



Childcare utilisation by migration background: Evidence from a nationally representative Irish cohort study[☆]

Stefanie Sprong^{a,b,*}, Jan Skopek^{a,2}

^a Trinity College Dublin, the University of Dublin, Ireland

^b The Economic and Social Research Institute, Ireland

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ABSTRACT

Scholarship has highlighted the potentially equalising effects of early childhood education and care (ECEC), which may be particularly relevant for children living in immigrant households. However, it is crucial to consider which children are more likely to experience certain types of care. Drawing on recent, nationally representative, longitudinal data from Ireland (N = 7516), this paper presents new evidence on how childcare choices differ between Irish-born and immigrant households, and how these differences may be explained. Compared to children from Irish-born households, children of migrant descent were more likely to be in formal care relative to informal care. However, children from non-English speaking immigrant households were less likely to be in both informal and formal care than parental care. Children from English speaking immigrant households were also slightly less likely to be in informal care than parental care, though there was no difference in the risk of formal care over parental care. Differences in socio-demographic and other relevant characteristics played an essential role in explaining these differential childcare utilisation patterns, with the equalised household income, maternal employment prior to birth, and social support being among the most important explanatory variables. This suggests that children of migrant origin might be less likely to benefit from ECEC, which may also have negative consequences for their mothers' labour force participation.

1. Introduction

The growing diversity associated with increased global migration is also reflected in the education system. A key question is whether students of migrant origin have the same opportunities as their peers of native parentage or if there are structural differences by migration background. An impressive body of literature shows that students of migrant descent may at a disadvantage in school (e.g. Heath and Brinbaum, 2014) and that academic achievement gaps by migration background can already be detected early in the life course (e.g. Washbrook, Waldfogel, Bradbury, Corak, & Ghanghro, 2012). This is worrisome, especially because these early disadvantages may be consequential for

disparities later in the educational career (Becker & Klein, 2021).

Early childhood education and care (ECEC) is often named as a potential equaliser that can reduce educational disparities (e.g. Cebolla-Boado, Radl, & Salazar, 2016), and studies show that ECEC benefits tend to be particularly strong among more socially disadvantaged groups (e.g. Burger, 2010) including those with a migration background (e.g. Berger, Panico, & Solaz, 2021). However, to fully understand if increased ECEC attendance could serve as an equaliser, it is crucial to examine the social stratification in parental childcare choices (Kulic, Skopek, Triventi, & Blossfeld, 2019). Crucially, if native-born households are much more likely to use ECEC and reap its benefits than non-native households, ECEC might not mitigate any gaps at the

Abbreviations: ECEC, Early Childhood Education and Care; MB, Migration Background; GUI, Growing Up in Ireland; HH, Household.

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* Corresponding author at: Trinity College Dublin, the University of Dublin, Ireland.

E-mail address: sprongs@tcd.ie (S. Sprong).

¹ <https://orcid.org/0000-0002-7261-3207>

² <https://orcid.org/0000-0002-2426-6263>

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population level, despite the benefits such programmes may hold for children of migrant descent.

Nevertheless, research on childcare utilisation gaps between native and immigrant parents is relatively scarce in the European context, especially at the population-level, although there are some notable recent exceptions (e.g. Biegel, Wood, & Neels, 2021; Van Lancker & Pavolini, 2022). Moreover, while some scholars point to the importance of socio-demographic factors and family circumstances in explaining differential childcare utilisation patterns (e.g. Crosnoe, 2007), more research is needed to understand what factors drive differential childcare utilisation patterns by migration background and to what extent these differences might reflect other related dimensions of disadvantage, such as low income.

This article contributes to the literature by asking how and why childcare utilisation patterns differ by migration background in an understudied context: Ireland. Using a nationally representative sample of Irish three-year-olds, it first describes the main childcare patterns by migration background, distinguishing between parental, informal and formal care, and then tests to what extent theoretically relevant compositional factors can account for any differences, employing the Karlson-Holm-Breen (KHB) decomposition technique (Breen, Karlson, & Holm, 2013).

1.1. The educational situation of students of migrant origin and the role of childcare

Education plays a crucial role in most societies, structuring people's life chances, and often takes centre stage in the study of integration. Unsurprisingly, there is a large literature that focuses on the educational situation of young people of migrant descent, showing that inequalities in academic achievement by migration background exist in most Western European countries (e.g. Dustmann, Frattini, & Lanzara, 2012; Levels & Drinkers, 2008). Scholars attribute a large part of these educational disparities by migration background to socio-economic differences, as well as to fluency in the host country language and parents' lack of knowledge of the local educational system (e.g. Heath, Rethon, & Kilpi, 2008).

In line with Heckman's (2006) argument that early childhood interventions, especially for more disadvantaged children, are the most cost-effective way of addressing ability gaps and enhancing later life outcomes, ECEC is often put forward as a potential equaliser for educational inequalities (e.g., Magnuson and Duncan, 2016). The underlying idea is that ECEC can complement other investments in the child or compensate for resources that are lacking in the home environment, which would be particularly relevant for children living in households where resources are more scarce. Indeed, research reports that exposure to ECEC can positively affect child development and later life outcomes, particularly for children from more disadvantaged backgrounds (For reviews see for example Burger, 2010; van Huizen & Plantenga, 2018).

For children with a migration background attending ECEC may be especially beneficial. They may reside in more socio-economically disadvantaged households and benefit more from ECEC for this reason. Moreover, ECEC may offer them unique resources and opportunities. ECEC participation, for example, allow children of migrant origin to get greater and earlier exposure to the majority language, and may help their parents to become more familiar with the education system of the host country at an early stage. Accordingly, research finds that ECEC benefits are more pronounced for children of migrant origin, especially strong if a foreign language is spoken at home (e.g. Klein & Becker, 2017).

1.2. Heterogeneity in ECEC access

When examining ECEC as a tool to reduce inequality in educational opportunity, it is crucial to recognise it as being embedded in the larger

system of social stratification. Following more general frameworks on the role of schooling in reducing educational inequalities (Downey & Condrón, 2016; Raudenbush & Eschmann, 2015), it is not only important to understand who benefits from ECEC attendance and how much, but it is also critical to consider who is exposed to certain benefits, and if this differs by socially relevant groups (i.e. heterogeneity in access to ECEC) (Kulic et al., 2019). Importantly, if more disadvantaged groups of children are substantially less likely to be exposed to ECEC benefits, this could off-set the equalising effects of ECEC participation.

