this path analysis, employing the *lavaan* package of the open-source software R (Rosseel 2012). The estimation method used was robust maximum likelihood (MLR) due to the non-normal nature of the data and the use of binary variables in the analysis. The model presented in Figure 2 proposes a direct relationship between the mother's role in the household and her daughter's work orientation, as well as an indirect relationship mediated through educational level.

Figure 2. SEM path analysis of the first subgroup of women



Initially, the four control variables were applied to both endogenous variables. However, upon observing their non-significance in the dependent variable "Work orientation" when the mediation of educational level was introduced into the model, the controls were applied only to the latter. The fit to the data of the final model was assessed as excellent. The model, which has 4 degrees of freedom and a test statistic of 6.199, has a non-significant chi-square ($\chi 2$) ($p=0.185$), implying that there is insufficient evidence to reject the null hypothesis that the model fits the data. Both the Robust Comparative Fit Index (CFI) and the Robust Tucker-Lewis Index (TLI) are well above the recommended value of 0.9 for a good model fit, with CFI at 0.983 and TLI at 0.953. Similarly, both the Robust RMSEA (0.026) and the SRMR (0.016) have values very close to 0, indicating a good fit of the proposed model to the data.

Due to the non-normality of the data, it was deemed necessary to supplement the analysis with the bootstrapping technique. This re-sampling method is known for its flexibility and robustness and can provide a more accurate estimate of the confidence in the parameters and measures of model fit (Awang, Afthanorhan, and Asri 2015; Hayes 2009). In this case, the bootstrapping results indicate that the parameter estimates are stable, and the confidence intervals generated from the 1000 replicates support this conclusion. Table 7 shows the values for the "LL 95% CI" and "LU 95% CI" columns, which represent the interval where there is 95% confidence that the true population parameter lies within that range.

As shown in Table 7, there is a positive and significant relationship between educational attainment and work orientation ($\beta = 0.261$, $p = 0.000$), suggesting that higher levels of education are associated with a tendency towards work-oriented preferences. On the other hand, there is no direct relationship between the mother's role in the household and the dependent variable. The importance of maternal roles, on the contrary, is observed in relation to the level of education, with a significant tendency for women whose mothers were workers to have a higher level of education ($\beta = 0.067$, $p = 0.037$). Similarly, regarding the control variables, there is a significant and positive correlation between the level of maternal ($\beta = 0.206$, $p = 0.000$) and paternal ($\beta = 0.188$, $p = 0.000$) education and university education attained. Finally, as regards the modelled indirect relationship, a significant effect is observed ($\beta = 0.017$, $p = 0.043$), indicating that the mother's role in the household mainly influences the daughter's work orientation through the level of education attained by the daughter.

Table 7. Results of the SEM analysis applied to the first subgroup

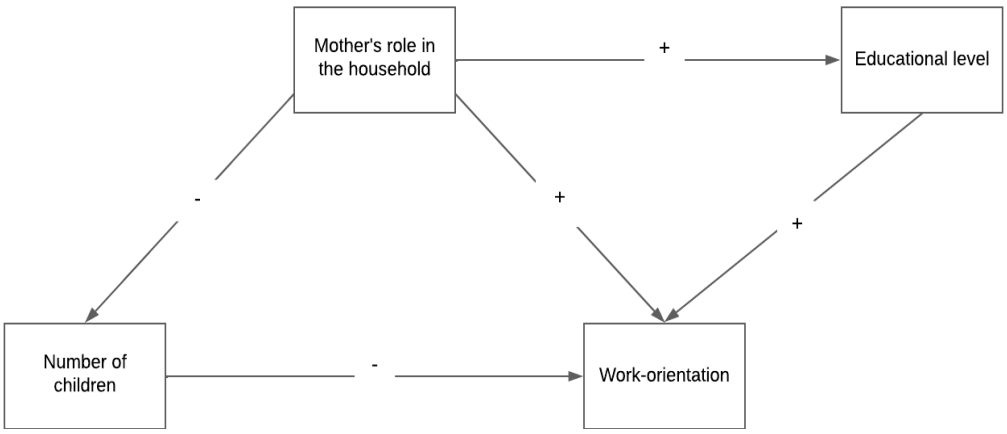
Outcomes	Predictors	Estimate (Std. Err)	Boot LL 95% CI	Boot UL 95% CI	R2
Educational level	Mother's role in the household	**0.067*** (0.032)	0.004	0.130	0.093
	Mother's educational level	**0.206***** (0.042)	0.123	0.289	
	Father's educational level	**0.188***** (0.041)	0.108	0.269	
	Country of birth	**0.187**** (0.070)	0.049	0.325	
	Religion	-0.175· (0.096)	-0.363	0.013	
Work-orientation	Educational level	**0.261***** (0.032)	0.199	0.323	0.067
	Mother's role in the household	0.004 (0.032)	-0.058	0.066	
Work-orientation (indirect effect)	Mother's role in the household*Educational level	**0.017*** (0.009)	0.001	0.034	
Fit indices	Robust Comparative Fit Index (CFI)	0.983			
	Robust Tucker-Lewis Index (TLI)	0.953			
	Robust RMSEA	0.026			
	SRMR	0.016			

