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# **Bridging the Gap? The Moderating Role of Non-Parental Childcare Use in the Gap in Maternal Employment between Immigrants and Non-immigrants**

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## **ABSTRACT**

While the growing inequalities between non-immigrant and immigrant mothers' labour market outcomes have been extensively studied, the extent to which these disparities vary across non-parental childcare arrangements remains relatively underexplored. This study examines different types of childcare support – informal care only, formal care only, and mixed care arrangements – as potential moderators of the gap in maternal employment by migration background, while taking into account the immigrant mothers' length of stay in the receiving country. Using data from the 2018 Fertility Survey in Spain, our results paint a complex picture of the distinctive roles played by different types of childcare arrangements in shaping the employment gap between immigrant and non-immigrant mothers: while long-term immigrant mothers who rely on informal or mixed childcare arrangements have higher employment rates than their non-immigrant counterparts, recent immigrant mothers benefit more from formal childcare services, which are associated with greater participation in paid work. Given that maternal employment is essential for the economic integration of immigrant families, our findings have important implications for developing more inclusive family policies aimed at improving the social inclusion of immigrant women with diverse childcare needs.

## **KEYWORDS**

Female employment; immigration; childcare; work and family; Spain

## **1. Introduction**

Labour market participation is central to the inclusion of immigrants into receiving societies (Schieckoff, 2023). However, employment inequalities between non-immigrants and immigrants persist in many industrialised countries (Alderotti et al., 2023; Cantalini et al., 2022; Foroutan, 2008; Rendall et al., 2010). Immigrants are more likely to be exposed to multiple vulnerabilities, such as being in low-paid or precarious jobs, being unemployed, and experiencing related forms of social exclusion (Raijman & Semyonov, 1997; Röder et al., 2018). The employment gap between immigrants and non-immigrants is particularly pronounced among women with young children due to the challenges involved in reconciling work and care responsibilities. After the transition to parenthood, immigrant women, especially those who have recently arrived, are less likely than non-immigrant women to be employed (Maes et al., 2021). This employment inequality exacerbates the economic and social integration barriers faced by immigrant women, and negatively impacts the subjective well-being of immigrant

children (Bousselin, 2022; Schieckoff, 2023).

Although empirical studies have examined the growing employment inequality between immigrant and non-immigrant mothers, most have focused on individual characteristics or context-related explanations, in particular differences in education, language proficiency, cultural norms, and levels of ethnic discrimination in the labour market (Foroutan, 2008; Guzi et al., 2021; Kil et al., 2018; Koopmans, 2016; Schieckoff, 2023; Vidal-Coso, 2019). However, less is known about the role of childcare support in the negative relationship between immigrant status and maternal employment, as childcare alternatives may differently affect the ability of non-immigrant and immigrant mothers to balance paid work and family obligations.

Earlier studies have shown that childcare support is crucial in shaping women's paid work behaviour by enhancing their ability to compensate for the gendered division of childcare responsibilities (Bousselin, 2022). Non-immigrants tend to have greater bargaining power in the labour market due to their better access to financial resources and social capital. Immigrant mothers often face more precarious working conditions and lower job security, and are more likely to rely on non-parental childcare strategies that provide regular childcare support (Szelewa & Polakowski, 2023). Therefore, while immigrant mothers may be more vulnerable than non-immigrant mothers to unemployment in the absence of childcare support, given the strong economic incentives for women to engage in paid work for the benefit of their family (Eremenko & Unterreiner, 2023), the employment gap between immigrant and non-immigrant mothers may be reduced or even reversed when non-parental childcare is used.

Meanwhile, significant inequalities in both the frequency and the type of the childcare services used have been found between non-immigrant and immigrant mothers. Children from immigrant families are less likely to be enrolled in non-parental childcare. In addition, when immigrant families use non-parental childcare, they tend to rely less on public childcare services and more on informal childcare arrangements (Kalmijn, 2023; Seibel & Hedegaard, 2017; Wall & Sao José, 2004). An extensive body of literature has examined the association between non-parental childcare use and mothers' labour force participation. However, most of these studies mainly focused on its direct effects (Arpino et al., 2014; Bünning, 2017; Del Boca et al., 2009), while fewer studies have explicitly tested its moderating role in the employment gap between immigrant and non-immigrant mothers. Moreover, most of these empirical studies oversimplified parents' childcare choices by primarily examining the effects of formal childcare policies or informal childcare arrangements on women's labour market participation, while neglecting the significant proportion of families who combine multiple sources of childcare (Ackert et al., 2018; León & Maestripieri, 2022; McLean et al., 2017), and the ways in which different types of childcare arrangements moderate the employment gap between non-immigrant and immigrant mothers. This paper aims to fill this knowledge gap.

This study aims to examine the moderating role of non-parental childcare alternatives on the employment gap between immigrant and non-immigrant mothers. We use data from the 2018 Spanish Fertility Survey, a nationally representative survey that contains detailed information on the weekly use of non-parental childcare support from various sources (e.g., day-care centres, domestic helpers, extracurricular activities, grandparents, other relatives, and others). Spain provides a unique context to study this phenomenon given its diverse migrant population and the unequal uptake of childcare by families in Spain depending on their immigration background (Palomera, 2022).

Unlike conventional approaches that use a dichotomous categorisation of childcare arrangements, we take into account the heterogeneity of non-parental childcare supports. This allows us to identify more complex combinations of childcare choices by classifying the different childcare arrangements into four categories: formal childcare only, informal childcare only, both formal and informal childcare, and no non-parental childcare support. Moreover, informed by the labour market assimilation theory (Chiswick, 1978), we expect to observe that the labour market status and levels of social integration in terms of childcare patterns vary across different immigrant groups by their length of residence in the host country, while distinguishing between recent (arrived less than 10 years ago) and long-term (arrived 10 or more years ago) immigrants. Specifically, we address the following research questions: (1) Does the maternal employment gap decrease or even disappear with the immigrant mothers' length of stay? (2) Do disparities in the use of childcare services moderate the association between immigrant background and maternal employment? (3) If so, what type of childcare support is associated with a wider or narrower gap in maternal employment between immigrants and non-immigrants? (4) And, how do these interactions relate to the employment gap by the women's length of stay in the receiving country? By focusing on the intersection of labour, migration, and social support, this study provides insights into persistent social inequalities between non-immigrants and immigrant groups.

