

What works to combat poverty?

A systematic review of early childhood education
and care policies

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A systematic review of early childhood education and care policies

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A project that brings together, analyses and transfers evidence, to improve public policies that combat child poverty

Un projecte de:



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1. Introduction

This report performs a systematic review of the literature on the potential of early childhood education and care policies to reduce child poverty levels, using an international perspective. In particular, it focuses on finding evidence about the impact of different nursery school programmes on child development and on the employment of women with children. It also performs a review of the key features of the most effective programmes and the contexts in which they are implemented. In line with the first edition of *What works to combat child poverty?* (Farré, 2022), there is an evaluation carried out of the policies that are particularly important during in a child's first years (from birth to 3 years), but also includes some policies that affect the 3-6 stage. The study was born out of an obvious need: we are currently facing high rates of child poverty and mounting challenges for families seeking a better work-life balance. In addition, the increased importance of nursery school policies in the political and institutional agenda over the last twenty years makes it paramount to understand if these policies work, who they work for, which mechanisms drive them, and their practical implications for our local context.

2. Motivation behind the project

In 2022 the percentage of children under 18 in Spain that were at risk of poverty¹ or social exclusion (the AROPE rate) was 32.2% (Eurostat, 2022). This figure is considerably higher than the European average (24.7%) and higher than the rate in nearby countries (France, 27.5%; Portugal, 20.7%; Belgium, 29.6%; Slovenia, 10.3%; Denmark, 13.8%). The picture is no better if we look at the figures for Catalonia (31.7%), outranked only by Spain as a whole, Romania and Bulgaria, the EU countries with the highest rates of risk of poverty or social exclusion (Idescat, 2022; Eurostat, 2022). If we look at the data disaggregated by age group, we see that the rate is higher for children under six years of age (34.1%) (INE, 2023).² These figures reveal that there is a very high number of children living in homes where the temperature cannot be kept at adequate levels, who suffer from severe material deprivation, or whose families make late payments for their housing or cannot meet unforeseen expenses.

¹On the concept of child poverty, see the document summarising the project names *What works against poverty? Child poverty area* (a collaboration between Ivàlua, UNICEF Catalonia Committee and the Catalan Department of Economy and Finance).

²The percentage of children or adolescents at risk of poverty or social exclusion, out of the total number of children or adolescents in each age group, is 32.4% (0-3 years), 29.39% (4 -11 years), 36.1% (12-15 years) and 34.9% (16-17 years), according to data from the 2022 Living Conditions Survey (INE, 2023). All these values are higher than the rate of risk of poverty or exclusion of the total population of Catalonia (24.7%).

To tackle poverty and social exclusion, in February 2013 the European Commission launched its *Social Investment Package* (SIP). The main purpose of the SIP was, in general terms, to improve welfare structures in the member states to make them more active and preventative, as well as cutting the numbers of citizens in situations of poverty and social exclusion. Some of the specific recommendations made were in the section entitled *Investing in Children: breaking the cycle of disadvantage*. This underlined that this particular type of social investment was a policy based on rights and founded on universality, and is a form of investment that seeks to increase equal opportunities in an intergenerational way. In 2016, the European Union made a Council Recommendation to the Spanish State in which it stated that, although the country had introduced some measures, the family benefits that had been put in place to reduce household poverty had limited effectiveness, and that a lack of solid policies to promote affordable early childhood education and care and improve the work-life balance of families (such as, for example, the low availability of nursery schools) was discouraging women's participation in the labour market. In subsequent years the European institutions continued to urge member states to resolve these problems, mainly through the *European Child Guarantee* (2021). Its recommendations aim to combat social exclusion by ensuring that there are certain free, easily-accessed essential services available to children: nursery schools, a healthy meal every day and access to health services, among others. A year later, the initiative was further reinforced in the *European Care Strategy*, which seeks, among other goals, to implement the objectives set by the European Council in the field of childcare.

This has all led to early childhood education and care becoming one of the main pillars of the Spanish equal opportunities action plan. Some of the objectives of the plan are to expand coverage for children 0-3 years of age by increasing public nursery school places, prioritising access to children at risk of poverty, and making this stage free for children from families with incomes below the poverty threshold (Ministry of Social Rights and 2030 Agenda, 2022). These initiatives aim to contribute to reaching milestone 4.2. of the 2030 Agenda: to ensure that all children have access to both early childhood care and development services and to quality pre-school education, so that they are all ready for primary education when the time comes.

In this way, public administrations and political and social institutions are increasingly coming to the conclusion that investing in nursery schools is an important task and one that has several goals: to prepare young children for primary education, to reduce social inequalities by guaranteeing nursery school access to everyone from a very young age, and to implement better family-work balance measures that make it easier for mothers to return to the labour market. Ultimately, all of these measures have the potential to reduce child poverty, depending on the design of the programmes, leading some regional governments such as Catalonia, the

Valencian Community, Navarre and the Balearic Islands to launch a series of initiatives in recent years to extend the free provision of these services. However, at a local level, according to the results of Intermunicipal Nursery School Comparison Circle published by the Diputació de Barcelona (2020), the percentage of children attending public nursery schools in the province of Barcelona is 18.9 %, while the aggregate data that includes both publicly-owned and privately-owned services is 35.5%, a figure that reveals that there is a significant lack of places on offer.

In this context, and given the lack of evaluations of the impact of these measures at local, regional and national levels, it is important to understand how effective these policies are, the most efficient designs for them, and if they can actually have possible negative effects if certain factors are not taken into consideration, e.g. labour market structures, institutional elements and the potential child beneficiaries' individual and social factors. This report reviews a broad range of evidence to set out the state of the art of what works in terms of 0-3 nursery schools and home-based education and care services; it also gives a series of recommendations for the development of public policies in these two areas.

3. Description of the programmes examined

This report focuses on two public policies that, despite not actually stating this as their main goal, have the potential to reduce child poverty. The policies that have been examined focus on the 0-3 years stage. However, some cases where these policies are implemented for children up to 6 years of age are also studied. There is particular emphasis placed on nursery schools and home-based care services. These policies may have the ability to reduce poverty in the short term by facilitating the access of mothers to the labour market, which generates a higher household income. Likewise, they can promote long-term positive effects, as they are shown to improve children's cognitive development and later educational performance. However, the way in which they are articulated (i.e. the particular features and context of each programme) is crucial for the aforementioned effects to materialise.

- **Nursery schools**

Here we refer to the educational stage that goes from 0 to 6 years, which in Catalonia is organised in two sub-stages. Early childhood education for children from 0 to 3 years

of age is not a compulsory stage in Catalonia,³ and the enrolment rate for 2-year-old and 3-year-old children was 61% for the 2021-2022 school year (Idescat, 2023). Neither is the second sub-stage, that goes from 3 to 6 years, compulsory, but the percentage of children schooled at that stage is much higher. In Catalonia these services are used by 95.5% of children, according to the 2021 data from the Department of Education. It is defined as a standalone stage, with its own identity and with an educational slant, during which the children schooled need to develop various skills, learning strategies and a certain degree of autonomy. Nursery schools for children aged 0-3 are social spaces that drive cohesion, integration and participation (Decree 21/2023; Legal Portal of Catalonia). As mentioned, however, this study also includes services for the 3-6 age group in specific cases; this can be considered useful because they can sometimes generate similar effects.