Model fit: $\chi 2$ (4) = 6.199, p = 0.135. N= 952

Mothers between 32 and 49 years old

The sample comprises 2825 mothers aged 32–49. The path analysis model for this subgroup aims to address the third and fourth hypotheses. The first hypothesis suggests a direct and positive relationship between a mother's role in the household and her daughter's work orientation. The second hypothesis proposes an indirect relationship between the two variables, mediated by the number of children. In this case, there is a negative relationship between the mother's role and the number of children her daughter has. Women whose mothers were workers tend to have fewer children. Additionally, there is a negative relationship between the number of children and work orientation. The more children a person has, the less likely they are to have work-oriented preferences (Figure 3).

Figure 3. Hypothesized path analysis for H3, H4 and H5



Descriptive statistics

Table 8 presents the basic descriptive statistics and correlation matrix of variables related to the analysis of the second subgroup of women, specifically mothers aged 32–49 years. Three additional variables have been included: the number of children as a mediator, and both age and age at first birth as control variables. In this case, the correlations between the variables of interest do not provide clear conclusions, as there is no significance observed between the independent and dependent variables with the hypothesized mediator (number of children).

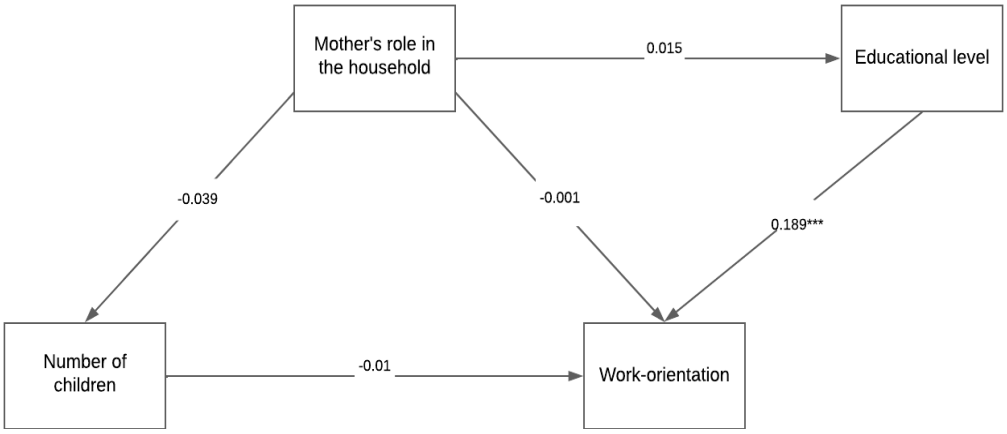
Table 8. Descriptive statistics and correlations of the variables used in the path analysis of the second subgroup

Variable	Mean	SD	Min	Max	N	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Work-orientation	0.337	0.473	0.00	1.00	2825	1									
2. Educational level	0.371	0.483	0.00	1.00	2825	0.193**	1								
3. Mother's role in the household	0.376	0.484	0.00	1.00	2825	0.01	0.039*	1							
4. Country of birth	0.897	0.304	0.00	1.00	2825	0.049**	0.093**	-0.053**	1						
5. Religion	0.038	0.190	0.00	1.00	2825	-0.054**	-0.09**	0	-0.449**	1					
6. Mother's educational level	0.109	0.312	0.00	1.00	2825	0.063**	0.241**	0.054**	-0.065**	0	1				
7. Father's educational level	0.074	0.261	0.00	1.00	2825	0.077**	0.204**	0.142**	-0.083**	-0.01	0.432**	1			
8. Number of children	1.797	0.753	1.00	9.00	2825	0	0	-0.02	-0.063**	0.106**	0.041*	-0.02	1		
9. Age	41.599	4.664	32.00	49.00	2825	0.039*	-0.064**	-0.12**	0.099**	-0.089**	-0.046*	-0.065**	0.126**	1	
10. Age at first birth	29.261	5.479	12.00	45.00	2825	0.085**	0.368**	-0.042*	0.199**	-0.132**	0.087**	0.056**	-0.349**	0.04	1

Spearman's correlation: (**) Statistically significant at 0.01 (bilateral); (*) Statistically significant at 0.05 (bilateral).