Research has indicated that the use of ECEC differs between immigrant and native households, with ECEC participation rates generally being lower for children of migrant origin both in the USA (Johnson, Padilla, & Votruba-Drzal, 2017) and Europe (Van Lancker & Pavolini, 2022). In addition, evidence from the German context suggests that even when they attend ECEC, children of migrant descent may be in lower quality care settings (Stahl, Schober, & Spiess, 2018) or in care environments with different social and ethnic compositions than children without a migration background (Becker & Schober, 2017).

1.3. Explaining differences in childcare utilisation

A myriad of factors likely influences parents' childcare choices. The literature suggests that family socio-economic position (SEP) is strongly associated with childcare use (See for example Blossfeld, Kulic, Skopek, & Triventi, 2017; Van Lancker, 2013), with households with lower levels of income and education being less likely to enrol their children in formal childcare. Other factors (related to the availability, affordability, accessibility of and need or want for childcare) likely also impact on parental childcare choices. Examples of such factors include urbanicity, household size and type, parental health, maternal employment, and the availability of kinship and support networks.

Several of these factors may be differently distributed in the immigrant population. Compared to native homes, immigrant households more frequently find themselves in socio-economically more disadvantaged positions. They tend to have lower levels of education, hold lower-status jobs and earn less, which may explain a large part of the disadvantages faced by their descendants in education and in the labour market (Heath et al., 2008). Yet, at the same time they tend to be positively (self-)selected from their home country's population and may, for example, be younger and healthier (e.g., Ichou & Wallace, 2019).

Furthermore, immigrant parents may not have the same non-parental care options available to them as native parents. Due to the geographical distance, they may, for example, not be able to rely on extended kin, in particular grandparents, for childcare, while this represents a major source of informal childcare in many countries (Hank & Buber, 2008; Leopold & Skopek, 2014). Additionally, they may be less familiar with the educational system and know less about the existing options or how to avail of them, which may be related to language barriers as well as a disconnection from networks with good information about the local educational system (e.g., Karoly & Gonzalez, 2011; Miller, Votruba-Drzal, & Coley, 2013; Seibel, 2021).

Considering that there are reasons to believe that variables that are relevant for childcare choices may be distributed differently in the immigrant population, it may not be having a non-native parent per se that drives most of the differences in childcare enrolment by migration background. Instead, as Fig. 1 illustrates, differences in socio-demographic and other relevant characteristics between households with and without a resident immigrant parent may explain observed differences in the use of different childcare types by migration background.

1.4. The Irish context

National contexts can influence childcare decisions, and it is therefore crucial to carefully consider the country context. Government involvement in the availability, affordability and quality of childcare

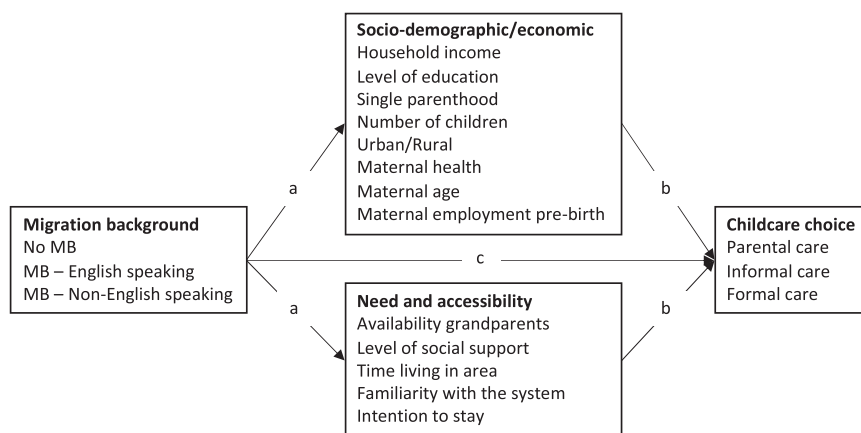


Fig. 1. Conceptual model: Relationship between Migration Background and Main Childcare Type. Note. MB = Migration Background.

provision is, for example, related to lower levels of inequality in childcare use (Van Lancker & Ghysels, 2016). The current study is set in Ireland in the early 2010 s. Below, we briefly describe Ireland's migration history, its ECEC system, and related research findings.

Ireland's history as a country of net immigration is relatively short, especially compared to other Western European countries (Castles, de Haas, & Miller, 2014). For most of its history, Ireland witnessed high levels of emigration, and migration to Ireland only really took off during the economic boom of the late 1990 s and early 2000 s (McGinnity, Enright et al., 2020). These increased immigration flows substantially changed the population. In the 2016 Census, it was estimated that nearly one in five students above the age of five was a non-Irish national (CSO, 2017). Numbers are likely even higher these days, especially when also counting children that hold Irish nationality but are born to foreign-born parents.

The composition of the Irish migrant population is also different compared to other Western European countries. While the UK and Poland are dominant regions of origin, especially among the cohort of children in this study, the Irish immigrant population is diverse (McGinnity, Privalko, Fahey, & O'Brien, 2020). Partly reflecting a skills-focused migration immigration policy (McGinnity, Privalko et al., 2020), immigrants in Ireland tend to be relatively highly educated, but are not necessarily in better paying or higher status jobs, and particularly immigrants from less developed economies tend to fare worse in the labour market (McGinnity, Privalko et al., 2020).

The Irish context is also interesting in terms of its childcare provision, with comparatively little ECEC tradition and a paucity of studies on the effects of ECEC participation. Traditionally, the childcare sector in Ireland was small, but with a rapid increase in female labour force participation during the so-called Celtic Tiger era (Russell, McGinnity, Callan, & Keane, 2009) this quickly changed. Consequently, Ireland has seen substantial growth in formal care in recent years, most notably with the introduction of the free preschool year for children above the age of three. Nevertheless, the absence of an established ECEC tradition and limited state involvement remains visible for ECEC participation below the age of three. Participation rates among this age group are relatively low and there is a strong social gradient in formal care use, likely resulting from structural constraints such as the high costs (Murray, McGinnity, & Russell, 2016; OECD, 2016; Pavolini & Van Lancker, 2018; Russell, McGinnity, Fahey, & Kenny, 2018; Van Lancker & Ghysels, 2016). Furthermore, Irish parents hold relatively progressive attitudes towards motherhood (Van Lancker & Pavolini, 2022), but assess the current provision of care to be insufficient and show relatively low levels of support for public childcare provision (Chung & Meuleman, 2017).

Perhaps unsurprisingly, there are indications of differences in care utilisation by migration status. Immigrant workers in Ireland tend to rely

on informal childcare arrangements (Doyle & Timonen, 2010) and children with a primary caregiver of non-Irish ethnicity are less likely to be in regular non-parental care than those with an Irish primary caregiver, even though they are more likely to be in formal care if their mother is employed (Murray et al., 2016). Additionally, families with young children from the accession countries seemingly have little access to non-parental childcare (Röder, Ward, & Frese, 2017) and often rely on local and transnational support networks in eliciting informal childcare (Bojarczuk & Mühlau, 2018). According to Van Lancker and Pavolini (2022), the immigrant-native gap in childcare use amounted to six percentage points in Ireland, after accounting for parental education, social class and maternal employment.