- Home-based childcare services

The research has defined home-based provision as childcare that takes place in the home of the caregiver, or in the child's own home (Bromer and Korfmacher, 2017). These services vary in their regulatory status: some organisations or individuals that provide it are licensed or registered (FCC),⁴ while others are unregulated or unlisted (FCC). In addition, home-based care comes in many different shapes and forms, so care needs to be taken when talking about these services as though they are part of a single, unified policy. For example, Ang et al. (2017) refer to home-based care as a service where the caregiver provides care to one or more children (this can be a group) in their own home. The children can be of preschool age (from 0 to 5 years), but can also be of school age and might sometimes use these services as a form of extra-curricular activity. As a general rule, providers of these services offer more flexible hours, and they are more affordable than nursery schools in terms of costs. For this reason, they tend to be used most by more disadvantaged communities who have greater difficulties accessing nursery schools (Ang et al., 2017). Unlike nursery schools, these types of service do not all have a clear-cut educational component, but tend to focus more on childcare.

4. Research questions

The aim of this publication is to document and organise international (quasi-) experimental evidence –from Europe, the United States (US) and Canada– on the

³Nursery school from 0 to 3 years is not free in all areas or to all children: it must be emphasised that within Spain, there is considerable variation between the different autonomous communities as to who obtains free services.

⁴In this report we focus on this type.

effectiveness of nursery schools and home-based care services for children in poverty or at risk of poverty, as well as defining the features that make these services effective. The aforementioned general objective of the report is channelled through two research questions and a reflexion that has practical implications for policymakers:

1. What are the specific impacts of these policies on children and their families? How effective are they considering the socioeconomic level or other characteristics of the families that are affected by them?
2. Which features of the programmes have been shown to be most effective in this regard? In what contexts have they been implemented?
3. What are the practical implications of all of this for our particular situation?

5. Review of research evidence

The report brings together existing systematic reviews and meta-analyses, as well as articles, reports and working papers that use experimental or quasi-experimental methodologies (Difference-in-Differences, Regression Discontinuity and Instrumental Variables). The literature selected has mostly been published in international journals or by international organisations between 2008 and 2023 (over the past fifteen years) in Europe, the US and Canada.

5.1. A review of the effects of nursery schools. Do they work?

Using meta-analytic techniques, Van Huizen and Plantenga (2018) analysed the results of natural experiments to identify the causal effects of nursery school attendance on child development and educational performance, as well as on the long-term employment of mothers. Their main conclusion was that both a good staff-child ratio (no more than 1:8-10) and qualified staff (with specialised degrees or diplomas) in the nursery school yielded positive effects. However, the second factor had greater effects, which is in line with results from previous studies on European programmes. There was also a very clear positive relationship found between spending more time every day at nursery school (full-time versus part-time) and the type of ownership of the nursery school (public versus private or mixed) and the effects of these types of programmes.

If we look more specifically at cognitive development and language acquisition, the results regarding the effects of attending nursery school are mixed (Kulic et al., 2019). The authors point out that both in the US and in several European countries, attending nursery school has been seen to have positive effects on these two facets of child development for children aged 0-2 years (Melhuish et al., 2015). However, some studies demonstrate the non-existence of these effects, or even a small negative effect if

certain conditions are met. These suggest that separating a child from their main caregiver before one year of age for the child to spend more than five hours in a nursery school can generate stress, insecurity and anxiety, and can thus have negative effects on their cognitive development (Haeck et al., 2015; Baker et al., 2015; Felfe and Zierow, 2017). The positive results on cognitive development are clearer for children between 3 and 5 years old, in both the US and in the European cases.

In the case of the US, one particularly relevant work is the experimental study that evaluates the long-term impacts of the STAR programme (1985-1989), which involved over eleven thousand children (whose average age was 5.4 years) from 79 schools in areas with higher levels of poverty than the national average. In this context, Chetty et al.'s study (2011) shows that children whose class sizes are smaller (15, versus 22 in large classes) are more likely to be studying at university at the age of 20 and will have better educational results compared to the control group. Having had a more highly experienced teacher also implied more positive long-term outcomes, namely higher incomes. Thirdly, better quality classrooms, in terms of infrastructure and teacher experience, also led to better results in non-cognitive development and higher university entrance rates, although this was not associated with better grades. In this case, it should be noted that the children are a little older than those that are the object of this report, which focuses on the 0-3 age range.

Otherwise, in terms of women with children joining the labour market, there is a certain consensus that the existence of widely available, affordable and good quality nursery schools increases the probability of mothers finding employment and keeping their jobs, and these jobs being higher quality (implying higher probabilities of full-time and not part-time working hours). Ultimately, these dynamics lead to higher household incomes and a consequent reduction in the risk of poverty for the family (Hegewisch and Gornick, 2013). On the other hand, the same authors indicate that when the availability of nursery schools is limited, and they are more expensive and/or low quality, women with children are less likely to work, are more likely to have lower quality occupations, and are also more likely to suffer from higher labour turnover and lower wages. Ferragina (2019) uses an extensive review to validate the academic consensus on nursery school as being the policy with most impact on mothers' employment (De Henau et al., 2010), and mentions that extending these services has a strong positive effect in southern European countries (Italy: Del Boca and Vuri, 2007; Portugal: Tavora, 2012). In addition, it is stated that care being available near the family's home is an important factor for them to have an effective impact (Van Ham and Mulder, 2005).

Finally, another key review is the one carried out by Morrissey (2017). The author analyses existing studies on the effects of the costs and availability of nursery schools

on the labour force participation of families (in the US, Israel and several European countries). It is argued that increasing the availability of the services and reducing their cost for families leads to an increase in numbers of children attending nursery school, which increases both the labour participation of mothers and their hours worked. However, results vary according to each institutional, economic and social context. For example, studies performed in the US in the 1990s indicate that a 10% reduction in the price of nursery school services implied an increase of 0.25 in the employment of women with children, to 11%. On the other hand, the author states that studies that use more recent data or data from other countries have found less elasticity, which is a consequence, surely, of differences in (1) how customary it is to use nursery schools, (2) the existing labour force or (3) the methodological approaches and data used.

As well as the aforementioned reviews, there are a series of specific, (quasi)experimental studies that present crucial evidence to help understand the real impact of these policies. Havnes and Mogstad (2011) examined the effects of the availability of nursery schools in Norway on rates of employment of women with children during the 1970s:⁵ the causal effect was minimal⁶ in the short term, and null in the long term, although these effects must be contextualised in a labour market which had very high employment rates. On the other hand, these same authors have indicated that this expansion of availability did have positive effects on child development. Specifically, this expansion of services improved children's educational performance and, over time, increased families' incomes (Havnes and Mogstad, 2011*b*). It is true that a positive causal relationship is found in the UK for children between 3 and 4 years of age going to nursery school and the employment of women with young children, but with some nuances. Using census data and the UK Labour Survey (2011), in conjunction with the Family Resources Survey, Brewer et al. (2022) there is an indication that offering free access to half-day nursery schools has slight effects on mothers' employment. On the other hand, offering full-time services significantly increases the labour participation of these women with children.⁷

⁵ The reform entailed an extension of the hours of subsidised childcare offered for the 3-6 year old age group.