Path analysis

Figure 4. SEM path analysis of the second subgroup with the number of children and the educational level as mediators



Based on the descriptive statistics and correlation matrix, there is no significant relationship between the key variables hypothesized in the model. The controlling variables were applied to the mediators "number of children" and "educational level", given its low correlation with the dependent variable "work orientation". The findings from the current model indicate substantial deviations from expected patterns, as evidenced by fit indices that suggest a less-than-adequate alignment with the data. The chi-square test ($\chi^2 = 368.796$, $p = 0.000$) reveals a significant discrepancy between observed and model-predicted relationships, further reflected in the low Robust Comparative Fit Index (CFI = 0.723) and Tucker-Lewis Index (TLI = 0.169). The Root Mean Square Error of Approximation (RMSEA = 0.126) and Standardized Root Mean Square Residual (SRMR = 0.049) reinforce these findings, highlighting substantial divergences between the hypothesized and observed data patterns, which suggest that the model's current structure may not fully capture the underlying dynamics of the relationships examined.

Regarding parameter consistency, the bootstrap results indicate significant variability in how the model fits different subsamples of the dataset, as ranges spanning both positive and negative values are present. Additionally, the inclusion of 0 in these ranges suggests that the effect is not robust and may be susceptible to changes in the sample.

Despite the overall model limitations, several noteworthy patterns emerge. Educational attainment displays a prominent association with work orientation ($\beta = 0.189$, $p < 0.001$), suggesting that educational achievement may serve as a primary driver of work orientation, likely fostering preferences and orientations towards work that extend beyond family structure or demographic influences. In contrast, neither the mother's household role ($\beta = -0.001$, $p = 0.938$) nor the number of children ($\beta = -0.010$, $p = 0.368$) significantly affects work orientation. This result implies that, within this sample, educational attainment overshadows familial and structural characteristics in shaping work-related preferences.

The model further highlights the role of parental background and cultural context in educational outcomes. Both maternal ($\beta = 0.234$, $p < 0.001$) and paternal ($\beta = 0.298$, $p < 0.001$) education are significant predictors of respondents' educational levels, indicating an intergenerational influence on educational attainment. Additionally, country of birth exerts a positive effect ($\beta = 0.154$, $p < 0.001$), whereas being affiliated to a non-Christian religion slightly reduces educational attainment ($\beta = -0.116$, $p = 0.004$), suggesting that cultural context and parental education collectively contribute to shaping individuals' educational pathways.

Findings related to family size and educational attainment are also important. The data reveal a positive association between educational level and number of children ($\beta = 0.230$, $p < 0.001$), suggesting that, in this context, higher educational attainment may facilitate family expansion. Age at first birth is inversely associated with the number of children ($\beta = -0.057$, $p < 0.001$), whereas age positively correlates with family size ($\beta = 0.025$, $p < 0.001$). These patterns reflect broader demographic trends, highlighting the impact of educational and life course factors on family planning decisions.

Notably, the hypothesized indirect effects—whereby the mother's role would influence work orientation through educational attainment and/or number of children—do not manifest as significant in this subsample. This lack of mediation suggests that maternal roles do not substantially shape work orientations via these indirect pathways, underscoring the primacy of education as a determinant in this context.

Both the model's outcomes and its poor fit may be explained by the characteristics of this generation's mothers, who had comparatively low levels of employment and university education. With limited maternal role models for balancing work and family, the daughters of this cohort relied more on their own educational achievements as a basis for work orientation. Furthermore, the daughters benefited from Spain's "university boom" of the 1980s and 1990s, which marked a shift toward greater access to higher education for women. Consequently, higher education—not maternal role modelling—appears to be the primary driver of work preferences, reflecting a generational shift where educational expansion and structural opportunities play a central role in shaping work-related identities.