## **2. Theoretical framework**

### ***2.1 The gap in mothers' employment outcomes and the labour market assimilation process in the host country by migration background***

Scholars have argued that due to at least two sources of vulnerability, gender and immigrant status, the employment gap between immigrants and non-immigrants is significantly more pronounced for women than for men, resulting in female immigrants facing a “double disadvantage” in the labour market (Raijman & Semyonov, 1997). This employment inequality is further exacerbated after the transition to motherhood, as the vulnerable position of female immigrants in the labour market can interact with their care responsibilities driven by gendered care patterns, which suggests that immigrant mothers experience a stronger “child penalty” (Sánchez-Domínguez & Guirola Abenza, 2021). Using longitudinal microdata from the Belgian social security registers, Kil et al. (2018) found that female immigrants who were active in the labour market prior to the birth of their first child had a lower probability than non-immigrant women of continuing to participate in the labour market after entering parenthood. Similarly, a more recent study by Sánchez-Domínguez and Guirola (2021) showed that employment and care regimes in Spain force female immigrants to deal with their care responsibilities differently than their non-immigrant counterparts. Immigrants are more likely than non-immigrants to interrupt their employment to fulfil household duties, which suggests that parenthood has a differential impact on the employment trajectories of non-immigrant and immigrant mothers.

Several theoretical perspectives have been developed to examine the determinants of such gaps in labour market attachment by migration background. Among these are macro-level explanations focusing on the broader institutional context, such as immigrant integration policies and labour market segmentation or exclusion (Koopmans, 2016; Lancee, 2021; Ubalde & Alarcón, 2020), which suggest that while immigrants are more susceptible to various forms of labour market discrimination, less restrictive immigration and integration policies could help to mitigate existing labour market disadvantages for immigrants (Guzi et al., 2023). Another

body of literature has examined the role of individual-level characteristics of the immigrant and the non-immigrant population, including human capital attributes (e.g., age, education) and attitudinal factors (e.g., preferences for combining work and family), in explaining the disparities in labour market outcomes between immigrant and non-immigrant groups. Specifically, some studies have shown that the human capital resources of female immigrants are often penalised and devalued in the labour market due to the imperfect transferability across societal contexts of country-specific skills, such as language skills, professional skills, and work experience (Ubalde & Alarcón, 2020). At the same time, other studies have suggested that cultural norms in the country of origin also play an important role in shaping the differences in the employment behaviour of non-immigrant and immigrant mothers, with the employment trajectories of female immigrants from countries with a more traditional division of gender roles or higher levels of religiosity being more likely to be affected by the transition to parenthood than those of their non-immigrant counterparts (Khoudja & Fleischmann, 2015).

Nevertheless, many of these barriers to immigrants' labour market inclusion are expected to diminish with time spent in the host country. According to Chiswick's (1978) labour market assimilation theory, the duration of residence in the host country is a key determinant of immigrant women's labour market integration, as they experience improvements in their human and cultural capital by learning the local language, acquiring local education and job-related training, and accumulating knowledge of the local labour market (Bernardi et al., 2011; Neuman, 2018; Rendall et al., 2010). As a result, the employability and labour market positions of female immigrants in the host country relative to those of non-immigrants are expected to improve over time (Foroutan, 2008; Neuman, 2018). On the other hand, while the labour market outcomes of long-term immigrants may gradually converge to those of non-immigrants, the employment behaviour of more recently arrived immigrants remains more volatile, and may differ from that of both non-immigrants and long-term immigrants (Foroutan, 2008). In particular, beyond differences between immigrant groups in terms of their human capital and socio-demographic characteristics, women who have recently migrated to a new country often have a more precarious migration status related to their work permit, and are therefore more likely than long-term immigrants to encounter labour market barriers (Bernardi et al., 2011). Hence, we expect to find that differences in labour market behaviour exist not only between non-immigrants and immigrants, but also across different immigrant groups, with the employment of newly arrived immigrant mothers being more strongly affected by their immigration status. On this basis, we hypothesise that:

H1: Given that the employment gap between immigrant and non-immigrant mothers decreases as the duration of stay in the receiving country increases, the employment gap between recent immigrant mothers and non-immigrant mothers is larger than the gap between long-term immigrant mothers and non-immigrant mothers.

## ***2.2 The moderating role of childcare support in the maternal employment gap***

Recent studies have suggested that non-immigrant and immigrant mothers differ in terms of their childcare arrangements (Sprong & Skopek, 2023), with children from immigrant families being less likely than their non-immigrant counterparts to be enrolled in non-parental childcare services (Eremenko & Unterreiner, 2023; Maes et al., 2021; Mussino & Ortensi, 2023; Röder et al., 2018). This difference appears to be largely related to traditional norms on motherhood

among immigrant families (Kalmijn, 2023), whereby mothers are seen as the ideal caregivers, and are therefore expected to take on the primary caregiving role within the family (Bünning, 2017).

However, the existing literature has shown that even among mothers who use non-parental childcare, there are substantial differences in the types of childcare used by non-immigrant and immigrant mothers, which are shaped by differences between the two populations in terms of socio-economic status, levels of social network support, and cultural preferences regarding childcare practices (Eremenko & Unterreiner, 2023; Kalmijn, 2023; Maes et al., 2021; Mussino & Ortensi, 2023; Seibel & Hedegaard, 2017; Sprong & Skopek, 2023; Van Lancker & Pavolini, 2022; Wu & Del Rey, 2024). Preschool-aged children from immigrant families are less likely than their non-immigrant counterparts to be enrolled in formal childcare, which is provided by centre-based care, organised family day care, or professional childminders (Eremenko & Unterreiner, 2023). In addition to structural barriers related to the availability and affordability of formal childcare, particularly in countries with weak social support systems (Röder et al., 2018; Trappolini et al., 2023), cultural norms and preferences regarding childcare also play a crucial role in explaining the lower use of formal childcare among immigrant families. Moreover, these families often face language barriers, lack knowledge about available public childcare services (Bousselin, 2022; Trappolini et al., 2023) and have lower levels of trust in local institutions (Kalmijn, 2023). In contrast, informal childcare – i.e., childcare provided by relatives, friends, family networks, or other extended social networks within or outside the home – continues to be preferred by immigrant mothers due to its perceived accessibility, quality, and flexibility (Ackert et al., 2018; Seibel & Hedegaard, 2017; Wall & Sao José, 2004; Wu & Del Rey, 2024).

Notably, the availability of non-parental childcare services can help to mitigate the negative effects of the “motherhood penalty” on women’s employment outcomes by enhancing their ability to reconcile work and family responsibilities (Arpino et al., 2014; Del Boca et al., 2009). This is particularly true for immigrant mothers, whose labour force participation is more sensitive to factors related to childcare than that of other groups (Ackert et al., 2018; Kil et al., 2018). Empirical evidence from Germany, for instance, has highlighted that childcare availability plays a more important role in supporting the employment of immigrant mothers compared to that of non-immigrant women, showing that female immigrants returned to work earlier than East German mothers when they had access to childcare support (Bünning, 2017). At the same time, due to the segmented labour market structure in most European countries, immigrant women are more likely to be employed in precarious sectors with non-standard and irregular working hours (Guzi et al., 2021). Because informal childcare offers more affordability and flexibility compared to formal childcare, it may be better adapted to immigrant mothers’ work arrangements, and might thus positively affect the employment rates of immigrant mothers relative to those of non-immigrant mothers. Based on this, we hypothesise that:

H2: Compared to formal childcare, informal care is expected to have a stronger buffering effect on the employment disadvantage of immigrant mothers, and to be associated with a reduced employment gap between immigrant and non-immigrant mothers.