⁶ A one percentage point increase in childcare coverage was linked to an average increase of 0.06 percentage points in the short-term employment of women with young children.

⁷The probability of a mother entering the labour market is 3.5 percentage points higher when her youngest child goes to nursery school full-time than when the child does so only part-time.

Box 1. Evidence on the impact of large-scale expansion of early years education and care on mothers' employment. Are there sometimes unexpected effects?

Müller and Wrolich (2020) examine two reforms in West Germany that led to the exponential expansion of coverage for children between 0 and 3 years of age. Between 2007 and 2008, the availability of nursery schools rose from 8% to over 27% in the area studied. In this context, they investigate to what extent this expansion of the supply affected the employment of women with children and, in particular, the effect on the type of working day these women had. The study uses quasi-experimental methods and merges data on education and childcare with regional control variables (population density, female employment rate, fertility rate and GDP per capita). The authors find a statistically significant effect linking the reforms and the employment of women with young children: the increased availability in nursery schools places led to an increase of 0.2 points in the labour participation of mothers. However, this general increase in the employment of mothers is due to the incorporation of mothers into the part-time labour market (20-35 hours per week). In contrast, the authors do not find that changes in full-time employment or in shifts of less than 20 working hours per week are causally related to the expansion of nursery schools. In addition, the aggregate positive effect is explained by the inclusion of mothers who have mid-level educational qualifications, but no lower.

Source: authors' own.

In the context of the Mediterranean countries, the limited quasi-experimental evidence available does not yield particularly different results. Brilli et al. (2016) investigated the effects of the increased availability of subsidised nursery school places on the employment rates of women with children in Italy. The conclusion is that there was a strong positive effect: an increase of one percentage point in the availability of nursery schools increased the probability of mothers being employed by 1.3 percentage points. The authors note that these effects are stronger in areas which had had scarce availability of childcare before the expansion. Secondly, the only quasi-experimental evidence for the Spanish case is Nollenberger and Rodríguez-Planas' work (2015), in which they study the impact of the education reform passed in the early nineties (LOGSE), which led to a significant expansion of nursery schools for 3-year-olds.⁸ The authors show that, compared to the average figures for before the reform, these services being expanded led to a 9.6% increase in employment of women with children at the beginning of the 1990s. In other words, for every ten additional children who went to nursery school, two mothers entered the labour market. This effect holds for mothers of 30 years of age or older and for those with two or more children. In addition, the authors show that children attending nursery schools is slightly more effective in terms of labour participation than tax credits. These benefits (1,200 euros per year in

⁸Enrollment rates rose from 8.5% in 1990 to 67.1% in 2002.

2003) for working mothers with children under 3 increase the probability of them being employed by 6.5%. This represents 3.1 percentage points less than the nursery school expansion measure.

So far, the analysis has covered the most important evidence gleaned from quasi-experimental studies. To complement this information, Table 1 presents the main results of some key non-experimental studies in Mediterranean and continental Europe.

Key non-experimental studies carried out in Mediterranean and continental Europe

Study	Country	Reform/object of study	Results
Corazzini et al. (2021)	Italy (2014-2017)	The study covers the impact of members of the second generation of immigrant families attending nursery schools from 0 to 2 years of age.	The effect on educational performance is seen to be very significant for children in the immigrant population who have with mothers with low educational levels. The return is greater for children who speak a language that is very different from Italian. The study shows that promoting the 0-2 stage improves social integration and a reduction in the educational gap .
Del Boca et al. (2016)	Italy (2008)	Attendance at nursery schools while the mother is at work.	The results show that if the mother works during her child's early childhood, this has no negative effects on the child's long-term educational performance; it is actually quite the opposite.
Mahringer and Zulehner (2015)	Austria (1995-2002)	The study covers the regional variability of nursery school costs on the employment of women with children.	The reduction of one euro per hour in these costs predicts an increase in the rate of mothers' employment by 8 percentage points. However, the cost of childcare only partially explains the differences in employment for women with children and without children.
Navarro-Varas and León (2023)	Spain (2006-2016)	The study covers the impact of the 2008 financial crisis on income bias in access to 0-3 care.	Children at risk of poverty are underrepresented in 0-3 care provisions, and the use of these services is stratified by income. This trend became more acute with the onset of the crisis; informal care is more associated with working-class families and in households where mothers work part-time.

Source: authors' own work .

5.2. A review of the effects of nursery schools. Who do they work for?

The previous section analysed the effects of nursery schools on child development and on the employment of women with young children. This section examines the effects of these programmes according to different profiles of children and their families, especially families with lower incomes, as well as immigrants.

The previously mentioned gains (in child development, educational performance and long-term employment) found in the meta-analysis conducted by Van Huizen and Plantenga (2018) are seen more clearly in children from more socioeconomically disadvantaged families. In contrast, children from families with higher incomes do not benefit as much from nursery schools, because in any case, their families can cover some of the services they offer. For example, they can afford better educational materials and quality early childhood care. Similarly, in the case of the United Kingdom, there is evidence that the parents in wealthier families tend to have better working conditions, which include more stable schedules, and ultimately more time (also, higher quality time) to spend with their children (Gracia, 2015). In this sense, one of the conclusions of a recent systematic review (Kulic et al., 2019)⁹ reinforces the argument that children's experiences and the benefits obtained by attending nursery school are related to the socioeconomic status of their families .

Regarding how these programmes affect children, this review indicates that educational interventions during early childhood (0-3) can improve the life opportunities of children from families with lower incomes, both in the short term and in the long term. The review carried out by Melhuish et al. (2015) indicates that there are several nursery school programmes that lead to improvements in the cognitive and language development of younger children, but that sometimes these benefits are not sustained in the long term. According to the author, this would be explained in part because subsequent school experiences, if they are low quality, may cancel out the prior gains that had been achieved by children when they attended high-quality programmes.

In terms of educational performance, Deming (2009) evaluates the *Head Start* programme,¹⁰ concluding that this policy closes much of the gap in educational achievement between children from middle-income families and families with lower

⁹The review includes the UK, the US and countries in Europe.

¹⁰ Free, federally-funded programmes, designed to promote school readiness for infants and pre-schoolers from families who meet the income eligibility requirements (i.e. targeting economically disadvantaged families).

incomes. The programme, which is targeted to disadvantaged families, has long-term positive effects on children's educational performance.

Ruhm and Waldfogel's (2011) review finds consistent results indicating that nursery school expansion in some European countries (Germany, France, Denmark, Sweden and Norway) and the US generally produces benefits for the teenage years and in the long term (in adulthood) in terms of not dropping out of the educational system, and in particular benefits disadvantaged children (ones from families with lower incomes and also from immigrant families). In fact, the gains are sometimes limited to only these children. However, the gains may be less pronounced when high-quality nursery schools are already available before an expansion occurs or when there are subsidies that increase the use of low-quality services. Along the same lines, Ferragina (2019) examines the effect of nursery school attendance on different segments of the population. The author shows that increased coverage rates for children under three appears to be beneficial for mothers at risk of poverty and with low educational levels (at least in the cases of Portugal, Canada and the USA).