2. Data and methods

2.1. Data

We used data from the infant cohort (Cohort '08) of the Growing Up in Ireland (GUI), a national longitudinal study of children in Ireland, which includes a wide range of measures on children's circumstances and development as well as detailed information from their caregivers. Importantly, the GUI recorded the main childcare type at age three, as well as a variety of factors that may be related to the childcare choices (McCrorry, Williams, Murray, Quail, & Thornton, 2013). Moreover, the GUI study is nationally representative, drawn from the Irish Child Benefit Register, and, thus, there was a representative number of children with a migration background in the sample.

2.2. Sample

The study children of the GUI infant cohort were born between December 2007 and June 2008. A total of 11,134 households were interviewed at Wave 1 (nine months), of which 9793 (88%) subsequently participated in Wave 2 (age three). Data collection for the second wave took place between December 2010 and July 2011. Very few children were older than three years and three months at the time of the interview, and hence, most were not yet eligible for the free preschool year scheme, which would entitle them to receive free preschool provision of between two and three hours per day. To ensure that the results were not reflecting differences resulting from the free preschool year, we removed the 271 children and their households that were already availing of the scheme at the time of the interview from the analytical sample. We then conditioned the sample on those children for whom we had valid information on the key variables. This resulted in a final sample of 7512 of which 1654 came from an English speaking immigrant household and 657 from a non-English speaking immigrant home. Descriptive statistics can be found in the [Supplementary Materials](#) (See

Table A1 and A2).

2.3. Measures

2.3.1. Migration background

Because low levels of English proficiency may make it harder for parents to access non-parental care, and higher levels of language proficiency have been linked to greater use of formal care (Miller et al., 2013), we distinguished between immigrant households that spoke English at home and those that did not. This is also important because the use of English at home may indicate a greater level of integration and less cultural or linguistic distance, and because students from an English speaking immigrant background have been shown to be more similar to their Irish peers than students from non-English speaking immigrant households (Darmody, McGinnity, & Russell, 2022; McGinnity, Enright et al., 2020). However, it is important to note that this classification likely picks up on other associated differences, including the parental place of birth and intermarriage rates. In particular, children from British households will nearly always fall into the English speaking category, while children from Polish households will be much more likely to be in the non-English speaking category. In Table A3 in the [supplementary materials](#), we therefore present more details on the composition of the two migrant groups in our study.

We considered a child to have a migration background if at least one resident parent was foreign-born.³ For this purpose, we used a question asking the caregivers if they had been born in Ireland or not, which was recorded both at Wave 1 and 2. We then split the sample of children with a migration background in two based on information on the study child's first language. This resulted in a migration background variable with three categories: (0) No migration background; (1) Migration background, English at home; (2) Migration background, no English at home.

2.3.2. Main childcare type

Following common definitions in literature (Blossfeld et al., 2017), we distinguished parental care from non-parental care in informal and formal care settings. Parental care is care provided by the child's parents either in the home environment or outside the home. Informal care is provided by someone other than the parents but can be unpaid (e.g., grandparents, other relatives, or neighbours) or paid (e.g., au-pairs, nannies, or babysitters) and can be based in the child's or the carer's home. Formal childcare, on the other hand, is provided by qualified staff within an institutional setting and can take different forms, such as day care, kindergarten, preschool, or playgroups.

The distinction between parental, informal and formal care extends previous literature which often relied on discrete variables, only distinguishing between parental and non-parental care or formal care and all other forms of care. This is important because examining the trade-offs between these three types of care can reveal patterns that would be missed by focusing dichotomies. For example, it could be the case that there is no difference by migration background in the shares of children that attend parental and non-parental care generally, but that, if they attend non-parental care, children with a migration background are more likely to be in informal care than informal care compared to children from native households. Nevertheless, it is important to recognise that our measure still has limitations and that, in reality, children can be in more than one type of care. In the [supplementary materials](#) (see Table A4), we therefore present more details on this small

³ It is important to note that by study design all children in our sample were either born in Ireland or moved to Ireland as a young infant. This also means that they and their caregivers had lived in Ireland for a minimum of 2.5 years at the time of Wave 2. Moreover, it is also important to state that migration background and ethnicity overlap to an extremely large extent in Ireland, making it impossible to estimate the effect of ethnicity separately.

group of children and provide more detail on how many hours children spent in their main type of care.

Our dependent variable was derived from information on the childcare arrangements as reported by the study child's main caregiver when the study child was three years old. The primary caregiver was asked if their child was being minded by someone other than them or their resident partner for eight hours or more per week during the day, and if so, what type of childcare the child was in. If the primary caregiver reported more than one type of childcare, we took the type that they reported as the main type. To obtain large enough and meaningful categories, we combined all informal types of care (i.e. care by a relative or non-relative in the child's home or that person's home). This resulted in a main childcare type variable with three categories: (0) Sole parental care; (1) Informal care; (2) Formal (i.e. centre-based) care.

2.3.3. Mediators

We included a wide range of variables that were likely to be related to parental childcare choices and that may also be distributed differently in the immigrant population. In line with Fig. 1, this included a set of variables assessing socio-demographic and socio-economic characteristics as well as a set of variables measuring factors related to the need and accessibility of childcare. For convenience, all variables are summarised in Table 1.

2.3.4. Control variables

We controlled for the study child's gender and whether the child had a longstanding illness, disability, or condition.

2.4. Analytical strategy

In line with the paths represented in our model (see Fig. 1), we performed our analyses in four steps. All analyses were run on weighted samples to account for potential bias caused by attrition and sample design.

In a first step, we looked at childcare type patterns by migration background (See path c; Fig. 1). For this purpose, we used a multinomial logistic regression (MNL) model that included only the migration background variables and adjusted for the control variables. Based on this model, we first estimated the absolute predicted probabilities to get a sense of how migration background was related to the three childcare types. We subsequently looked at the relative probabilities or relative 'risk ratios' to gain an understanding of how migration background was associated with childcare choices (i.e. the probability of being in one type of care divided by the probability of being in another type of care). This meant that we looked at three contrasts or care type 'trade-offs': (a) informal care versus parental care; (b) formal care versus parental care; (c) formal versus informal care. We present a detailed description of those models in the [supplementary materials](#) (see part T1 of the technical supplement).