Previous research has found that rather than relying on a single childcare solution, many

families use a mix of formal and informal childcare options (Arpino & Luppi, 2020; Brady & Perales, 2016; McLean et al., 2017). However, research on this issue has yielded mixed findings. On the one hand, some studies have found that while formal childcare provides regular, high-quality care services and has significant benefits for children's cognitive and social development (Pavolini & Van Lancker, 2018), its limited opening hours and inflexible schedules may lead mothers to perceive it as inadequate, and to require additional support to address these challenges (Ackert et al., 2018; León & Maestripieri, 2022; McLean et al., 2017). Meanwhile, despite the flexibility and accessibility of informal childcare, relying solely on kin-provided childcare may lead to problems of discontinuity and difficulty in obtaining long hours of care (Arpino & Luppi, 2020). The complementarity of the two types of childcare in mixed childcare arrangements allows parents to circumvent the weaknesses of both informal and formal childcare to meet their childcare needs (Brady & Perales, 2016), and is thus associated with greater satisfaction with work-family balance among families with young children (Arpino & Luppi, 2020). Moreover, as immigrant mothers are often employed in non-standard jobs with irregular working hours (Zumbyte, 2023), the high level of childcare availability in mixed childcare arrangements may be particularly beneficial for their employment outcomes, and might help to mitigate their labour market disadvantages relative to non-immigrants. Based on this literature, we hypothesise that:

H3a: Having access to mixed childcare arrangements is expected to be associated with a larger moderating effect on the gap in maternal employment by migration background and a smaller disadvantage for immigrant mothers relative to non-immigrant mothers than relying on a single type of childcare (either formal or informal childcare).

On the other hand, another body of research has suggested that the use of mixed childcare arrangements is associated with reduced financial resources, as parents try to piece together different forms of childcare in order to lower costs (McLean et al., 2017). Thus, the logistical challenges faced by parents in organising access to these services could be associated with lower labour force participation among mothers of young children, and may further exacerbate employment inequalities between non-immigrant and immigrant mothers. In line with this reasoning, we adopt the alternative hypothesis that:

H3b: Having access to mixed childcare arrangements is expected to be associated with a smaller moderating effect on the gap in maternal employment by migration background and a larger disadvantage for immigrant mothers relative to non-immigrant mothers than relying on a single type of childcare (either formal or informal childcare).

Lastly, the moderating effects of these non-parental childcare alternatives on the employment gap between immigrant and non-immigrant mothers may differ for long-term and recent immigrant mothers. In particular, as recently arrived immigrant mothers tend to face more pronounced labour market disadvantages than both non-immigrants and long-term immigrants due to their more disadvantaged human capital and family characteristics, the increased childcare capacity provided by non-parental childcare alternatives, whether informal care only, formal care only, or mixed care arrangements, may help to compensate for the labour market disadvantages of recent immigrant mothers compared to long-term immigrants. Thus, when non-parental childcare options are available, their moderating effects on the employment gap between non-immigrant and recent immigrant mothers are expected to be stronger than their

moderating effects on the gap between non-immigrant and long-term immigrant mothers. Based on these considerations, we formulate the following hypothesis:

H4: The moderating effects of different types of non-parental childcare – informal care only, formal care only, and mixed care arrangements – on the maternal employment gap by migration background are expected to be stronger for recent immigrants than for long-term immigrants.

### ***2.3 The Spanish context***

Spain has a large and ethnically diverse immigrant population. Since the 1990s, the country has witnessed a growing stream of immigration: the number of immigrants increased from 347,233 in 1991 to more than 5.4 million in 2021, with immigrants accounting for approximately 11% of the total Spanish population (INE, 2021). Female immigrants make up 49.7% of the immigrant population (INE, 2021). Currently, Spain is the European Union country with the second-largest immigrant population (Eurostat, 2024).

This remarkable growth in immigration has coincided with an increase in female labour force participation in Spain (Thévenon, 2016). Over the last three decades, with the improvement in women's educational attainment, the female employment rate in Spain has increased significantly compared to that in other Mediterranean countries, rising from 38.5% in 1999 to 61.9% in 2024 (OECD, 2024). Despite these trends, the labour market participation of women with young children remains quite low in Spain (Legazpe & Davia, 2019), with the employment rate of mothers with young children being almost eight percentage points lower than that of childless women (Seiz, 2021). Moreover, due to the dual structure of the Spanish labour market, in which immigrant women are disproportionately employed in the secondary segment with low job security (Fellini, 2018), and due to the “family-oriented” care system in Spain (Esping-Andersen, 1990), which imposes a double penalty on immigrant women in the labour market, the gap in the employment probabilities of non-immigrant Spanish and immigrant women with young children are becoming even larger. Data from the Spanish Labour Force Survey suggest that 60% of recent immigrant women with young children are either unemployed or inactive, compared to 25% of their non-immigrant counterparts, with care responsibilities cited as the primary reason for their lack of employment (Sánchez-Domínguez & Guirola Abenza, 2021).

In terms of the institutional context, Spain, like other Southern European countries, has a family-centred welfare system characterised by a traditional care structure with a strong reliance on home-based care provided by family members (Ferrera, 1996). However, since the early 2000s, Spain has been investing in family policies aimed at expanding public childcare and reducing family care responsibilities. As a result, the enrolment in formal childcare of children under age three increased from 37% in 2005 to 57.4% in 2019, a level well above the EU28 average (35.5%) (León & Maestripieri, 2022). Nevertheless, social inequalities in access to childcare by family background remain extremely high, with 51.8% of parents reporting economic reasons for not using childcare services (Castellanos-Serrano & Perondi, 2022). Immigrant mothers are 10 points less likely than native mothers to secure a slot in public day care for a child aged 0-3 (Palomera, 2022). Importantly, this Matthew effect in formal childcare use (Pavolini & Van Lancker, 2018), whereby disadvantaged children are less likely to gain access to early childhood services than their more advantaged peers, may translate into inequalities in educational outcomes and cognitive development over the life course. Therefore,



Spain, with its “fragmented” care regime and its segmented labour market in which immigrants have an “outsider” position associated with non-standard employment and low job security, provides a distinct context for analysing differences in the maternal employment outcomes of native and immigrant groups.

