

# Unequal access to early childcare: What role do demand-side factors play? A PRISMA systematic review

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# Unequal access to early childcare: What role do demand-side factors play? A PRISMA systematic review.

#### Abstract

High-quality early childcare structures are effective policy levers for reducing inequalities. However, underprivileged populations in Western countries access them the least. The reasons underlying this unequal access have been studied, but not systematically. In addition, many demand-side factors (e.g., information level of families, decision heuristics) have been understudied, and have not previously been theorized in this field of study as contributing to this unequal access. Only the role of preferences has sometimes been considered as contributing to this unequal access. This article fills these gaps by making two major contributions to the literature. At the theoretical level, it proposes a comprehensive classification of the different factors that can underlie these dynamics. At the empirical level, it re-examines the existing evidence, evaluating the proposed factors' relevance through a PRISMA mixed-methods systematic review of the empirical literature. Relying on a cross-validated impact score and p-curve analyses, we find evidence that demand-side factors could contribute as much as supply-side factors (e.g., shortage of places and fees) to this unequal access. However, current public policies often only target supply-side factors. If future research confirms our results, new public policies should be created considering these demand-side factors. Otherwise, structural reforms' effectiveness could be severely limited.

**Keywords:** inequalities, early childcare, non-take-up, PRISMA mixed-methods systematic review, p curve.

# Introduction

The importance of developing early cognitive and sociobehavioral skills for later school success and well-being is well documented in the scientific literature (Heckman and Masterov, 2007; OECD, 2015, p. 201). Attending high-quality early childcare <sup>(1)</sup> structures can be an effective way of promoting these skills (Melhuish, 2004; Camilli *et al.*, 2010; Bennett, 2012; Van Huizen and Plantenga, 2013; OECD, 2018). It can also act as a lever to reduce early inequalities because underprivileged <sup>(2)</sup> children benefit the most from it (Melhuish, 2004; Grobon, 2018; Berger, Solaz and Panico, 2020) and because early childcare facilitates women's employment, which reduces gender inequalities and increases family income (Kimmel, 1998; Waldfogel, 2002; d'Albis, Gobbi and Greulich, 2017; Martinez and Perticara, 2022).

However, underprivileged children access early childcare less frequently in Western countries, and the causes of this unequal access are underresearched (Collombet, 2018; OECD, 2016). Various factors have been proposed to account for these inequalities (Archambault et al., 2019; Lazzari, 2012; Vandenbroeck, 2013), but no systematic review compiles the existing empirical evidence to test their respective weight. Moreover, most frameworks focus on supply-side factors (e.g., shortages, high fees, admission criteria favoring dual-income families, etc.) and overlook the possible role of demand-side factors (e.g., social norms, information level, decision heuristics, etc.). The only exception to this overall pattern is the role of parent's preferences, which is sometimes considered (Archambault et al., 2019; Lazzari, 2012; Pavolini and Van Lancker, 2018).

This article makes two major contributions to the literature. It proposes a new set of explanatory factors, called demand-side factors, which includes for instance the information level of families and their decision heuristics. The second contribution is empirical, which relies on meta-analytical inquiries: a PRISMA <sup>(3)</sup> systematic review of empirical literature allowed us to assess whether these demand-side factors are likely to also contribute to inequalities in early childcare access. The results suggest that these demand-side factors contribute at least as much as supply-side factors to the unequal access to early childcare.

This article proceeds as follows: After a brief review of the theoretical literature, we present a synthetic classification of the factors that could lead to unequal access to early childcare. In the second part, we present the PRISMA methodology of a systematic review of the empirical literature and its results. Finally, we discuss potential policy implications and scientific perspectives of these results.

<sup>&</sup>lt;sup>1</sup> By "early childcare" we will refer here to any regulated arrangement that provides education and care for children from birth to (pre)school age (European Commission, 2022).

 $<sup>^2</sup>$  The term can intentionally refer to multiple socioeconomic status measurements (mainly household income, occupation, and education), and to migration status.

<sup>&</sup>lt;sup>3</sup> PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) is a reporting guideline for conducting systematic review and meta-analysis that aims at maximizing studies' reproducibility and hence their quality.

# I. Literature review

Many factors affect access to early childcare but there have been few attempts to classify these synthetically (OECD, 2001; Chaudry, Henly and Meyers, 2010; Lazzari, 2012; Archambault, Côté and Raynault, 2019). In what follows, we put forward a classification organized around two broad categories: supply-side factors and demand-side factors.