In a second step, we investigated if and how immigrant households differed in their composition from households without a resident immigrant parent (See paths a; Fig. 1). We estimated the adjusted differences in means of childcare choice predictors by migration background. To that end, we used linear regression models for each compositional factor with migration background as the main predictor while adjusting for the control variables (see part T2 in the [supplementary materials](#)).

In a third step, we investigated the association between the compositional factors and the three childcare type comparisons, holding migration background constant (see paths b; Fig. 1). This meant that we extended the MNL from the first step by adding all compositional factors from the second step as covariates (see part T3 in the [supplementary materials](#)).

In a fourth and final step, we built on steps two and three and examined to what extent the compositional variables could explain the statistical association between migration background and relative

Table 1
Overview of all variables used in the analysis.

Independent variable	Description	Wave
Migration background	A child was considered to have a migration background if at least one resident parent was foreign-born. The group of children was then split by linguistic background: (0) No migration background; (1) Migration background, English at home; (2) Migration background, no English at home.	W1 +W2
Dependent variable		Wave
Main childcare type	The mother reported if their child was being minded by someone other than them or their resident partner for eight hours or more per week during the day, and if so, what type of childcare the child was mainly in (0) Sole parental care; (1) Informal care; (2) Formal.	W2
Mediators		Wave
Household Income	Log-transformed equivalised household income, averaged across the two waves. (Min. €5000; max. €60,000)	W1 +W2
Parental education	Highest level of education of both caregivers (if both were present), assessed at Wave 2: (1) Non-degree or below; (2) Degree; (3) Postgraduate degree or above.	W2
Single parent	Household type: (1) one-parent or (0) two-parent household	W2
Three+ kids	Number of children in the household in the household: (0) One or two; (1) Three or more.	W2
Urban area	Urbanicity: (0) rural or (1) urban area	W2
Health issue	Maternal health: (1) mother has any ongoing chronic physical or mental health problem, illness or disability or (0) not	W2
Maternal age	(1) 18–29 years; (2) 30–39 years; (3) 40 years or older	W2
Maternal employment pre-birth	Mother worked before getting pregnant with the baby: (0) Not at all; (1) Part-time; (2) Full-time.	W1
Grandparent contact*	Household has regular contact with the study child's grandparents: (0) No (including unavailable grandparents due to disease or living abroad); (1) Yes.	W1
Perceived social support	Overall level of support the mother reported they received from family or friends outside of the household: (1) I don't get enough or any help; (2) I get enough help; (3) I don't need any help.	W1
Recently moved	Household has moved to the local area (1) in the past year or (0) had lived there for a year or longer.	W2
Familiar w/t system	The caregiver has not heard of the ecce scheme (1); is familiar with it (0)	W2
Intention to stay	Household intends to continue living in Ireland: (0) Yes; (1) No.	W2
Control variables		
Gender	The study child's gender (male/female)	W2
Disability	The study child had a longstanding illness, disability, or condition (yes/no)	W2

Note. *This variable is a proxy for grandparental support being available.

childcare choices (i.e. what part of path c ran through paths a and b). We employed decomposition models using the KHB method (Breen et al., 2013; Karlson & Holm, 2011) in Stata (Kohler, Karlson, & Holm, 2011). In these models, the effects of having a migration background on relative childcare type choice (total effect/reduced model) were decomposed into a part explained by the compositional factors (indirect effect/diff) and an unexplained residual part (direct effect/diff). Such decomposition analyses could not be done with traditional mediation analyses because our main model was a non-linear probability model in which coefficients and error variance were not separately identified. For more information, please see T4 in the [supplementary materials](#).

3. Results

3.1. Main childcare type by migration background

We started our analysis by examining if and how the choice of main childcare type differed by migration background (path a; Fig. 1). Fig. 2 plots the predicted probabilities of main childcare types (adjusted for the control variables). At age three, sole parental care was the prevalent primary care type for all groups. However, the predicted probability of being in sole parental care was notably higher for children from non-English speaking immigrant homes (.70) than for children of native parentage (.47). For children from English speaking immigrant households (predicted probability of .49), on the other hand, it was nearly identical to those with native parents. Thus, the absolute probabilities indicated that, compared to children from native households, children of migrant origin from non-English speaking homes had higher absolute levels of parental care, whereas this was not the case for children from English speaking immigrant households.

Children from native households who were not in sole parental care were almost equally likely to attend formal care as informal care (predicted probabilities of .27 and .26, respectively). For children with a migration background, the split was less equal, and most of those who were not in sole parental care were in formal care rather than informal care. The predicted probability of informal care being the main childcare type was relatively low for both immigrant groups at .19 for English speaking immigrant households and .11 for non-English speaking ones. Formal care, on the other hand, was a comparatively common care type for the former at .32, although not for the latter at .19. Altogether, this suggests that differences in informal and formal care usage existed for both immigrant groups.

Relative risk ratios revealed that there were indeed differences in the trade-off between informal and formal care by migration background (also see Table A5 in the [Supplementary Materials](#)). Compared to children from native households, children from English speaking immigrant households were relatively more likely to be in formal care rather than informal care. Compared to native households, their relative risk of formal care relative to informal care was higher by a factor of 1.6 (relative risk ratio = $(.32/.19)/(.27/.26) = 1.6$). In fact, their inclination to opt for formal care rather than informal care meant that, compared to native households, the relative risk of informal care relative to sole parental care was decreased by a factor of .71, even though there was no significant difference in the relative risk of formal relative to sole parental care.

Children from non-English speaking immigrant homes were also relatively more likely to be in formal care rather than informal care. The relative risk of formal over informal care was higher by a factor of 1.6 for this group compared to native households. Nevertheless, they were less likely to be in non-parental care relative to parental care. The relative risks of informal and formal care relative to sole parental care were lower by factors of .29 and .47, respectively, for non-English speaking immigrant households relative to native households.

In short, children from non-English speaking immigrant homes were more likely to be in sole parental care than children from native households, but this was not the case for children from English-speaking immigrant households. Nevertheless, both immigrant groups were more likely to use formal care relative to informal care.