There are several reviews that focus less on the effects of these policies on children than on the effects on mothers' employment. In the US, much of the employment effects of nursery schools benefit low-income families. This is mainly due to the fact that in the US there are a number of specific programmes aimed at this group (for example, the Perry Preschool Programme); it can be seen that that the increase in employment as a result of lower nursery school prices or extensions to full time are generally higher for families in a situation of poverty (Morrissey, 2017).

This trend is also visible in some European countries, such as Italy and Germany. Brilli et al. (2011) indicate that the participation in the labour force of mothers and fathers with low incomes and in low-skilled occupations is more sensitive to reductions in nursery school costs. Along the same lines, Geyer et al. (2014) study the impact of the reforms that took place in Germany between 2005 and 2013, which increased the availability of publicly-funded nursery school places. The authors point out that the employment of mothers with children between 13 and 24 months (1-2 years) increased by 1.8 points on average, and that the effects were greater for mothers with incomes that were below the median.

To conclude our remarks on the literature that covers the impact of nursery school policies on the employment of women with children, we present Table 2. This summarises several quasi-experimental, rigorous, benchmark studies that indicate how expanding the availability of nursery schools for children aged 2-3 years (or older) has positive effects. The effect is particularly beneficial for mothers who live alone with their children and also for mothers with immigrant backgrounds. In general,

research has also linked these reforms to an improvement in educational performance and a reduction in language and motor problems for the children of families living in poverty.

Table 2. (Quasi)experimental evidence on the impact on disadvantaged families of expanding early childhood education and care services

Study	Country	Reform/object of study	Results
Cornelissen et al. (2018)	Germany (1994-2006)	Expansion of the availability of half-day nursery school services for 3-year-olds.	Children from disadvantaged backgrounds are less likely to access these services than other children, but when they do, they reap greater benefits in terms of overall readiness for school.
Cascio and Schanzenbach (2013)	USA (1977-2010)	Significant increase of between 11% and 14% in the number of 4-year-olds enrolled in a nursery school and in the quality of the centres. ¹¹	Programme expansion and improvement in quality increases enrolment rates for all kinds of families. The probability of enrolment increases by about 20 points for low-income families. This leads to more time spent with the mother, greater labour participation of the mother and positive effects on the educational performance of these children. ¹²
Goux and Maurin (2010)	France (1999)	Availability of nursery schools for children between 2 and 3 years of age.	Increase in the employment of mothers in female single-parent families (especially those with less educational attainment). No effects for dual-parent families. The effect increases as the children get older and the family loses eligibility for child benefits. Families prefer nursery schools to other more informal forms of childcare because of their affordability and because it has been demonstrated that they do not cause any adverse effects on childrens' educational results.
Felfe and Lalive (2013)	Germany (2002-2008)	Study of the change from mother's care (at home) to a nursery school for 2-3 year olds.	Children from families with high levels of educational attainment and incomes are the first to register for services. The results of accessing services vary by age and socioeconomic background, and are particularly positive (in terms of labour participation and mothers' gross income) for younger children, boys, and children from socio-economically disadvantaged families .
Cascio (2009)	Southern USA (1960-1970)	Drastic increases in the availability of full-time	Positive effects on the employment of mothers, especially single parents with an only child that is 5 years old. Four out of every ten mothers

¹¹The specific quality improvements are as follows: both states examined (Georgia and Oklahoma) demanded a broad standard of learning is required, and that the teacher in the classroom must have a bachelor's degree, be certified in early childhood education, and participate in annual in-service training. Until recently, both states also mandated the staff-child ratio in nursery classrooms be no more than 10:1, and that the total number of children be no more than 20.

¹² However, families with higher incomes simply move from private to public nursery schools (resulting in lower costs) but do not receive the same positive effects (such as those related to educational achievement).

Study	Country	Reform/object of study	Results
		nursery school services. ¹³	joined the labour market when they enrolled their children in the services in question.
Maes et al. (2023)	Belgium (2010-2014)	Expansion of the availability of municipal nursery school places.	Southern European mothers with migrant parents and those of Turkish origin were more likely to use nursery schools when availability in their municipalities increased, although the gap with native mothers persisted to some extent. The expansion also led to a greater increase in the enrolment of children with mothers from the Maghreb compared to native mothers.
Dustman et al. (2013)	Weser-Ems in Germany (1994-2006)	Increase in the availability of places (14,600 places for the 3-6 age range) ¹⁴	Reduction of children's language and motor problems and better general school readiness for children of immigrant descent who attend nursery school (no effects seen for those of native descent).

Source: authors' own work.

As something to reflect on, it should be noted that promoting universal programmes based on the positive evaluations of programmes that are more specific can be problematic for several reasons. Baker (2011) explains, for example, that specific programmes offer levels of education and care that are not typically the norm in universal programmes. Therefore, it is not entirely clear that universal programmes can provide similar benefits to children at risk of poverty (for example, the Perry programme was for extremely vulnerable families). In this sense, there are several authors who underline the need to prioritise certain groups when expanding the coverage of universal services (Cornelissen et al., 2018; Maes et al., 2023). There is a deeper analysis of this issue made in point 6.3. Nevertheless, these results are a good starting point for designing and implementing nursery school programmes, since they allow us to take into account current variations in terms of access to and use of the services according to the different profiles of children and families. Equitable effects can only be guaranteed by acknowledging these problems and setting up mechanisms that are shown to be effective in solving them.

5.3. Alternative (non-school environment) early years education and childcare services. Does quality matter?

Early childhood education and care services for children at home are a very popular model of care in places such as France or the Scandinavian countries, and this is a

¹³The probability of a school district in the South offering nursery school services increased from 7.9% to 99.7% between 1966 and 1989.

¹⁴Increasing the ratio of the number of places available to the number of children in this age group from 62% to 78%.

model that been proposed as a tool to potentially allow the service to become more wide-reaching (Barcelona City Council, 2021). These services prioritise care over education and are an alternative to services organised in a schooling environment. These services include childminders, nannies, and support spaces for parents, etc. However, research on the effectiveness of these types of programmes is scarce, especially with regard to (quasi)experimental studies, where only one reference has been found (Gupta and Simonsen, 2010). In this sense, a noteworthy result of the publication in question is that home-based care yields significantly worse results in terms of emotional, behavioural, attention, hyperactivity and relational issues in the case of children whose mothers have lower educational levels, in particular those with vocational training studies.¹⁵ On the other hand, unlike the results for home-based childcare services, the studies do not find significant differences in these factors for children enrolled in nursery schools at the age of 3, regardless of the educational type or level of the mother. Therefore, in this particular case, the effects appear to be different for children of the same age depending on whether the service is home-based or offered in a nursery school.

To tackle the aforementioned lack of evidence, several literature reviews have been consulted. These limit themselves to exploring descriptive studies of these types of services, and do not include many references to the consequences they have for children – an aspect that will be developed later, in section 6.4. The literature mainly focuses on evaluating the quality of home-based care services and their possible implications (Porter et al., 2010; Bromer and Korfmacher, 2017). In this sense, it is important to set out that one of the features of home-based care services is that they are often used by families with lower incomes and lower education attainment levels (especially the mother) and by single parents. In the case of the USA, they are also often used by Hispanic and African-American families (Porter et al., 2010). Therefore, understanding to what extent quality matters, and how it can be guaranteed, is key in order to be able to provide the same quality that is offered in nursery schools. Consequently, from the point of view of reducing child poverty, although very limited (quasi)experimental evidence has been found about home-based care, it is crucial for understanding to what extent the quality of it differs from nursery school services.