### **3. Methodology**

#### **3.1 Data**

We use data from the 2018 Spanish Fertility Survey (SFS), a nationally representative survey conducted by the Spanish National Statistics Institute (INE) that contains information on 14,556 women aged 18 to 55. This survey includes detailed information on immigrant status, employment characteristics, and other socio-demographic data at the individual, couple, and household levels. More importantly, it collects data on the use of non-maternal care alternatives for children living in the household, allowing us to differentiate various types of childcare available to the respondents.

Our study focuses on mothers with at least one child aged 0–6, which represents the childrearing phase when it is arguably most difficult for women to reconcile their work and family demands (Bousselin, 2022; Schober & Spiess, 2015). In addition, as single mothers are likely to have unique patterns of providing care for their children and labour force participation (Meyers et al., 2002), we include only respondents who are living with their partner (married or cohabiting). Our total sample includes 2313 respondents. Overall, immigrants represent 15% of the total population. Of these, 42.7% arrived within the last 10 years and 57.3% arrived more than 10 years ago. To maintain the representative nature of the data set, the sample is weighted for the analysis in accordance with the survey’s technical recommendations.

#### **3.2 Variables**

Our *dependent variable* is women’s employment status, which is a dummy variable indicating whether the respondent is currently involved in paid employment at the time of the interview (employed = 1, not employed = 0). The main independent variable for our study is the immigrant background of the respondent, measured by country of birth to distinguish between non-immigrants (native-born individuals) and immigrants (foreign-born individuals). Moreover, to differentiate between immigrant groups with different levels of social integration in the country, we further divide the latter into recent and long-term immigrants based on their years of residence in Spain, choosing a threshold of 10 years following the literature (Alderotti et al., 2023; Bevelander & Groeneveld, 2006). Therefore, the independent variable is categorised into three groups: (1) non-immigrant mothers, (2) long-term immigrants with more than 10 years of residence, and (3) recent immigrants with less than 10 years of residence.

The key moderator variables measure mothers’ use of non-parental childcare. The Spanish Fertility Survey 2018 provides measures of mothers’ weekly use of external childcare alternatives for children living in the same household with the following question: “*How many days did you use [type of childcare] in a typical week?*” The survey examines six types of childcare use, including: (a) day care centres, (b) domestic helpers, (c) extracurricular activities, (d) grandparents, (e) other relatives, and (f) others. Following the OECD definition of formal ECEC services, we define formal childcare as care support provided by day care centres, domestic helpers, and extracurricular activities; and informal childcare as care provided by

grandparents, other relatives, and other alternatives. We then categorise the use of different types of childcare alternatives into four types of childcare arrangements as our second independent variable: (1) formal childcare only, (2) informal childcare only, (3) a mix of formal and informal childcare, and (4) no non-parental care. Supporting Information S1: Table 1 provides a clearer codification scheme for this variable.

Several control variables are added to exclude confounding effects. The individual-level control variables include (i) age, (ii) partnership status (cohabiting vs married), (iii) highest level of education completed (primary/lower secondary, upper secondary/post-secondary, and tertiary, according to the International Standard Classification of Education [ISCED]), and (iv) work experience prior to the transition to motherhood (yes vs no) based on both the date of the first birth and the woman's employment history. More importantly, given the evidence that mothers' employment decisions and childcare choices are strongly intertwined with their work-care attitudes (Hakim, 2006; Khoudja & Fleischmann, 2015), we also control for respondents' gender ideology in the analyses, which is measured based on five statements focusing on attitudes towards gender roles in paid work, housework, and childcare: (1) "For a woman, the priority should be her family more than her professional career", (2) "The father or mother should be the primary caregiver during the period from 0 to 3 years", (3) "When jobs are scarce, men should have more right to a job than women", (4) "Taking care of the house and family is as satisfying as paid work", and (5) "If the woman earns more money than her partner, this is not good for the relationship". Respondents are asked to indicate: 1 = "*agree*", 2 = "*neither agree nor disagree*", or 3 = "*disagree*". We reverse the scale and calculate respondents' mean values across the five items to create a continuous measure of gender ideology ranging from 1 to 3, with higher values indicating more traditional attitudes. Additionally, since both partner and household characteristics are important factors influencing women's labour market participation, we include the following control variables in our analysis: (i) partner's employment status (employed vs. non-employed), (ii) number of children in the household (one, two, three or more), and (iii) household income using the 30th and 70th percentiles of the sample's income distribution (low, middle, and high).

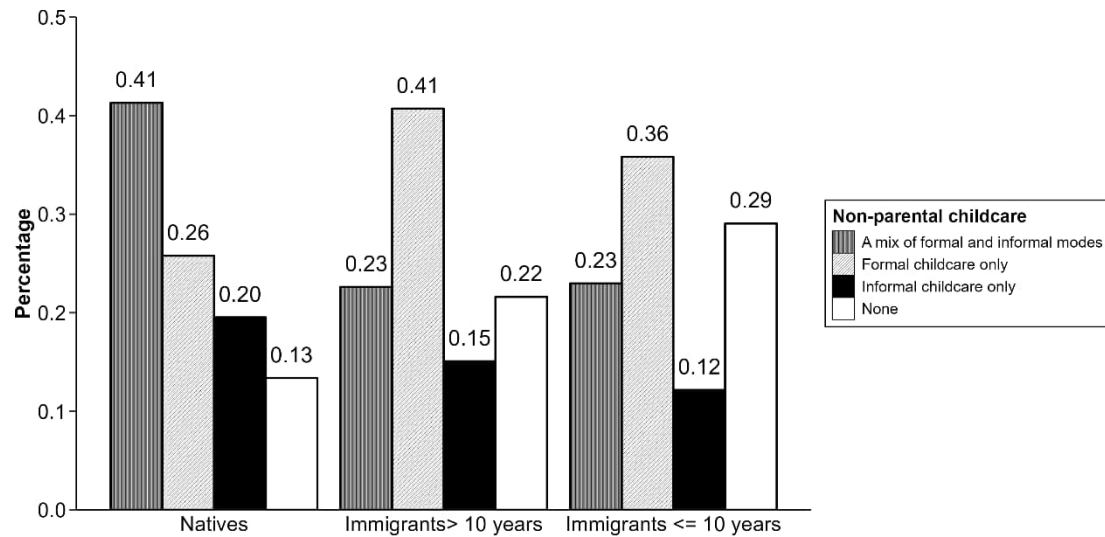
### **3.3 Analytical strategy**

To examine how different childcare arrangements are associated with the gap in mothers' employment probability by migration background, we use binomial logistic regression models to analyse the likelihood of mothers being employed at the time of the interview. The first set of models (Models 1 and 2) aim to test Hypothesis 1, which examines differences in the employment probabilities of non-immigrant, long-term immigrant (residing for 10 years or more), and recent immigrant (residing for less than 10 years) mothers. Specifically, in Model 1 we only include the independent variable to assess the association between immigrant background and mothers' employment status, while in Model 2 we additionally control for women's human capital, partner's characteristics, and household characteristics. In Model 3, we add childcare use to assess the independent association between childcare arrangements and the gap in maternal employment by migration background. Finally, to test Hypotheses 2–4 regarding the moderating effects of different childcare arrangements on the gap in maternal employment by migration background, we include in Model 4 an interaction term between immigrant background and childcare arrangements to examine whether differences in the labour market participation of non-immigrant, long-term immigrant, and recent immigrant

mothers vary across different forms of childcare. To facilitate interpretation and comparison across nested models, we report predicted probabilities for the key variables of interest.