3.2. Compositional factors by migration background

The first step of the analysis demonstrated to what extent differential childcare utilisation patterns by migration background existed. However, it did not consider what factors may underlie these differences. In the following sections, we examine how difference in childcare choices may be generated. Hence, in a second step, we looked at the association between living in a home with at least one immigrant parent and the mediators to understand if and how the composition of immigrant

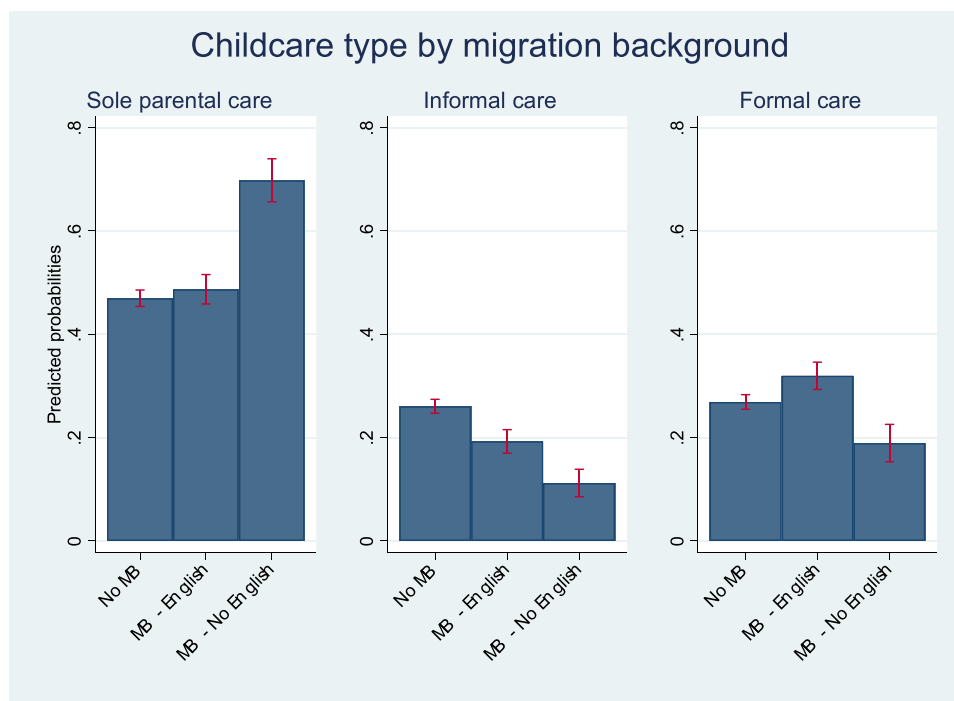


Fig. 2. Predicted Probabilities for Main Childcare Type by Migration Background, Note. Predictions based on multinomial logit models, adjusted for the study child's gender, and health. All analyses are weighted. MB = Migration background; English = English speaking household; non-English = non-English speaking household.

households differs from Irish-born households in terms of the factors that may be associated with childcare choices (paths a; Fig. 1). Table 2 presents these differences as the average marginal effects of having a migration background (English speaking or non-English speaking) versus not having a migration background on the compositional factors.

Children of migrant descent that lived in a non-English speaking household tended to live in households with a log equivalised household income that was about 28% ($\exp(-0.34) = 0.72$) lower than children born to native parents, and while their parents had similar levels of education as native parents, their mothers were less active in the labour market prior to giving birth. In addition, on average, they were more likely to live in smaller households (i.e. 18 percentage points less likely to live in a household with three or more kids), in an urban area and with a younger and healthier mother.

Compared to children of native parentage, children from English speaking immigrant homes tended to live in more highly educated households with incomes slightly below the incomes of native households. Interestingly, their mothers were more likely to have been employed full-time pre-birth while also being slightly more likely not to have worked at all. Furthermore, children from English speaking immigrant backgrounds were more likely to live in a two-parent household and an urban area. Their mothers were as healthy as native mothers, but they tended to be somewhat older.

Group differences by migration background could also be observed for the variables related to the need for and accessibility of childcare. Children with a migration background and their caregivers were less likely to be in contact with the grandparents. Their caregivers were also more likely to have reported that they received no or not enough support from family and friends outside of the household. Additionally, both immigrant groups were less likely than native households to intend to continue living in Ireland and to have heard of the *ecce* scheme, indicating that they were less familiar with the Irish educational system. Finally, children living in non-English speaking immigrant homes were significantly more likely than children born to native parents to have moved to their local area in the last 12 months, although this was not the case for children from English speaking immigrant homes.

In short, children of migrant origin were likely to live in households that were differently composed than the households of children born to native parents. There were differences in nearly all variables that are typically related to childcare choices, and this seemed true both for English speaking and non-English speaking immigrant households, though differences may have been more pronounced for the latter. In some respects, such as the household income, grandparent contact, and social support, children living in immigrant homes may have been disadvantaged as compared to children of native parentage. In other respects, such as parental education or single parenthood, they may have held an advantage.

3.3. Compositional factors and childcare type

In a third step, we estimated how the compositional factors were related to the three childcare trade-offs to understand if the compositional differences could affect childcare choices (paths b; Fig. 1). As expected, many of the compositional variables were associated with the relative risks of being in one type of care versus another. Table 3 presents these covariate effects of the compositional factors on the relative childcare 'choices'.⁴ The effects are shown as anti-logged logit coefficients, based on a full multinomial logistic regression model, and should be interpreted in terms of ratio effects on the relative risks of utilising one care type over another.

Despite some differences, the effects of the compositional variables

⁴ For convenience, the table shows relative risks and inferential statistics across all outcomes although one set is redundant. For example, the relative risks of formal versus informal care is just the relative risk of formal versus parental care divided by the relative risk of informal versus parental care. Importantly, relative risks (i.e. the ratio of outcome probabilities) and absolute risks (i.e. the probability of an outcome) must not be confused. In this section, we focus on the effects of the compositional factors on the relative risks (i.e. the ratio of outcome probabilities), which can be seen as the relative 'choices' between childcare alternatives. However, for completeness, we present the results as average marginal effects in Table A6 in the [Supplementary Materials](#).

Table 2
Associations between migration background and the compositional variables (adjusted mean differences).

Mediator	MB – English Speaking HH vs. Native		MB – Non-English Speaking HH vs. Native	
	B	SE	B	SE
	Equivalised Household Income (log)	-0.03 *	(0.02)	-0.34 ***
Parental education				
Non-degree or below	-0.09 ***	(0.01)	0.002	(0.02)
Degree	0.004 **	(0.002)	-0.0004	(0.004)
Postgrad degree or up	0.09 ***	(0.01)	-0.002	(0.02)
Single parent	-0.06 ***	(0.01)	0.01	(0.02)
Three+ kids	0.02	(0.01)	-0.18 ***	(0.02)
Urban area	0.06 ***	(0.02)	0.21 ***	(0.02)
Health issue	-0.01	(0.01)	-0.05 ***	(0.02)
Maternal age				
18–29	-0.06 ***	(0.01)	0.19 ***	(0.02)
30–39	-0.002	(0.003)	-0.11 ***	(0.02)
40 and up	0.06 ***	(0.01)	-0.08 ***	(0.01)
Maternal employment pre-birth				
Did not work	0.02 *	(0.01)	0.08 ***	(0.02)
Part-time	-0.002	(0.003)	-0.11 ***	(0.02)
Full-time	0.06 **	(0.01)	-0.08 ***	(0.01)
Grandparent contact	-0.12 ***	(0.01)	-0.48 ***	(0.02)
Perceived social support				
No/not enough help	0.18 ***	(0.01)	0.37 ***	(0.02)
Enough help	-0.20 ***	(0.02)	-0.42 ***	(0.02)
No need for help	0.01 *	(0.01)	0.05 ***	(0.02)
Recently moved	0.003	(0.01)	0.08 ***	(0.02)
Familiar w/t system	-0.01 **	(0.004)	-0.05 ***	(0.01)
Intention to stay	-0.03 ***	(0.01)	-0.04 ***	(0.01)

Note. The estimates shown are the mean differences in the childcare predictors by migration background (with no migration background as the reference group). They are adjusted for the study child’s gender and health through ordinary least squares regression.