According to Bromer and Korfmacher (2021), the scant existing evidence shows, as one would expect, a positive association between caregivers' professional qualifications and the quality of the home-based care services they provide. For example, a study by Hughes-Belding et al. (2012) indicated that caregivers with over 20 hours of professional training (although the type of training is unspecified) obtained better teaching and interaction scores with children than those with only 10 hours of training. In other

¹⁵Waves of children born in 1996, 1999 and 2003 are studied (Denmark).

words, the more specialised training in child development caregivers have, the more likely they are to be better organised and offer higher quality care (Rusby et al., 2013). However, there are no studies that directly examine how the training undertaken by professionals working in home-based care services has an impact on children's development (Bromer et al., 2021). With regard to another key element, which is the size of the group of children and the educator-to-child ratios, these same authors explain that smaller groups and ratios can contribute to improving children's development, giving caregivers more opportunities to provide a more responsive and caring service, as well giving children more chances to interact with each other in a calmer setting. However, the evidence in this regard is mixed and not causal.

Another study that examines the impact of care professionals' qualifications on the children looked after finds no correlation between how many years of experience the professionals have and the reading scores of the children when they are older, although this correlation is found to exist in nursery school services (Iruka and Forry, 2018). In terms of children's cognitive development, a third review of this public policy area indicates that home-based care services offer relatively low levels of cognitive stimulation, such as those associated with learning activities (Porter et al., 2010). Along these lines, it is detected that carers in home-based childcare services spend relatively little time on these types of activities, which include reading, games to improve the children's speaking skills or collective activities with the other children in the group. In any case, rather than being educational, home-based care services (in the US context) have been shown to be more useful in supporting the work-life balance needs of low-income families who need a more flexible service. (Fuller et al., 2004).

Ang and Tabu's (2018) qualitative research was carried out in England and Japan, and evaluated five cases of home-based care services for children between four months and four years old. The results indicate that the caregivers in these networks of services generally establish strong and trusting relationships with the children and their families and usually offer positive educational experiences. Flexible services offered by home-based childcare are seen as central to providing quality support to parents (e.g. offering hours that accommodate parents' work schedules, taking children to extracurricular activities, taking children to the doctor or other health needs, flexible payment schemes and other types of practical support required because of changing family dynamics). However, other studies show that this flexibility can have negative effects on the working conditions of the people (almost all of them are women) who provide the care services (Bromer and Korfmacher, 2017). It can be observed, as mentioned above, that these services are used more as care services that allow mothers to work than for educational reasons.

Box 2. Home-based education and childcare services and their association with quality of care and cognitive and socio-emotional outcomes

An article published by Schaack et al. (2017) in *Early Education and Development* is one of the few empirical (rather than experimental) works on the impact of home-based care services and the quality of services on children in the US. The researchers use the databases of the Early Childhood Longitudinal Study and the Birth Cohort (ECLS-B), which has data on 10,700 children. The data were collected when the children were 9 months old, 2 and 4 years old, and when they started kindergarten. The results of the study have important implications. The authors point out that the training undertaken by the professionals predicts better quality home-based child care services, regardless of their regulatory status.

Thus, both a higher education degree and specific or non-university childcare-related courses were related to high FDCRS (Family Day Care Rating Scale) scores. The authors point out that the knowledge that the caregivers acquire through these qualifications, as well as the skills associated with solving problems accumulated when obtaining them, allows these professionals to provide a good educational learning environment. Along the same lines, the study also finds relatively high levels of emotional warmth and sensitivity towards children, regardless of the training that the carer has followed. It is important to note, however, that:

- 1) the sensitivity of professionals is associated more clearly with specific courses on early childhood than with studies in fields that have no relation to it;
- 2) being cared for by a professional who has higher education degree or has completed courses in this area is not related to children's cognitive and social-emotional outcomes. In addition, the authors state that a limitation of the study is that they do not know how much work experience the caregivers have in terms of education and childcare;
- 3) it was not possible to separate caregivers with degrees in early childhood education from those with qualifications in related fields that may not have a pedagogical or caregiving focus. In any case, they conclude that recent studies show that some early childhood education courses or diplomas have rather limited focus on the care and learning needs of children who are educated in small groups and that there are great differences in focus between courses.

Source: authors' own work.

In any case, it should be underlined that with the exception of Gupta and Simonsen's work (2010), the studies presented on home-based childcare services do not establish causal mechanisms. Given the small number of studies, both (quasi)experimental and empirical, about the effects of these services on children and families at risk of poverty, there is an obvious academic and institutional need to research this area further. The lack of studies in this area makes it difficult to understand the effects that these services have on the most disadvantaged groups. However, they help us understand

the elements that need to be in place to guarantee a certain quality service (understanding the support provided in terms of care services and not as educational services): professional qualifications and adapting the service to the needs of the family in the shape of flexible schedules, support for extracurricular activities and visits to the doctor, flexible payment schemes or support for the family's other practical needs.

6. Nursery schools: what makes for an effective programme?

Based on the evidence presented in the report, this section discusses what are considered to be the three fundamental pillars that contribute to improving the design of nursery school policies. These are: (1) the quality of the services; (2) the schedule and the complementary services offered; (3) access to the services and ways of prioritising certain groups.

6.1. Quality

There are several factors that the literature points to as quality indicators. According to the evidence presented, one of them is the staff to child ratio: lower ratios imply higher positive effects on child development (Chetty et al., 2011; Van Huizen and Plantenga, 2018). A ratio of 1:8-10 is considered optimal in this regard. Likewise, when the staff employed are highly qualified (Ulferts and Anders, 2016) and have many years of experience (Chetty et al., 2011), this improves long-term educational performance (Van Huizen and Plantenga, 2018). In particular, with regard to qualifications, the literature suggests that, in parallel with the expansion of nursery school coverage, it is necessary to expand the syllabus and specific work experience included in higher education childcare qualification programmes (Banghart et al., 2020). In addition, it is important to guarantee the availability of nursery schools near the homes of children from low-income families (Ferragina, 2019). An additional factor is the importance of mixing children from different types of families, in particular guaranteeing socioeconomic diversity. Although the quality of services itself is relevant to child development, there are several studies that show that the presence of children from upper-class and middle-class families in nursery schools can help attract more qualified professionals or have positive effects for children from disadvantaged families. So, this variable could be included as an element that contributes to the quality of the service (Cascio and Schanzenbach, 2013).