Table 9. Results of the SEM analysis applied to the second subgroup

Outcomes	Predictors	Estimate (Std. Err)	Boot LL 95% CI	Boot UL 95% CI	R2
Number of children	Educational level	**0.230*** (0.027)	0.176	0.284	0.222
	Mother's role in the household	-0.039 (0.027)	-0.051	0.054	
	Mother's educational level	-0.034 (0.064)	-0.159	0.092	
	Father's educational level	**0.167**** (0.049)	0.072	0.262	
	Country of birth	0.078 (0.058)	-0.036	0.192	
	Religion	**0.553***** (0.113)	0.310	0.755	
	Age	**0.025***** (0.003)	0.019	0.030	
	Age at first birth	**-0.057***** (0.003)	-0.063	-0.052	
Educational level	Mother's role in the household	0.015 (0.018)	-0.020	0.051	0.086
	Mother's educational level	**0.234***** (0.037)	0.161	0.307	
	Father's educational level	**0.298***** (0.031)	0.237	0.307	
	Country of birth	**0.154***** (0.028)	0.100	0.208	
	Religion	**-0.116**** (0.040)	-0.194	0.307	
Work-orientation	Number of children	-0.010 (0.011)	-0.032	0.012	0.037
	Educational level	**0.189***** (0.019)	0.152	0.225	
	Mother's role in the household	-0.001 (0.018)	-0.037	0.034	
Work-orientation (indirect effect)	Mother's role in the household*Number of children	0.000 (0.001)	-0.004	0.010	
	Mother's role in the household*Educational level	0.003 (0.003)	-0.000	0.000	
Fit indices	Robust Comparative Fit Index (CFI)	0.723			
	Robust Tucker-Lewis Index (TLI)	0.168			
	Robust RMSEA	0.126			
	SRMR	0.049			

Model fit: $\chi 2$ (8) = 368.796, p = 0.000. N= 2825

DISCUSSION

The findings of this study offer valuable insight into the nuanced relationship between maternal roles observed during childhood and the formation of adult work preferences, revealing trends that challenge certain traditional assumptions. For the subgroup of younger women without children, born between 1986 and 1993, the analysis finds no direct link between the mother's role and her daughter's work preferences once educational level is taken into account, thereby disproving the hypothesis that posited a direct influence of maternal role-modeling on work orientation (H1). Instead, a more complex picture of intergenerational transmission emerges.

Specifically, the results suggest an indirect path where the mother's role influences the daughter's educational attainment, which in turn shapes her work preferences. This indirect transmission implies that women whose mothers adopted full-time caregiving roles are less likely to attain a university education, and this lower educational level is associated with a decreased tendency toward work-oriented preferences. Additionally, the analysis confirms a direct, positive relationship between educational attainment and work orientation, showing that higher education not only mediates but also amplifies the influence on work-oriented preferences. This dual role of education—both as a mediator and as an independent driver of work orientation—underscores its critical importance in shaping adult work preferences. Thus, maternal caregiving roles contribute to a cycle in which lower educational attainment subtly shifts preferences away from work-centered orientations, underscoring the lasting impact of maternal roles on daughters' trajectories and the potential of education to shift work preferences over generations.

The study's results for the sub-sample of mothers aged 32–49 reveal important findings and limitations of the initial model proposed. The results from the second model provide a detailed insight into the factors

influencing the work preferences of an older generation of women who have already embraced motherhood. Notably, the analysis reveals that the maternal role during these women's childhood does not exert a significant direct influence on their current work preferences. This finding indicates that the hypothesis positing a direct correlation between maternal roles and daughters' work orientations (H3) is not even supported in this generation.

Similarly, the data do not confirm the hypothesis that the number of children serves as a mediating factor between maternal roles and work preferences (H4). The analysis reveals that family size does not significantly shape work orientation within this group. Once these women have entered motherhood (Bertolini and Musumeci 2018), having additional children does not appear to influence their work preferences in any way. This finding challenges the notion that expanding the family necessarily alters work orientations toward a less work-oriented approach, suggesting instead that these mothers may have already made work-related adjustments to integrate family responsibilities, irrespective of subsequent family size (Bertolini and Musumeci 2018).

However, the hypothesis that educational attainment acts as a mediator in the relationship between maternal roles and work preferences finds partial support in the data (H5). Although maternal roles do not have a direct effect in this cohort, educational level emerges as a strong, independent predictor of work orientation. This indicates that educational capital exerts an autonomous influence on work preferences among these women, distinct from any traditional maternal role observed. In this way, access to higher education during Spain's "university boom" of the 1980s and 1990s provided this generation with a crucial resource for developing work-oriented preferences, less tied to family or traditional gender expectations.