All predictor variables are dummy coded variables (0/1) except for the equivalised and log-transformed household income.

All data are weighted.

MB = Migration background; HH = Household.

*** p < 0.01. ** p < 0.05. * p < 0.1

on the choice for formal care relative to parental care were fairly similar to those for informal versus parental care. A higher household income was one of the most important predictors of an increased relative risk of non-parental care. That is, *ceteris paribus*, the relative risks of informal and formal care relative to parental care would be expected to increase by a factor of 6.38 and 5.30, respectively, for each unit increase in the average equivalised household income (log). However, the household income was not related to changes in the relative choice for formal care over informal care (5.30/6.38 = 0.83, n.s.).

Like the household income, the mother’s normal work situation before giving birth was also an important factor in the choice for non-parental care. Conditional on the other factors, households with mothers that were employed full-time or part-time pre-birth had substantially higher relative risks of formal and informal care over parental care than households with mothers that were not employed previously. Together, this indicates that the need for childcare and the ability to afford it are important drivers of choosing non-parental care in Ireland.

Furthermore, three other factors were associated with a greater risk of choosing non-parental care. Living in a single-parent household, with fewer children, and not having moved recently were also all associated with increased relative risks for informal and formal care relative to sole parental care.

Even though many of the effects of the compositional variables appeared similar for the choices of formal and informal care relative to parental care, there were also some important differences in what factors were related to greater relative risks of formal care relative to informal or parental care and what factors were linked to increased risks

Table 3
Predicting relative probabilities of care types (multinomial logistic regression).

Variable	Informal vs. Parental		Formal vs. Parental		Formal vs. Informal	
	B	SE	B	SE	B	SE
	Equivalised Household Income (log)	6.38 ***	(0.70)	5.30 ***	(0.60)	0.83
Parental education (ref. non-degree or below)						
Degree	0.92	(0.10)	1.04	(0.10)	1.13	(0.13)
Postgrad degree or up	1.03	(0.12)	1.36 ***	(0.15)	1.32 **	(0.16)
Single parent	2.56 ***	(0.36)	2.48 ***	(0.33)	0.97	(0.14)
Three+ kids	0.64 ***	(0.06)	0.59 ***	(0.06)	0.93	(0.09)
Urban area	0.68 ***	(0.05)	1.55 ***	(0.11)	2.27 ***	(0.18)
Health issue	0.80 *	(0.09)	0.97	(0.10)	1.21	(0.14)
Maternal age (ref. 18–29)						
30–39	0.98	(0.12)	0.99	(0.11)	1.01	(0.13)
40 and up	0.94	(0.14)	0.99	(0.14)	1.06	(0.17)
Maternal employment pre-birth (ref. not employed)						
Part-time	5.90 ***	(0.96)	2.13 ***	(0.26)	0.36 ***	(0.07)
Full-time	6.64 ***	(1.03)	2.61 ***	(0.29)	0.39 ***	(0.07)
Grandparent contact	1.50	(0.37)	1.04	(0.16)	0.69	(0.17)
Perceived social support (ref. no/not enough help)						
Enough help	1.40 ***	(0.15)	0.88	(0.08)	0.62 ***	(0.07)
No need for help	0.79	(0.16)	0.72 **	(0.12)	0.91	(0.20)
Recently moved	0.53 ***	(0.10)	0.66 **	(0.12)	1.25	(0.25)
Familiar w/t system	1.72	(0.88)	1.59	(0.62)	0.92	(0.55)
Intention to stay	1.15	(0.28)	0.90	(0.19)	0.79	(0.20)
Migration background (ref. no resident immigrant parent)						
English Speaking HH	0.92	(0.09)	1.23 **	(0.11)	1.33 ***	(0.13)
Non-English Speaking HH	0.76	(0.15)	0.65 ***	(0.10)	0.85	(0.18)

Note. The coefficients are shown as relative risk ratios with standard errors in parentheses.

The migration background coefficients show the residual differences (i.e., the ‘direct effects’) after accounting for the compositional factors.

The analyses controlled for the study child’s gender and health (coefficients not presented).

All data weighted.

HH = Household.

*** p < 0.001. ** p < 0.01. * p < 0.05

of informal care relative to parental care. For example, while the level of parental education did not substantially change the relative risk of informal care relative to parental care, having at least one parent with a postgraduate degree was associated with increased relative risks of formal care relative to both parental and informal care.

Interestingly, if the child had a mother that was active in the labour market prior to giving birth, the relative risk for informal and formal care relative to parental care was higher, but the relative risk for formal relative to informal care was lower. That is because, in absolute terms (see Table A6 in the [Supplementary Materials](#)), children with a mother that worked full-time or part-time both had a higher probability of being in formal and informal care than children whose mother did not work at

all. However, the increase in probability associated with having an employed mother that used to be employed was greater for informal care than for formal care.

Finally, whereas living in an urban area lowered the relative risk of informal care relative to parental care by a factor of .68, the relative risk for formal care relative to both informal and parental care was higher for households living in an urban area relative to a rural area. Additionally, households that felt they received enough social support had a higher relative risk of informal over parental care and a lower risk of formal over informal care. Reporting no need for social support was associated with an increased relative risk for formal care relative to parental care.

In short, many but not all of the compositional variables were associated with relative childcare choices (i.e. the risk of one type of main care relative to another). Many factors worked in the same direction for the relative risks of informal and formal care relative to parental care, with a higher household income and having a mother that worked part-time or full-time before giving birth being very powerful predictors of being in non-parental care. Nevertheless, there were also some important differences in what seemed to drive the choice for informal and formal care relative to other options, for example, in terms of the parental level of education, the household's area of residence and the availability of support networks.