## 4. Results

### 4.1 Descriptive analyses



**Figure 1:** Distribution of mothers' childcare use by immigrant background

Source: 2018 Spanish Fertility Survey. *Note:* Percentages are calculated by immigrant status.

**Figure 1** shows the distribution of mothers' childcare use by immigrant background (a table providing detailed descriptions of the full set of childcare type is available in the Appendix, Table A1). There are large differences in non-parental childcare use across the three groups, with recent immigrant mothers being less likely than non-immigrant and long-term immigrant mothers to use childcare. In our sample, only 13% of non-immigrant mothers do not use any form of childcare, compared to 22% of long-term immigrants and 29% of recent immigrant mothers, which is more than twice the rate of their non-immigrant counterparts. Moreover, among women who use non-parental childcare, there are notable differences in the forms of childcare alternatives used by immigrant and non-immigrant mothers. The uptake of formal childcare services is relatively high among the immigrant mothers in our analysis sample, with 41% of long-term immigrants and 36% of recent immigrants relying exclusively on formal care, compared to only 28% of non-immigrant mothers. In addition, the proportion of mothers relying solely on informal care is considerably lower for both immigrant groups than for non-immigrants – i.e., approximately 20% for non-immigrant mothers compared to 15% and 12% for long-term and recent immigrant mothers, respectively. Persistent inequalities associated with immigrant status are observed in the use of mixed childcare arrangements: almost 41% of non-immigrant mothers use a combination of formal and informal childcare support compared to only 23% of both long-term and recent immigrants, representing a gap of 18 percentage points.

**Table 1** provides an overview of the descriptive statistics related to the dependent and explanatory variables across non-immigrant, long-term immigrant, and recent immigrant mothers. Non-immigrant mothers have higher employment rates (71.1%) than their immigrant

counterparts, and long-term immigrant mothers (53.3%) are more likely to be employed than

**Table 1.** Socio-demographic, labour, and family characteristics by migration background

	Non-immigrants	Immigrants>10yrs	Immigrants<=10yrs
<b>Employment status (%)</b>			
<i>Employed</i>	71.1	53.3	38.5
<i>Non-employed</i>	28.9	46.7	61.5
<b>Mean Age</b>	36.6	36.1	33.6
<b>Educational level (%)</b>			
<i>Low</i>	8.3	16.1	14.2
<i>Medium</i>	46.2	62.8	50.7
<i>Tertiary</i>	45.4	21.1	35.1
<b>With pre-birth labour market experience (%)</b>	91.4	77.9	60.1
<b>Mean gender ideology index (0-3)</b>	1.8	2.0	2.1
<b>Partnership status (%)</b>			
<i>Cohabiting</i>	27.9	28.1	16.9
<i>Married</i>	72.1	71.9	83.1
<b>Partner's employment status (%)</b>			
<i>Employed</i>	91.1	82.4	83.1
<i>Non-employed</i>	8.9	17.6	16.9
<b>Number of children in the household (%)</b>			
<i>1</i>	43.4	31.7	35.8
<i>2</i>	46.0	39.2	42.6
<i>3 or more</i>	10.5	29.1	21.6
<b>Household income level (%)</b>			
<i>Low</i>	27.9	55.3	53.4
<i>Medium</i>	47.3	36.2	32.4
<i>High</i>	24.8	8.5	14.2
<i>N</i>	1,966	199	148

Data source: Spanish Fertility Survey 2018 (SFS).

recent immigrant mothers (38.5%). This confirms the “labour market assimilation” hypothesis, which suggests that the duration of residence in the country is an important factor in shaping immigrant mothers’ employment outcomes. The descriptive findings also confirm significant disparities in human capital and socio-economic status across the sample. In terms of average age, recent immigrant mothers tend to be younger than both non-immigrant and long-term immigrant mothers, with a median age of 33.6 for recent immigrants, 36.1 for long-term immigrants, and 36.6 for non-immigrants. In general, women with an immigrant background tend to have lower educational attainment than their non-immigrant counterparts, with only 21.1% of long-term immigrants and 35.1% of recent immigrants having completed tertiary education, compared to 45.4% of non-immigrants. Another way in which the human capital characteristics of the mothers differ is terms of their prior work experience: our results reveal that both long-term immigrant mothers (77.9%) and recent immigrant mothers (60.1%) are less likely to have work experience prior to the transition to motherhood than non-immigrant Spanish mothers (91.4%). Compared to non-immigrant mothers (*mean* = 1.8), recent immigrant mothers (*mean* = 2.1) and long-term immigrant mothers (*mean* = 2.0) have higher gender ideology index values, which suggests that immigrant mothers hold more traditional views than non-immigrant mothers regarding women’s responsibilities for taking care of children and the household, although this gap decreases with time spent in the host country.

There are also substantial differences between non-immigrant and immigrant mothers in terms of partner and household characteristics. With respect to relationship status, marital union

is the most common partnership status across all groups, particularly among recent immigrants (83.1% of whom are married). Additionally, immigrant women (17.6% among long-term immigrants and 16.9% among recently arrived immigrants) are more likely than non-immigrant women (8.9%) to have a partner who is not working or not employed. With regard to the number of children in the household, the results show that the proportion of women with two or more children is higher among immigrant mothers (68.3% and 64.2%, respectively), while most non-immigrant Spanish women report having only one child. Moreover, there is a clear divide between non-immigrant and immigrant mothers in terms of household income: only 27.9% of non-immigrant women are living in low-income households, compared to more than half of both long-term and recent immigrant mothers (55.3% and 53.4% respectively).

#### *4.2 The gap in mothers' labour market participation by migration background*

**Table 2** presents the estimation results of the regression models that examine the association between immigrant status and maternal employment. In line with *Hypothesis 1*, Model 1 confirms the maternal employment gap by immigrant background status, with both long-term (coeff. = -0.72;  $p$ -value < .001) and recent immigrant mothers (coeff. = -1.58;  $p$ -value < .001) being less likely than non-immigrant mothers to be employed. Moreover, the results also provide evidence that the length of residence in the host country significantly affects immigrant mothers' economic integration, with recent immigrants occupying a more disadvantaged labour market position than both non-immigrants and long-term immigrants.