6.2. Hours offered at nursery: full day versus half day, as well as complementary services

Several studies suggest that nursery schools that offer full-day services produce better results than those that only provide a half-day service. When nursery schools offer a full day, this increases the probability of mothers joining the labour market (Brewer et al., 2022). Conversely, offering only half days (20-35 hours a week) does not lead to a percentage increase in the employment rates of women with children (Müller and Wrohlich, 2020). Therefore, ultimately, the two models of schedules offered lead to more or less income in the children's households. In the Spanish context, Nollenberger and Rodríguez-Planas (2015) point out that one of the main reasons for the limited increase in the labour participation of mothers when nursery schools were expanded for 3-year-olds is that public nursery schools follow the primary school calendar and hours, which resulted in families having to find alternative childcare during the summer and after 5pm. Therefore, according to the authors, any policy implemented through the school system must be complemented with other educational and childcare policies in order to increase their effectiveness. Finally, if only child development is analysed, the evidence points to the fact that part-time nursery school services do not generate any positive effects on children's educational performance one year after entering the programme (from 4 to 5 years). These results are valid for children from all family backgrounds, irrespective of income, and the effects are also independent of service quality (Blanden et al., 2017).¹⁶

However, regarding the benefits of longer days offered by nurseries, the literature presents differing results of this on child development. Attachment theory indicates that separation from the primary caregiver (in most cases, the mother) generates anxiety and stress in children (Mercer, 2006). Therefore, there is a risk that full-time childcare services may generate negative socio-emotional effects on children. Along these lines, several empirical studies show that in cognitive terms, 2-year-olds and 3-year-olds benefit more from the full-day service than from the part-time one, but that this type of day can affect their behaviour negatively (Loeb et al., 2007; Robin et al., 2006). In contrast, the experimental study by Baker et al. (2015) indicates that a full-day nursery school regime exerts a negative effect on children's cognitive development.

Similarly, Felfe and Zierow (2017) show that increasing the availability of full-time places in Germany led to an improvement in children's educational performance, but that it affected the socio-emotional development of children from immigrant families in a negative way. The authors explain that the absence of these same negative effects on native children with parents who had high educational attainment could be due to

¹⁶The study group is made up of 5-year-old children.

two reasons: either due to "parenting styles" (see Hsin and Felfe, 2014) or the differences between the quality of the nurseries attended by the most disadvantaged children and those from more prosperous families.

6.3. Access to services: should some groups be prioritised?

Carbuccia et al. (2022) conduct a review of the literature on inequalities in access to nursery schools. On the one hand, the authors classify four types of structural barriers to access:

- 1) The distance between families' homes and the nursery schools (residential inequalities). This is considered a key element for the most disadvantaged children because (1) these children tend to have less mobility options and (2) fewer nursery school places are available in poorer neighbourhoods (Vandenbroeck, 2013).
- 2) Admission criteria which can discriminate against these families, e.g. priority being given to families where both adults work.
- 3) The functioning of the nursery in practical terms. One example would be the hours offered: they usually follow standard office timetables, which do not help the most disadvantaged families, who are more likely to have atypical jobs (Vandenbroeck & Lazzari, 2014).
- 4) Bureaucratic requirements. It is pointed out that the application processes for nursery school services often require several documents to be presented (such as birth certificates, residence certificates, proof of payments...) that the most disadvantaged families, especially migrant families, do not have access to (Perreira et al., 2012; Archambault et al., 2020).

On the other hand, the authors review the cognitive and behavioural factors that families might have which prevent them accessing nursery schools. First, they find that disadvantaged families often have a greater information bias, i.e., they have less information about the availability and actual costs of centres, as well as about the application process, which negatively affects their probabilities of applying for and obtaining places (Lazzari, 2012; Vandenbroeck & Lazzari, 2014). Secondly, they explain that poverty and economic insecurity can redirect the cognitive resources of the children's parents towards different issues, i.e., due to the situation they find themselves in, these families may prioritise issues other than securing a child's access to nursery school (Ridley et al., 2020). Therefore, due to the fact that the families of these children tend to prioritise other "emergencies", the benefits of nursery school in terms of child development or the mother's employment tend to be somewhat

relegated (Chaudry et al., 2010 ; Herbaut and Geven, 2019). In general, Carbuccia et al. (2022) also conclude that administrative procedures and language barriers are more common among immigrant families, while the presence of informal care options (e.g. unemployed relatives) is more common for populations with less educational attainment and lower incomes.

Abrassart and Bonoli (2015), studying the case of Switzerland, suggest that the existence of sliding-scale nursery school fees is one of the most important factors in determining their use and that children from low-income families are more likely to attend nursery schools where lower fees are paid. In this sense, sliding-scale pricing structures are associated with more places taken up by the most vulnerable families, as demonstrated by the case of Barcelona (Navarro-Varas, 2022), while the extensive availability of the service seems less important when determining who accesses it, at least in the case of Switzerland. Therefore, this report argues that the prioritisation of certain groups can be very beneficial for the reduction of child poverty (Cornelissen et al., 2018).

A Euromod simulation (Hufkens et al., 2020), for example, indicates that in order to achieve a significant reduction in child poverty, two goals should be tackled adequately: creating new nursery school places and improving the employment rates of women with children. In this way, the expenditure involved in the creation of new places can be recovered to a significant extent through the income generated by the increased employment of women with children, through taxes and social security contributions. The scenario that would generate the greatest impact on poverty is the one where all new nursery school places are allocated to mothers in poverty but who are more likely to work. Therefore, expanding the availability of nursery schools can have a positive impact as long as the new places are adequately targeted at these profiles (Hufkens et al., 2020).¹⁷

However, something that must be avoided when designing the programmes is the school segregation that these policies can generate: focusing on disadvantaged families by improving access for immigrant families or other specific groups (for example, families on low incomes) must be accompanied by mechanisms that guarantee an equitable distribution of nursery schools places to families from various different socioeconomic profiles. Below, we present an example on a local scale and some practical proposals along these lines.

¹⁷It should be kept in mind that the practical implementation of this measure can generate problems in equitable access for those most vulnerable families.

Box 3. Non-experimental evidence at the local scale and important practical implications

An article by David Palomera (2022), recently published in the journal *Papers. Revista de Sociología*, explains that, in the case of Barcelona, the mother's income and the high costs of nursery schools represent significant barriers to applying for places in them. The author also points out two other elements that further hamper vulnerable families accessing places: the working conditions of these families, and the fact that many applicants do not understand how the system operates (especially immigrant mothers and those with lower educational attainment). With regard to the first point, the atypical schedules of the most disadvantaged families, among other factors, may force them to turn down a place in a nursery school despite having secured it. In the context of these results, Palomera (2022) makes some recommendations for possible reforms to 0-3 care policies:

- 1) Spending should be increased, either by increasing supply or reducing prices. This is key for both reducing costs for families and to improving the quality of nursery schools and the social services network that provide information and assistance to the public during the application processes.
- 2) However, in addition to spending, one mechanism can significantly contribute to reducing inequalities in access: the incorporation of sliding-scale (social) pricing.
- 3) Transparency should be guaranteed and the application processes monitored in order to prevent information from becoming the privilege of a small group of families.

Source: authors' own work.