3.4. Decomposition model

In the previous steps, we investigated to what extent childcare choices differed between Irish-born and immigrant households (step one), and how these differences may be explained (steps two and three) by looking at the paths depicted in Fig. 1 separately. In a final step, we combined steps two and three and turned to the question of whether the differences in the compositional variables could explain the different childcare choices by migration background (i.e. what part of path c ran through paths a and b). Tables 4a and 4b present the decomposition

results. They are shown as the log-relative risks rather than relative risk ratios because log-representation coefficients for direct and indirect effects are additive, while relative risk ratios would be multiplicative and thus harder to interpret in the context of a decomposition model.

As indicated by the first step of our analysis, differences in relative childcare choices by migration background existed (total effect/reduced model). Ceteris paribus, children from non-English speaking immigrant homes were less likely to be in both informal and formal care relative to parental care, with the multinomial logits relative to native households being 1.59 and 0.96 units lower, respectively (see Table 4b). This corresponds to relative risk ratios of .20 ($=\exp(-1.59)$) and .38 ($=\exp(-.96)$). Children from English speaking immigrant homes, on the other hand, were indeed more similar to native households. The multinomial logit for English speaking immigrant households relative to native households was 0.42 units lower for being in informal care relative to parental care, but there was no significant effect for formal care relative to parental care (see Table 4a). Nevertheless, both immigrant groups seemed inclined to use formal care over informal care, with the multinomial logits being 0.55 and .63 higher for formal care relative to informal care.

The different compositions of the groups largely accounted for these differences in relative childcare choices (indirect effect/diff), although the amount explained differed per contrast and per immigrant group. For English speaking immigrant households, the part of the total effect that was explained by the compositional factors (i.e. the indirect effects as a percentage of the total effect) ranged from - 60.25% for formal care relative to parental care (albeit insignificant) to 81.49% for informal care relative to parental care. For non-English speaking immigrant households, the least of the total effect was explained for formal care relative to parental care (55.28%) and the most for formal care relative to informal care (125.07%).

Considering that one overall percentage was negative, it is important to mention that while most compositional factors reduced the

Table 4a
KHB Decomposition of the Effect (Multinomial Log-Odds) of Migration Background – English speaking Household on relative childcare choices.

MB -English Speaking HH (ref. no resident migrant parent)	Informal vs. Parental		Formal vs. Parental		Formal vs. Informal	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Total effect (reduced)	-0.42 ***	(0.10)	0.13	(0.08)	0.55 ***	(0.10)
Direct effect (full)	-0.08	(0.10)	0.21*	(0.09)	0.29 **	(0.10)
Indirect effect (diff)	-0.34 ***	(0.10)	-0.08	(0.07)	0.27 ***	(0.06)
% of total of explained	81.49		-60.25		47.96	
Individual components (%)						
Household Income	13.41		-38.92		1.03	
Parental education (ref. non-degree or below)	-0.29		20.13		4.54	
Degree	0.28		0.49		0.33	
Postgrad degree or up	-0.57		19.63 *		4.21 *	
Single parent	13.12 ***		-40.91 ***		0.34	
Three+ kids	1.88		-6.98		-0.21	
Urban area	5.55 **		20.42 **		9.07 ***	
Health issue	-0.31		0.13		-0.21	
Maternal age (ref. 18–29)	0.88		-0.23		0.61	
30–39	-0.03		0.05		-0.01	
40 and up	0.91		-0.28		0.63	
Maternal employment pre-birth (ref. not employed)	16.62		-25.38		6.68	
Part-time	6.87		-9.46		3.01	
Full-time	9.75		-15.92		3.67	
Grandparent contact	11.37		-3.28		7.91	
Perceived social support (ref. no/not enough help)	16.42		16.54		16.45	
Enough help	15.71 **		19.79		16.67 ***	
No need for help	0.71		-3.25		-0.22	
Recently moved	0.51		-1.07		0.13	
Familiar w/t system	1.22		-3.37		0.13	
Intention to stay	1.12		2.67		1.49	

Note. Coefficients presented in relative log-risk ratios (rather than risk ratios). All data weighted and all analyses controlled for the study child's gender and health. MB = Migration background; HH = Household. For variables with multiple categories the total percentage explained is shown in italics. *** p < 0.001. ** p < 0.01. * p < 0.05

Table 4b

KHB Decomposition of the Effect (Multinomial Log-Odds) of Migration Background – Non-English speaking on relative childcare choices.

MB -Non-English Speaking HH (ref. no resident migrant parent)	Informal vs. Parental		Formal vs. Parental		Formal vs. Informal	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Total effect (reduced)	-1.59 ***	(0.15)	-0.96 ***	(0.14)	0.63 ***	(0.17)
Direct effect (full)	-0.27	(0.20)	-0.43 **	(0.16)	-0.16	(0.21)
Indirect effect (diff)	-1.32 ***	(0.16)	-0.53 ***	(0.11)	0.78 ***	(0.15)
% of total explained	82.87		55.28		125.07	
Individual components (%)						
Household Income	39.69 ***		59.02 ***		10.11	
Parental education (ref. non-degree or below)	-0.01		0.03		-0.08	
Degree	-0.02		0.01		-0.06	
Postgrad degree or up	0.00		0.01		-0.02	
Single parent	-0.46		-0.73		-0.04	
Three+ kids	-5.23 ***		-9.93 ***		1.97	
Urban area	5.07 ***		-9.56 ***		27.46 ***	
Health issue	-0.72		-0.16		-1.59	
Maternal age (ref. 18–29)	-0.48		-0.15		-0.99	
30–39	-0.13		-0.09		-0.18	
40 and up	-0.35		-0.06		-0.81	
Maternal employment pre-birth (ref. not employed)	17.65		13.40		24.17	
Part-time	10.51 ***		7.42 ***		15.24 ***	
Full-time	7.14 *		5.98 *		8.92 *	
Grandparent contact	12.36		1.83		28.48	
Perceived social support (ref. no/not enough help)	9.78		-3.92		30.74	
Enough help	8.98 **		-5.80		31.58 ***	
No need for help	0.80		1.88		-0.84	
Recently moved	3.07 **		3.33 *		2.67	
Familiar w/t system	1.80		2.55		0.66	
Intention to stay	0.34		-0.42		1.51	

Note. Coefficients presented in relative log-risk ratios (rather than risk ratios).

All data weighted and all analyses controlled for the study child's gender and health.

MB = Migration background; HH = Household.

For variables with multiple categories the total percentage explained is shown in italics.

*** p < 0.001. ** p < 0.01. * p < 0.05

differences in childcare uptake by migration background, some factors did the opposite. As already suggested by the results of step two of our analysis, households with at least one resident migrant were advantaged in some ways compared to native households. For example, children with a migration background were less likely to live with a single parent than children without a migration background, and single parenthood was, in turn, associated with increased risks of informal and formal care relative to parental care. This partly explained their lower likelihood of being in informal care relative to parental care, possibly because the parents can share the care responsibility and do not need non-parental care.