The lack of influence from maternal roles on work preferences in this older generation may be attributable to the social and cultural context during their formative years. Raised in an era when the "caregiver mother" model was a deeply ingrained social norm, these women did not experience full-time caregiving as a distinct or uncommon family dynamic, but rather as a typical aspect of family life. Consequently, the caregiving role was not a strong differentiating factor in shaping their adult work orientations. The strong cultural expectation for women to assume domestic roles may have weakened any unique influence of their mothers' caregiving roles. In contrast, higher education emerged as a more potent driver of work preferences, suggesting that structural opportunities, such as access to university education, became the primary channel for developing work-oriented preferences in adulthood. For this cohort, education not only provided a path to professional development but also enabled them to form identities and preferences that transcended traditional domestic expectations. As such, the lack of direct influence from maternal roles reflects a generational shift in which structural factors, particularly educational attainment, increasingly define work-related preferences over early familial models.

The findings of this study provide insight into the relationship between domestic roles observed in childhood and adult work preferences. While the mother's caregiving role does not directly influence daughters' work preferences when accounting for educational attainment, the latter emerges as a key mediator shaping career orientations. This underscores the increasing importance of education as a transformative factor, enabling women from diverse backgrounds to develop work-related aspirations. Ensuring equitable access to education could therefore be an effective strategy to support labor market participation and mitigate the impact of traditional gender roles on career trajectories.

Beyond education, future research should examine additional structural and policy-related factors, such as family support systems, workplace flexibility, and access to affordable childcare, which may further shape work preferences in a changing social context. Policies that promote educational access and work-life balance can play a crucial role in allowing individuals to navigate their careers and family lives in accordance with their own aspirations and circumstances. Thus, understanding how the mechanisms that influence work preferences operate across generations will be key to ensuring that individuals have the opportunities and support needed to make choices that align with their personal and professional aspirations.

Finally, while this study provides meaningful insights into how maternal roles and educational attainment shape work preferences across generations, the results must be interpreted with caution due to certain methodological limitations. A key limitation arises from the use of two distinct sub-samples taken from the same dataset rather than a longitudinal analysis tracking the same women over time. This design does not allow for a direct assessment of changes in work preferences before and after motherhood within the same individuals but rather provides a comparison between two structurally different groups.

The group of childless women aged 25–31 may include individuals with specific sociodemographic characteristics that differentiate them from those who have already become mothers. Some may never have children due to personal choice, economic circumstances, or career aspirations, making them inherently

different from those who do enter motherhood. Conversely, the group of mothers aged 32–49 includes women who have had children at different life stages, potentially including some who became mothers within the 25–31 age range. As a result, these two groups cannot be directly compared as representing different moments in the same women's life trajectories. Instead, they should be understood as distinct cohorts shaped by different conditions and decisions.

A further limitation lies in the proportion of missing data, particularly within certain variables related to parental information, which could influence the generalizability of our findings. Notably, the subsample of mothers (the older generation) presents a higher percentage of missing values compared to the younger, childless women. This imbalance may subtly bias the results for the older generation, potentially underrepresenting certain socio-economic profiles or specific family structures. Despite efforts to mitigate these effects, missing values could introduce subtle biases, especially in the analysis of the older generation.

Despite these limitations, the use of nationally representative survey data provides a strong foundation for understanding these relationships within the Spanish context. Future research could benefit from longitudinal data that follow individuals over time, providing richer insights into how educational attainment and early socialization shape work preferences across different life stages. Additionally, employing sequence analysis or event history models could help identify more precise patterns of work-family dynamics over the life course. Future studies could also incorporate qualitative methods, such as in-depth interviews or focus groups, to explore in greater depth how maternal role models and structural opportunities interact in shaping women's career orientations. Such approaches would further refine our understanding of the intergenerational transmission of work preferences and the factors that mediate this process.

In summary, this research analyzes the ongoing transformation in the factors that influence work preferences. By examining how educational attainment now shapes women's work orientations more decisively than maternal role modeling, the findings underscore the evolving influence of structural opportunities on work preferences. As educational and professional opportunities continue to evolve, future generations may experience greater flexibility in shaping their work and family identities, reflecting broader societal shifts in career aspirations and gender roles.

Declaration of competing interests

The author of this article declare that she has no financial, professional or personal conflicts of interest that could have inappropriately influenced this work.

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Authorship contribution statement

Violeta Aragón Martínez: Conceptualization, Formal analysis, Investigation, Methodology, Project administration, Writing – original draft, Writing – review & editing.

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