# I.1. Supply-side factors

Affordability and Accessibility are important supply-side factors that can block access to early childcare. Affordability mainly boils down to the direct cost of childcare, which can be too high for underprivileged families (e.g., Workman and Jessen-Howard, 2018) but also refers to women's opportunity costs of staying at home to take care of their child, which is higher for families in higher income brackets. Accessibility issues can be traced back to four main sources:

1) Geographical inequalities: The proximity of early childcare facilities is important for underprivileged families who tend to be less mobile, but these structures are often concentrated in the most affluent areas (OECD, 2001; Vandenbroeck, 2013; Archambault, Côté and Raynault, 2019).

2) Admission criteria: Early childcare structures often face a shortage of available spots (e.g., (Jessen-Howard, Malik and Falgout, 2020)). These dynamics often result in allocating the available places based on admission criteria, which may be unfavorable to underprivileged families (e.g., if both parents must be employed; (Lazzari, 2012; Vandenbroeck, 2013; Archambault, Côté and Raynault, 2019)).

3) Functioning: The functioning of early childcare may not be adapted to the time schedules of underprivileged parents (OECD, 2001; Lazzari, 2012; Archambault, Côté and Raynault, 2019). For instance, underprivileged parents are more likely to have atypical working hours (Presser and Cox, 1997), but early childcare often has standard office hours (OECD, 2001; Vandenbroeck and Lazzari, 2014).

4) Bureaucratic requirements: Completing the application process requires documents, such as birth certificates or family booklets, which may be difficult to access for immigrant families (Perreira *et al.*, 2012).

We refer to these affordability and accessibility factors as supply-side factors, as they result from a mismatch between the characteristics of the supply in early childcare and the specific constraints underprivileged parents face.

#### I.2. Demand-side factors

At the individual level, some authors have also put forward the role played by parental preferences (Lazzari, 2012; Archambault, Côté and Raynault, 2019). Beyond the supply-side factors reviewed above, the use of early childcare may also be perceived as less desirable by underprivileged parents because of families' beliefs and social norms regarding motherhood, children's needs, and the family model (Leseman, 2002). For example, parents who grew up in the so-called traditional family model (male breadwinner and mother as caregiver) may not express the need to resort to early childcare. These beliefs and norms tend to be more prevalent among the working classes (Edin and Kefalas, 2005; Pape, 2009; Galland and Lemel, 2010; Schwartz, 2012). In addition, if mothers do not work, the traditional motivations to resort to early childcare (i.e. parents' work) may not be present, as the mothers can take care of the children (Pavolini and Van Lancker, 2018).

On the one hand, considering these preferences is crucial. The lower representation of underprivileged families in early childcare might indeed reflect different values regarding the role of parents during early childhood. If that is the case, some of the factors leading underprivileged families to access early childcare less may not be considered as "barriers". Thus, the purpose of public policy is not so much to increase the participation of underprivileged parents in early childcare by all means. Rather, public policies should ensure that underprivileged parents have the same amount of information and the same opportunities as better-off families in their childcare decision-making (Althaus, 1998; Andersen, Tilley and Heath, 2005; Chevallier, Hacquin and Mercier, 2021).

On the other hand, these preferences must be carefully interpreted because the relationship between parental childcare decisions and parental preferences is bidirectional (Pungello and Kurtz-Costes, 2000; Vandenbroeck and Lazzari, 2014): Parental preferences influence childcare choices, and childcare decisions influence parental preferences. In addition, preferences do not always translate into behavior for multiple reasons that go beyond supply-side constraints. The rational choice paradigm should therefore be interpreted with caution in the case of access to early childcare (Vandenbroeck *et al.*, 2008).

Indeed, inequalities in access to early childcare can be interpreted in a broader field of research at the intersection of cognitive and social sciences, namely, nontake-up by underprivileged households of services that could be beneficial for them (Currie, 2004; Bargain, Immervoll and Viitamäki, 2012; Reijnders, Schalk and Steen, 2018; Vandoninck, Fobé and Brans, 2018). For example, in the case of access to postsecondary education, one of the reasons underprivileged students apply less to college is that they overestimate its costs and underestimate the returns on investment (Hout, 2012; Herbaut and Geven, 2019). When such students are provided with accurate and personalized information, they react by applying more frequently (Barone *et al.*, 2018). In addition, this literature emphasizes that focusing only on preferences and intentions may be insufficient to change behavior, as intentions do not always translate into action.

Drawing on this literature, we therefore examine (i) the different factors that may drive parental preferences in the context of childcare decision-making and (ii) the factors that hinder demand and access to early childcare even in the case of favorable preferences (Goedemé and Janssens, 2020). We refer to this set of factors as demand-side factors.