In Model 2, we additionally control for women's individual, partner, and family characteristics. The changes in the regression coefficients show that the inclusion of these additional variables reduces the negative effects of immigrant background on maternal employment probabilities in both magnitude and significance, with the employment gap between non-immigrant and long-term immigrant mothers disappearing and even reversing, although the differences are not significant (coeff. = 0.09;  $p$  = 0.639). However, the employment penalty for recent immigrant mothers relative to non-immigrant mothers remains significant after accounting for these variables (coeff. = -0.88;  $p$ -value < .001). These results indicate that while the disadvantaged position of long-term immigrant mothers compared to non-immigrant mothers can largely be attributed to their less favourable human capital and family characteristics, such differences in socio-demographic characteristics play a limited role in explaining the employment gap between recent immigrants and non-immigrants.

Model 3 incorporates the main effects of non-parental childcare use. As shown, the stronger labour market attachment of long-term immigrant mothers compared to that of non-immigrant mothers becomes more salient (coeff. = 0.23;  $p$  = 0.235) after controlling for non-parental childcare use, while a net employment penalty persists for recent immigrant mothers, although it is less pronounced (coeff. = -0.70;  $p$ -value < .01). These findings point to a positive association between non-parental childcare support and maternal employment, particularly for immigrant mothers, with employment probabilities increasing among immigrant mothers than among non-immigrants.

**Table 2.** Coefficients of logistic regression models predicting mothers' employment, Spanish Fertility Survey 2018.

	Model 1		Model 2		Model 3		Model 4	
	Coefficients	Std. error	Coefficients	Std. error	Coefficients	Std. error	Coefficients	Std. error
Immigrant status (Ref. non-immigrant)								
Immigrants<=10yrs	-1.58***	0.17	-0.88***	0.21	-0.70**	0.22	-1.63**	0.55
Immigrants>10yrs	-0.72***	0.15	0.09	0.19	0.23	0.19	0.12	0.40
Childcare support (ref. none)								
Formal childcare					0.58***	0.16	0.41*	0.18
Informal childcare					1.13***	0.18	1.08***	0.20
Mixed childcare package					1.25***	0.16	1.18***	0.18
Interactions immigrant status* childcare support (ref. non-immigrant, no childcare support)								
Formal childcare * Immigrants<=10yrs							1.82**	0.64
Formal childcare * Immigrants>10yrs							0.12	0.50
Informal childcare * Non-immigrant							0.00	0.00
Informal childcare * Immigrants<=10yrs							0.81	0.85
Informal childcare * Immigrants>10yrs							-0.25	0.64
Mixed childcare package * Non-immigrant							0.00	0.00
Mixed childcare package * Immigrants<=10yrs							0.37	0.67
Mixed childcare package* Immigrants>10yrs							0.56	0.60
Age			0.01	0.01	0.02*	0.01	0.02*	0.01
Education (ref. low)								
Medium			0.64***	0.18	0.57**	0.18	0.55**	0.18
High			0.72***	0.19	0.61**	0.20	0.57**	0.20
Pre-birth labour market experience (ref. no)			0.80***	0.16	0.80***	0.16	0.83***	0.17
Partnership status (ref. cohabiting)			-0.20	0.12	-0.19	0.12	-0.20	0.12
Gender ideology index			-0.20	0.15	-0.10	0.15	-0.12	0.15
Partner's employment status (ref. not employed)			-0.09	0.17	-0.16	0.17	-0.17	0.17
Number of children in the household (ref=1)								
2			-0.06	0.11	-0.06	0.12	-0.06	0.12
3 or more			-0.72***	0.17	-0.73***	0.18	-0.74***	0.18
Household income level (ref. low)								
Medium			1.49***	0.12	1.44***	0.12	1.47***	0.12
High			2.20***	0.18	2.21***	0.19	2.23***	0.19
Constant	1.11***	0.05	-1.11*	0.52	-2.36***	0.56	-2.28***	0.57
N	2,313		2,313		2,313		2,313	

Note: Population weights are applied. \*p < 0.05. \*\*p < 0.01. \*\*\*p < 0.001. We also estimate odds ratios from logistic regressions; the results are reported in the online Appendix (Table A2).

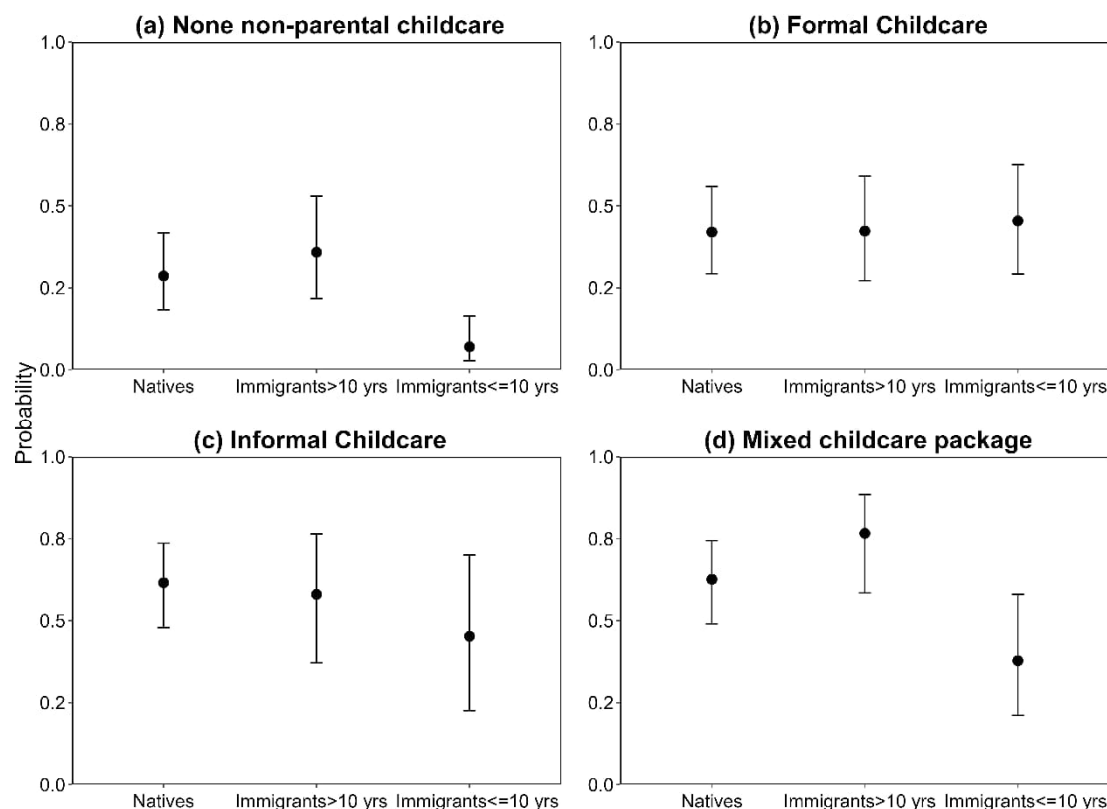
#### 4.3 Do childcare patterns moderate the gap in maternal employment by migration background?