Thus, whereas some factors explained the differences, other factors suppressed the total effect or increased it. Indeed, looking at the choice for formal relative to parental care for children living in English speaking immigrant households, the indirect effect was negative while the direct effect was positive, meaning that the total positive effect was reduced. In other words, if English speaking immigrant households did not differ from native households on the compositional factors, their children would be expected to be slightly more likely to attend formal care relative to parental care than their native peers (i.e. there was suppression).

The compositional factors also differed rather markedly in terms of how much of the difference in relative choices with native households they explained and were not all significant. The household income generally had a lot of explanatory power, especially for non-English speaking immigrant households. For example, about half (39.69%) of the total effect of living in a non-English speaking immigrant home compared to a native household on the logit of informal care relative to parental care ran through the indirect effect of income. Other important explanatory factors were maternal employment prior to the birth of the study child and perceived social support. It thus appears that immigrants were less likely to choose informal care relative to parental care because

they could not rely on help from friends and family to the same extent as native households and that they were less able to afford it while also having different needs because of their different levels of employment before birth.

Taken together, childcare utilisation patterns differed by migration background in the Irish context, and compositional differences largely accounted for them. The household income and social support were generally important factors in explaining the difference in formal care relative to informal care between the immigrant groups and the group with native parents. However, although there were differences in the level of grandparent contact between immigrant and native households, these differences did not explain the differences in childcare choices. Finally, some compositional factors, such as the area of residence and single parenthood, worked in the opposite way of the total effect, thereby possibly concealing some of the differences caused by other factors.

4. Discussion

Many studies have highlighted the potentially equalising effects of early childhood education and care (Reynolds, Magnuson, & Ou, 2010; Ruhm & Waldfogel, 2011), which may be particularly relevant for children with a migration background (e.g., Cornelissen, Dustmann, Raute, & Schönberg, 2018). However, to properly understand these possibly beneficial effects, it is important to consider which children are more likely to experience certain types of care by exploring differential childcare utilisation (Kulic et al., 2019). It is thus crucial to carefully describe differences in childcare use and shed light on the factors that are related to parental choices for one type of care over another.

The current study used a nationally representative sample of three-year-olds to contribute to the burgeoning body of literature investigating differential childcare utilisation patterns by migration

background. It did so in an understudied country context and distinguished between three different childcare choices. Moreover, it extended the literature by using an advanced decomposition technique to directly test if compositional differences mediated any observed differences in childcare use by migration background rather than only controlling for them.

The results indicate that differences by migration background in the choice of main childcare type could be observed in the Irish context. Compared to children from native households, children of migrant descent were more likely to be in formal care relative to informal care. However, children from non-English speaking immigrant households were less likely to be in both informal and formal care compared to parental care, which is in line with their inclination to opt for parental care as suggested by some earlier studies in the Irish context (Murray et al., 2016; Röder et al., 2017). Children from English speaking immigrant households were also slightly less likely to be in informal care relative to parental care, though there was no difference for formal care relative to parental care.

Altogether, these findings suggest that at least a part of the children with a migration background, namely those from non-English speaking homes, may not reap the potential benefits of formal care participation. Thus, it is worthwhile to explore how the participation rate among this group could be increased. This seems especially important considering that the benefits for children from non-English speaking homes may be particularly strong (Burger, 2012; Gormley, 2008; Klein & Becker, 2017) and that formal care attendance might even benefit their parents' integration (Gambaro, Neidhöfer, & Spiess, 2021).

Using the Karlson-Holm-Breen (KHB) decomposition technique, we further found that compositional differences played an important role in explaining these differential childcare utilisation patterns. While the household income was generally the most critical factor in explaining differences, maternal employment pre-birth and social support were two other important indicators.

Overall, these findings suggest that, at least to some extent, it is not having a migration background per se that makes some children less likely to participate in certain types of care over others, but rather the compositional differences between native and immigrant households. Moreover, in line with other studies that have highlighted the primacy of socio-economic factors for the childcare enrolment of children of migrant origin (e.g., Pastan Greenberg & Kahn, 2011), our findings tentatively suggest that providing additional financial support may be a viable way of increasing the participation of children with a migration background in non-parental care. This may be particularly true for the formal care participation of children from non-English speaking immigrant homes.

The current study has at least three important limitations, which may also provide interesting avenues for future research. Firstly, even though we used some lagged variables, the current study was largely cross-sectional, and the used measures were not always ideal due to data limitations. Future studies would do well to use more specific information on having a migration background, such as region of origin, and to include immigrant-specific characteristics, such as English language proficiency, which may be relevant to the childcare choices of immigrant households (Miller et al., 2013; Miller, Votruba-Drzal, Levine Coley, & Koury, 2014).

Secondly, we tried to understand the social stratification in childcare choices and identify relevant compositional factors that are associated with these parental decisions. However, we did not consider parental attitudes towards different care types, even though these may differ between immigrant and native parents (Seibel & Hedegaard, 2017) and shape their choices. Future studies could thus work towards unpacking the parental decision-making process and the role of preferences therein. Moreover, the current study did not take into account the quality and quantity of care, which is another important consideration for future research.

Thirdly, even though there is currently no more recent, high-quality

data available for Ireland, it is important to acknowledge that the data in this study are nearly a decade old, and that the findings should be interpreted accordingly. It is particularly worth emphasising that the early years of the children in this cohort study were characterised by a period of unprecedented economic contraction, which may have dampened the demand for non-parental care. Moreover, since this cohort was in childcare, there have been significant changes to the Irish childcare policy landscape and the migration context. It thus remains an open question to what extent these findings hold for newer cohorts.

5. Conclusion

Immigration continues to change societies, and understanding how we can ensure that all children have equal chances to succeed in life remains a challenge. Interventions early in the life course are likely most powerful and cost-effective (Heckman, 2006), making childcare an interesting policy tool. However, childcare can only contribute to reducing inequalities by migration background if it can reach a large enough group of children with a migration background. This study examined childcare utilisation patterns by migration background in an understudied context, Ireland, and investigated to what extent theoretically relevant factors could account for any differences in childcare usage. The findings indicate that differences by migration background existed and that they partly reflected other related dimensions of disadvantage, such as a lower income and less social support. It may thus be helpful to provide additional support to immigrant homes to ensure that children with a migration background benefit from formal care not only in theory but also in practice.

Conflict of interest

The authors declare that there is no conflict of interest.

Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at [doi:10.1016/j.rssm.2023.100773](https://doi.org/10.1016/j.rssm.2023.100773).

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