According to the study by Cornelissen et al. (2018), an important first step, one that has begun to be implemented in some German states, is that the nursery school services are free for the most disadvantaged families and subsidies for early years education and care are eliminated, or at least reduced, for the wealthiest families. In this way, the results for the poorest children can be improved without increasing public expenditure, although it must be taken into account that the authors make this statement in the German institutional context. A conclusion that condenses all of the above is that, at present, the children who are likely to benefit most from attending nursery schools are not enrolled in them. According to Felfe and Lalive (2013) expanding high-quality services for the most disadvantaged groups will contribute to bringing these children to the same level as other children of their age, and in this way, promote equal opportunities. However, it should be kept in mind that it is likely that the first local expansions in availability will not greatly reduce the gaps between native families and immigrant families, since there is a considerable unsatisfied demand on the part of the former. Therefore, the improvement in access for immigrant families,

which are usually more disadvantaged, will begin to increase more sharply when coverage levels are higher (Maes, 2023).

Based on all the evidence reviewed, we consider the study by Archambault et al. (2020) an interesting starting point to find key elements to take into account in order to improve access to nursery schools. This study summarises the findings of many of the articles reviewed.

Table 3. Elements to be taken into consideration in order to improve access to nursery schools for children from disadvantaged families. Proposal by Archambault et al. (2020) based largely on the literature reviewed

Elements to be considered	Arguments put forward by Archambault et al. (2020)
Perception of a quality service	Using nursery school services may not coincide with the values held by the most vulnerable or immigrant families concerning the family model or their conception of the mother's role in the home. Negative perceptions about childcare or rumours about poor quality services can reinforce these feelings and, consequently, compound the barriers to accessing nursery schools. The greater the perceived quality –based on the perception of families and rated on a scale from 0 to 10– the less inequality in access (Van Lancker and Ghysels, 2016).
Wide availability of information	Awareness campaigns can be useful for fostering confidence in these types of programmes. It is necessary to focus the campaigns and information provided on the benefits of the programmes, their quality, costs and associated application procedures.
User-friendly services	In the same vein, it is necessary to promote good quality interactions between staff and families to increase trust and make nursery school services more user-friendly. Examples: greater time flexibility, frequency, pleasant atmosphere or even providing support for short stretches.
Cultural sensitivity	To strengthen this trust, immigrant mothers need staff to be culturally sensitive and aware of language difficulties. Proposals to increase attractiveness of the service: (i) provide training and orientation, and (ii) hire workers (fixed or temporary) who are part of a minority group and are more sensitive to other cultural norms.
Availability of services/waiting lists	In contexts where demand exceeds supply it is important to manage waiting lists well (i.e. from an equitable point of view). Recommendations: - "First come, first served" waiting lists should be avoided as much as possible, given that disadvantaged families tend to sign up later (and have more precarious jobs, which makes it difficult for them to plan). - Less importance should be given to occupational status and more weight to criteria such as income level, ethnic origin or family situation (this practice has already been introduced in Belgium). - The supply of quality nursery schools should be increased in neighbourhoods where there are fewer services. Availability is also a geographical distribution issue.
Prioritising spending on schools	Not only is increased investment in nursery schools important (as a percentage of expenditure), but also the manner in which it is invested. Investing in public early years education and care networks seems to give better results than leaving the choice to families (through subsidies).

Elements to be considered	Arguments put forward by Archambault et al. (2020)
Linking to other social policies	Ensuring free access to families who already receive social assistance or a minimum income can be a key factor in reducing poverty and promoting social integration (Norway is an example of this).

Source: authors' own work.

7. Home-based care services and other alternative services: what makes for an effective programme?

Home-based childcare services can be a very useful tool for helping families of children that require services and that nursery schools do not currently have places for. However, administrations should ensure that these services are good quality (Gupta and Simonsen, 2010), in order to avoid the only people who use them being families in the low income bracket. Otherwise, these services could reproduce social inequalities between children.

According to Bromer and Korfmacher (2017), the services in question can offer good logistical support since they are flexible and guarantee closer relationships with families. Even so, these same benefits can generate negative effects: greater flexibility, if not well structured, can affect the working conditions of the carer, causing them more work and increased stress. All this ultimately also affects the child, who receives less quality attention. In any case, Bromer and Korfmacher (2017) indicate a series of elements that are necessary to guarantee quality services (table 4).

In Gallego and Maestripieri's study (2022) carried out in Barcelona, Spain, the importance of the role of public actors in the promotion of home-based care services is also highlighted. In Catalonia these programmes are not recognised by the Generalitat (regional government); this means that these alternatives to nursery schools come at a high cost for families and that the services sometimes struggle to survive. Contrary to what is pointed out by the international literature (which is based mainly on the US home care model), the families who opt for these services demonstrate a high level of educational attainment and relatively high earnings. Many families decide to opt for this service to ensure a better carer-to-child ratio and more personalised attention than in nursery schools.

Table 4. General guide on the components, subcomponents and other elements that guarantee quality alternative non-schooling early years education and care services

Components	Learning environment	Provider/child relationships	Provider/to-family relationships	Sustainability of the service
Subcomponents	Physical environment	Support provided by the caregiver	Type of relationship	Working conditions
Quality characteristics	Group size and ratios	Emotional support/sensitivity	Good contact mechanisms to connect the parties	Working without external interference
	Indoor and outdoor spaces	Linguistic and cognitive support	Trust	Balanced schedule to protect the worker's work-family balance
	Healthy, safe space	Social support (activities to interact with others)	Reciprocal communication	Comparable to nursery school services
	Open during atypical hours	Support for physical development	Families' participation in children's learning processes is facilitated	
Subcomponents	Learning environment	"Family-style" relationships	Logistical support	
Quality characteristics	Organised material and environment	Close relationship maintained	Flexible schedules	
	Educational curriculum	Quality attention/care maintained	References for families (follow-up)	
	Learning activities	Cultural congruence		

Source: Bromer and Korfmacher (2017). Note: There is no experimental evidence on the effectiveness of the quality elements in question.

Porter et al.'s review (2010) also suggests that some elements are more important than others, or at least might be more influential than others. For example, one of these elements is the training that the caregiver has undertaken: both specialisations in child development education and a university degree in early childhood education are related to higher quality care, constituting one of the best predictive factors for it. This appears to be more important than elements such as group size or the relationships between children and adults. The authors also explain that more specialised training can generate solid know-how about specific practices, such as:

- Health support, which involves having knowledge about food safety for children or about certain specific habits (such as hand washing).

- Support for mental health, which involves knowing how to promote children's emotional development or incorporate practices that take into account traumatic experiences.

In conclusion, the evidence on the effects of home-based care services on child development or on the employment rates of women with children is scarce. Gupta and Simonsen (2010) show that these types of services can negatively affect children from disadvantaged families in emotional, behavioural and attentional terms, among others. In any case, it is suggested that home-based care services are a good tool for extending the coverage that nursery schools cannot guarantee at present. In this context, there are a number of elements that help provide quality services to alleviate the aforementioned negative effects: a safe, healthy and flexible learning environment (but one that guarantees fair working conditions for the carer) together with materials, activities and educational curricula that are comparable to those used in nursery schools, as well as small group sizes. Likewise, there is a certain consensus that specialised professional training in early years education and care guarantees that the carer has solid knowledge of specific practices and ensures a quality service.

8. Summary

From all the evidence reviewed, some conclusions can be drawn that could be useful for policies regarding nursery school services and home-based care services. Answers to the research questions posed by the report in Section 4 are briefly summarised below.