In the next step, we add an interaction term between non-parental childcare use and immigrant status in *Model 4* to test the potential moderating effects of childcare arrangements on the employment gap between non-immigrant and immigrant mothers. To improve the readability of the interaction effect, we estimate the predicted probabilities of employment for the three groups within the same childcare arrangements, with all covariates set at their mean values (Figure 2).

First, as panel (a) of Figure 2 suggests, the probability of employment for *mothers without non-parental childcare support* is higher for long-term immigrant mothers (36%) than for non-immigrant (29%) and recent immigrant mothers (7%). This finding is not surprising: as shown in *Model 2*, the estimated gap in employment between long-term immigrant mothers and non-immigrant mothers is largely explained by the disadvantaged socio-economic characteristics of long-term immigrants at both the individual and the household level; after controlling for these differences, long-term immigrants outperform non-immigrants, showing a higher probability of employment even when no childcare is used. In contrast, recent immigrant mothers' disadvantage in the probability of employment persists, as they are more than four times less likely to be employed than non-immigrant mothers in the absence of childcare, confirming their more vulnerable position in the labour market compared to other groups.

Second, panel (b) of Figure 2 shows that the use of formal childcare significantly moderates the employment gap between non-immigrant and recent immigrant mothers. Our results show that among *mothers using formal childcare services*, recent immigrants (45%) are three percentage points more likely to be employed than non-immigrant mothers (42%) and long-term immigrant mothers (42%). More importantly, formal childcare use effectively reverses the employment gap between recent immigrant and non-immigrant mothers observed among *mothers without non-parental childcare support*. These findings suggest that the provision of formal childcare benefits the employment outcomes of recent immigrant mothers more than those of other groups. Conversely, as shown in panel (c), we do not observe a significant moderating effect of informal childcare use on the gap in maternal employment by migration background. Specifically, although the predicted probabilities of employment are higher for both immigrant and non-immigrant mothers when informal childcare is used compared to when no non-parental childcare is used, informal childcare arrangements are used by a larger share of non-immigrant mothers (62%) than of long-term immigrants (58%) and recent immigrants (45%). Consequently, the reversed employment advantage of immigrant mothers disappears and turns back into a non-immigrant advantage. This finding contradicts our *Hypothesis 2*, suggesting that formal childcare provides a stronger buffering effect than informal childcare in mitigating the employment disadvantage faced by immigrant mothers – particularly those who are recently arrived – compared to non-immigrant mothers.

Moving to the final panel (d), we observe that although using mixed childcare arrangements is associated with increased maternal employment probabilities for all three groups compared to using no non-parental childcare support, using mixed childcare arrangements is only linked to higher employment probabilities for non-immigrant mothers (63%) and long-term immigrant mothers (77%) compared to using a single childcare solution, whereas the predicted probability



**Figure 2:** Predicted probabilities of maternal employment by childcare use and immigrant background. *Source:* Spanish Fertility Survey 2018. *Note:* Estimates adjusted for age = 36.02, partnership status = married, highest educational attainment = low, pre-birth labour market experience = no, gender ideology index = 1.85, partner's employment status = no, number of children in the household = 1, and household income level = low at the mean values, and weighted with the provided population weights.

of employment for recent immigrant mothers using mixed childcare (38%) is even lower than that of their counterparts relying solely on either formal (45%) or informal (45%) childcare support, which is contrary to our expectations. Moreover, our findings suggest that the moderating effect of mixed childcare arrangements on the employment gap by migration background differs with the immigrant mothers' length of residence: while using mixed childcare is linked to higher employment probabilities for long-term immigrant mothers than for non-immigrant immigrants, it is associated with a larger employment gap for recent immigrant mothers, with the employment probability difference relative to non-immigrant mothers increasing to 25 percentage points – which constitutes the largest employment gap between non-immigrant and recent immigrant mothers for all four types of childcare arrangements. Thus, as we observe positive effects of mixed childcare support on the employment probabilities of long-term immigrant mothers relative to those of non-immigrant mothers, these findings partly support *Hypothesis 3a*. At the same time, since such mixed childcare arrangements are associated with a larger employment gap for recent immigrants compared to non-immigrants, *Hypothesis 3b* is also partly supported.

Lastly, when comparing the moderating effects of non-parental childcare on the maternal employment gap by migration background, we observe that since the immigrant background of long-term immigrant mothers does not negatively affect their employment probabilities



compared to those of non-immigrant mothers in Models 2 and 3, all interaction terms between long-term immigrant mothers and non-parental childcare options yield no significant estimates. In contrast, the interaction between immigrant background and non-parental childcare arrangements in Model 4 is statistically significant only for recent immigrant mothers with formal childcare support. Therefore, *Hypothesis 4* – which proposes a stronger moderating effect of childcare on the employment gap between non-immigrant and recent immigrant mothers – is only partly supported within the segment of formal childcare.

## **5. Discussion and conclusion**

Using nationally representative data from the Spanish Fertility Survey conducted in 2018, this study examined whether differences in non-parental childcare arrangements by migration background can explain employment probability differences between non-immigrant and immigrant mothers.

First, our findings indicate that immigrant mothers are less likely than non-immigrant mothers to use childcare support. Moreover, contrary to previous research showing that immigrant families heavily rely on informal childcare support from kinship networks (Ackert et al., 2018; Seibel & Hedegaard, 2017; Trappolini et al., 2023), we find that among mothers in Spain who use non-parental childcare, immigrant mothers are more likely to rely on formal care provided by the public childcare system, whereas non-immigrant mothers are more likely to use a combination of formal and informal childcare support.

Second, consistent with assimilation theory, which suggests that immigrants achieve better employment outcomes with more years of residence in the host country (Chiswick, 1978), our analysis confirms that long-term immigrant mothers converge with non-immigrant mothers in terms of labour force participation, and even outperform them in terms of labour force attachment, after accounting for individual, partner, and household characteristics. However, recent immigrant mothers remain significantly less likely than non-immigrant mothers to be employed, even after adjusting for human capital and family background differences.

Third, focusing on the interaction between the immigrant status and childcare alternatives, our findings reveal a complex picture of the distinctive roles played by different types of childcare arrangements in moderating the employment gap between non-immigrant, long-term immigrant, and recent immigrant mothers. Notably, we observe that long-term immigrant mothers become more similar to non-immigrant mothers in terms of the childcare options they use, and that the moderating effects of different types of childcare support on mothers' employment outcomes point in the same direction for both immigrant and non-immigrant mothers.

However, contrary to our expectations, we find that using informal rather than formal childcare mitigates the unfavourable employment outcomes of newly arrived immigrant mothers relative to those of non-immigrant mothers. By contrast, the predicted employment probabilities of recent immigrant mothers who use mixed childcare arrangements are even lower than those of recent immigrant mothers who rely exclusively on a single form of childcare support. A plausible explanation for this finding is that the motivations for combining various forms of childcare arrangements differ across non-immigrant mothers and immigrant groups: while relying on mixed childcare arrangements can be an effective way for non-immigrant and long-term immigrant mothers balance work and family responsibilities, recent immigrant

mothers may be forced to piece together different forms of childcare due to a lack of stable childcare options and financial resources.

By examining the interactive relationship between the employment gap and childcare arrangements by migration background, our study contributes to the existing literature in several ways. First, while the relationship between childcare services and the female labour supply has been extensively studied for both non-immigrant and immigrant populations, only a few of these studies have examined the moderating role of this relationship in shaping the gap in maternal labour market attachment by migration background. This study is the first attempt to explicitly identify non-parental childcare support as a potential source of unexplained differences in employment probabilities between immigrant and non-immigrant mothers. Our findings provide a more nuanced understanding of how multiple dimensions of immigrant women's disadvantages – i.e., immigrant background, motherhood, and childcare resources – interact to exacerbate existing labour market disparities between non-immigrant and immigrants. Second, a major shortcoming of existing studies on childcare provision is the dichotomous measurement of childcare options into formal and informal arrangements, which neglects the significant proportion of families who combine multiple sources of childcare, and the potential complementarity of different types of childcare alternatives. To fill this gap, our empirical strategy adopts a more comprehensive approach to measuring childcare arrangements. By distinguishing between informal care only, formal care only, and mixed care arrangements, we are able to examine the heterogeneous effects of childcare on the employment gap between non-immigrant and immigrant mothers. Third, an additional contribution of this article is to provide empirical evidence on the variations within immigrant groups by length of stay in the destination country. Our results suggest that non-parental childcare arrangements affect the employment outcomes of non-immigrant and immigrant mothers differently. From a policy perspective, these findings underline the importance of recognising the heterogeneity within the immigrant population when designing specific family policies aimed at improving the economic integration of immigrant women.

Despite these contributions, several limitations of our research are important to mention. First, given the cross-sectional nature of our data, we cannot disentangle the direction of the relationship between employment and the use of non-parental childcare, which impedes us from making any causal claims regarding our results. Future research using longitudinal data is essential to deepen our understanding of the reciprocal employment-childcare pathways. Second, the small size of our sample also prevents us from studying specific groups of immigrant mothers, limiting our ability to capture the complexity of immigrant labour market integration. Finally, due to the modest sample size, the current study only focuses on employment probabilities. However, we acknowledge that labour market indicators, such as occupational status and job stability, are also important dimensions to consider when assessing immigrant labour market integration. Future research should therefore develop more comprehensive measures of employment outcomes in order to provide a more nuanced understanding of how different childcare alternatives affect the labour market inequalities between non-immigrants and immigrants.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

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## Appendix

**Table A1.** Employment status and childcare use of mothers by immigrant background

	Non-immigrants		Immigrants>10yrs		Immigrants<=10yrs	
	N	%	N	%	N	%
<b>Formal childcare</b>						
day care centers	700	35.6	75	37.7	51	34.5
domestic helpers	96	4.9	13	6.5	12	8.1
extracurricular activities	864	43.9	82	41.2	51	34.5
<b>Informal childcare</b>						
grandparents	1,147	58.3	63	31.7	42	28.4
other relatives	170	8.6	21	10.6	15	10.1
other alternatives	55	2.8	4	2.0	7	4.7

Data source: 2018 Spanish Fertility Survey



**Table A2.** Odds ratios of logistic regression models predicting mothers' employment, Spanish Fertility Survey 2018.

	Model 1		Model 2		Model 3		Model 4	
	OR	Std. error	OR	Std. error	OR	Std. error	OR	Std. error
Immigrant status (Ref. non-immigrant)								
Immigrants<=10yrs	0.20***	0.17	0.41***	0.21	0.49**	0.22	0.19**	0.55
Immigrants>10yrs	0.48***	0.15	1.09	0.19	1.26	0.19	1.13	0.40
Childcare support (ref. none)								
Formal childcare					1.80***	0.16	1.51*	0.18
Informal childcare					3.11***	0.18	2.95***	0.20
Mixed childcare package					3.52***	0.16	3.26***	0.18
Interactions immigrant status* childcare support (ref. non-immigrant, no childcare support)								
Formal childcare * Immigrants<=10yrs							6.22**	0.64
Formal childcare * Immigrants>10yrs							1.12	0.50
Informal childcare * Non-immigrant							1.00	0.00
Informal childcare * Immigrants<=10yrs							2.25	0.85
Informal childcare * Immigrants>10yrs							0.77	0.64
Mixed childcare package * non-immigrant							1.00	0.00
Mixed childcare package * Immigrants<=10yrs							1.45	0.67
Mixed childcare package * Immigrants>10yrs							1.75	0.60
Age			1.01	0.01	1.02*	0.01	1.02	0.01
Education (ref. low)								
Medium			1.91***	0.18	1.77**	0.18	1.74**	0.18
High			2.07***	0.19	1.85**	0.20	1.77**	0.20
Pre-birth labour market experience (ref. no)			2.24***	0.16	2.23***	0.16	2.31***	0.17
Partnership status (ref. cohabiting)			0.81	0.12	0.82	0.12	0.81	0.12
Gender ideology index			0.81	0.15	0.89	0.15	0.88	0.15
Partner's employment status (ref. not employed)			0.91	0.17	0.84	0.17	0.83	0.17
Number of children in the household (ref=1)								
2			0.94	0.11	0.93	0.12	0.93	0.12
3 or more			0.48***	0.17	0.47***	0.18	0.47***	0.18
Household income level (ref. low)								
Medium			4.45***	0.12	4.22***	0.12	4.37***	0.12
High			9.06***	0.18	9.12***	0.19	9.35***	0.19
Constant	3.03***	0.05	0.32*	0.52	0.09***	0.56	0.10***	0.57
AIC	2680.7		2190.5		2131.1		2125.3	
N	2,313		2,313		2,313		2,313	

Note: Population weights are applied. \*p < 0.05. \*\*p < 0.01. \*\*\*p < 0.001.