- 1) *What are the impacts of these policies on children and their families? How effective are they considering the socioeconomic levels of the families or other features they might have?*

The answers to these questions are very nuanced, and are already set out in this study. Although there is mixed evidence on the matter (Melhuish et al., 2015; Kulic et al., 2019), it can be concluded that more public investment in nursery schools and expanding public coverage for children between 0 and 3 years old is positive in terms of (1) child development and children's educational performance, (2) children's employment when they are adults and (3) increased employment rates of women with children (Melhuish et al., 2015; Van Huizen and Plantenga, 2018) ; Ferragina, 2019; Hegewisch and Gornick, 2013; Cascio and Schanzenbach, 2013; Chetty et al., 2011).

As a general rule, the effects benefit the most disadvantaged families more, that is to say, those with lower incomes and especially those of migrant origin with low incomes. On the other hand, there are two aspects that must be considered for future reforms: the persistence of significant inequalities in access to these programmes (Abrassart and Bonoli, 2015; Navarro-Varas 2022; Palomera, 2022; Carbuccia et al., 2022) and the possible negative effects at a socio-emotional level that children between 0 and 2 years of age can suffer from attending a nursery school all day, particularly those from disadvantaged families and immigrants.

2) What elements of the programmes have been shown to be most effective in this regard?

These effective elements can be summarised in three points. First, high quality: ensuring a low staff-to-child ratio (1:8-10), employing highly qualified staff (Ulferts and Anders, 2016), making sure that staff are experienced, and expanding the syllabus and work experience in higher education courses that are related to childcare and education. Secondly, offering a full-day schedule: this generates positive effects in cognitive terms for 2-year-old and 3-year-old children, as well as positive effects on employment rates of women with children and on household income. However, as we mentioned, this can also cause, negative effects in terms of behaviour. Thirdly, it is necessary to prioritise disadvantaged families' access to the services. This can be achieved by ensuring that there are nursery schools near families (or transport available), as well as by eliminating discriminatory access criteria and by reducing bureaucratic hurdles. Below (section 9), eight lines of action are proposed in accordance with the evidence found during the research.

Finally, some limitations that have been identified in the existing evidence should be taken into account. These limitations are important for interpreting the conclusions and the implications for practice in point 9 below. First, however, it should be noted that there is considerable evidence based on experimental methods assessing the impact of expanding nursery schools on the employment rates of women with children, but that when it comes to examining child development, the studies are more limited. In addition, most of these latter studies focus on the USA, and on many occasions, on non-universal programmes that are targeted at children from disadvantaged families (such as the Perry programme). In this sense, it should be noted that the effects of these programmes are not necessarily the same as the effects of universal programmes. A second limitation of the report is the lack of (quasi)experimental evidence regarding the impact of home-based early years education and care services.

9. Implications for practice

European and national institutions have considered early childhood education and care services key policies for tackling child poverty. In Catalonia, there is concern over the high percentage of children aged between 0 and 6 at risk of poverty or social exclusion, which according to the data from the 2022 Living Conditions Survey amounts to 34.1% of this group. In addition, the low coverage of public nursery schools, which stands at 20% according to Mayordomo (2023), means that the potential of these services to contribute to the reduction of poverty is being held back. In accordance with this, eight lines of action are proposed for early childhood education and care policies in order to encourage the participation of the most vulnerable children and to ensure that these policies have the best possible impact on these children's development and on the well-being of their families. It should be noted, however, that the practical implications of the report focus mostly on nursery schools since, as noted above, empirical and experimental evidence on home-based care services is extremely limited. So, from the evidence consulted, the following eight implications emerge for practice when designing early childhood education and care policies. They are aimed both at public administrations and third sector social entities that design and implement these services:

- 1) **More availability and/or cost reductions:** an increase in the number of public 0-3 nursery places and reduction of costs for families. Both measures have several positive effects: for disadvantaged families accessing the service, on the employment rates of women with children and on children's educational performance. This line of action seems to be more effective than subsidies (Ruhm and Waldfogel, 2011). Although it goes beyond the scope of this synthesis of the evidence, one of the main challenges at this point is to understand that moving towards free access to nursery schools does not automatically imply that vulnerable families will take up these services.
- 2) **Geographical equity:** if the intention is to increase the number of nursery school and reduce the percentage of children at risk of poverty at the same time, residential inequalities must be corrected. This implies that when new nurseries are opened or the number of places increased, this must take place in neighbourhoods or areas that lack them most, and which are home to a significant percentage of disadvantaged families.
- 3) **Investing in the quality of the service:** it is beneficial for child development for nurseries to employ highly qualified staff. Guaranteeing high staffing standards, offering a full-time service in infrastructures that are in good condition is all key for children's wellbeing. If the provision of the service is left

entirely in the hands of the market, there is an increased risk that families in an economically vulnerable situation will find it difficult to access higher quality services, and expanding the services will not manage to reduce inequalities (Esping-Andersen et al., 2012). These quality criteria also apply to home-based childcare services.

- 4) **Quality education in the future:** it has been shown that even after positive early childhood educational experiences, if later schooling is poor quality, it can lead the most disadvantaged children falling behind (Melhuish et al., 2015). It is therefore necessary that the transition from nursery school to the next educational phase guarantees the same sound educational quality.
- 5) **Facilitating access:** measures to achieve more equitable access can include establishing sliding-scale pricing, prioritising social criteria over occupational ones, improving support for families in the application process and increasing the cultural responsiveness of services. This is crucial due to growing multiculturalism and increasingly diverse families requesting the service.
- 6) **Avoiding segregation:** the presence of children from more socioeconomically advantaged families in classrooms can help attract more qualified professionals or have positive effects for children from lower income families in terms of social capital. For this reason, improving the chances of vulnerable families, especially low-income immigrants, to access services must be accompanied by mechanisms that guarantee an equitable distribution to all the different socio-economic profiles applying for places. For example, and related to the previous point, discriminating more in terms of income means being able to serve the most disadvantaged families better and, potentially, reducing school segregation. Other mechanisms may be ones related to school zoning (for more information, see the full report by Xavier Bonal, UNESCO and IPE, 2018), which could complement point 2. In order to avoid these segregation dynamics, it is necessary complement education and care services with policies or incentives (for example, through school allocation mechanisms, as shown by Alegre, 2017) and thus guarantee that there will be children with many different social backgrounds in the classrooms.
- 7) **The Generalitat (Catalan regional government) should recognise home-based education and childcare services:** in this sense, we could start by implementing article 104 of Law 14/2010, of 27 May, on rights and opportunities in the childhood and adolescence (LDOIA) regarding social and educational care measures in situations of risk.

8) **We should use quality data to put together evidence about these policies locally:** on the one hand, in order to better understand inequalities in accessing and using the services, administrations should promote the creation of databases on the use of nursery schools by age together with their quality indicators (Banghart et al., 2020). Many administrations in Europe provide microdata on access to and use of services together with socio-demographic and educational performance data, among others (see, for example, Cornerlissen et al., 2018; Müller and Wrohlich, 2020; Felfe and Lalive, 2012 and Corazzini et al., 2021). On the other hand, the research needs to be expanded to understand the impact of the universal programmes in place, given that much of the evidence on the impact of 0-3 education and care services on children's development is based on studies of programmes for specific groups (Baker, 2011).

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