#### I.3. Informational dimensions

Underprivileged families often have less information about the cost of, availability of, procedure for, and application support for early childcare, which affects their decisions, application journey and probability of accessing their preferred childcare option (Lazzari, 2012; Vandenbroeck and Lazzari, 2014). Informal social networks are the primary source of information about early childcare among underprivileged populations (Chaudry et al., 2011). Parents will therefore struggle to access information about early childcare structures in their informal social networks if, for example, the social norm is to keep children at home. This is problematic given that informal networks are crucial to help families navigate the complexities of the application process, such as the timetable for applying or the need to apply to several structures (Chaudry, Henly and Meyers, 2010). Underprivileged families are also less likely to access expert sources (Perreira et al., 2012), including specialized literature about early childhood, or information available on the internet, which they tend to use less (Rothbaum, Martland and Beswick, 2008; Radey and Randolph, 2009; Bell, 2014). Overall, such information scarcity is likely to generate mismatches between parents' perception of the available supply of childcare options (and its characteristics) and reality. For instance, early childcare (e.g., likelihood of getting a spot) could be perceived as less accessible and less affordable than it actually is (Keller, 2003; Barone et al., 2018; Aksztejn, 2020).

#### I.4. Psychology of scarcity and non-take-up dynamics

Beyond information, poverty itself seems to redirect parents' cognitive resources toward matters other than early childcare decision-making (Shah, Mullainathan and Shafir, 2012; Mani et al., 2013; Ridley et al., 2020). Families living in difficult environments face significant stress, which can be the source of a cognitive overload and reduced attentional bandwidth (Mani et al., 2013; Mullainathan and Shafir, 2013). This may lead underprivileged families to rely more heavily on decision heuristics to choose among various childcare options (Chaudry, Henly and Meyers, 2010; Kahneman, 2013). One such heuristic is to follow the social norm, which is often to favour informal or parental care. In addition, time discounting is stronger among underprivileged populations, which may emphasize the present bias (Harrison, Lau and Williams, 2002; Yesuf and Bluffstone, 2008; Pepper and Nettle, 2017; Ludwig, Flournoy and Berkman, 2019). The present bias occurs when the costs of a choice are salient in the present while its benefits are more uncertain and deferred in time. Early childcare is susceptible to this bias because it is more expensive than parental or informal care and its benefits, e.g., in terms of child development, or mother's employment, are delayed and uncertain time (Chaudry, Henly and Meyers, 2010; Hunter et al., 2018; Wang and Sloan, 2018; Herbaut and Geven, 2019). This phenomenon might be exacerbated by the fact that underprivileged parents trust external actors and institutions less than better-off families (Galland and Lemel, 2010; Bell, 2014; Fuller, 2014; Twenge, Campbell and Carter, 2014; Korndörfer, Egloff and Schmukle, 2015).

In the case of immigrant families for instance, low levels of trust and fear toward the host country institutions contribute to the nontake-up of health care (Perreira et al., 2012; Hacker et al., 2015). The overall complexity of the application process and the resulting cognitive and administrative burden generates friction costs (called sludges) that are particularly harmful for underprivileged families (Herd and Moynihan, 2019; Sunstein, 2019). Due to inequalities in the cognitive, social, and temporal resources available to allocate to these tasks, sludges likely work as a true barrier for them. These costs include the difficulty of acquiring information because parents lack the time to do so (Bertrand, Mullainathan and Shafir, 2006; Shah, Mullainathan and Shafir, 2012) as well as cognitive and behavioral costs, such as cognitive resource investment, frustration, stigma, or humiliation (e.g., being labeled "in need" if one applies for targeted subsidies; (Mullainathan and Shafir, 2013; Vandenbroeck, 2013; Haushofer and Fehr, 2014; Sunstein, 2019; Ridley et al., 2020). The fact that administrative proficiency is lower on average among these families and that they can have less social support from their network compound this phenomenon and further increase the amount of time needed to apply (Vandenbroeck, Geens and Berten, 2014; Christensen et al., 2020). Similarly, language barriers contribute to the nontake-up of social services by immigrants (Hacker et al., 2015)

#### **II.** Theoretical framework: presentation of the classification

Drawing on the theoretical framework outlined in the previous section, Figure 1 presents a classification <sup>(4)</sup>of the factors that may contribute to the different patterns of early childcare use and related social inequalities. We differentiate demand-side factors from supply-side factors. Within the former, we distinguish the factors that influence the intention to resort to early childcare from the behavioral factors that hinder early childcare demand, even if parents have such intentions.

<sup>&</sup>lt;sup>4</sup> This general classification synthesizes the contributions of existing models to which are added demand-side factors. It, therefore, makes no assumption on how these factors can vary depending on institutional context. While this crucial question should be investigated by future work, it is beyond the scope of this review.

Demand-side factors	Supply-side factors
Drivers of parental preferences	Affordability
<ul> <li>Level of information Perceived accessibility, affordability, quality, &amp; application tricks</li> <li>Beliefs and social norms</li> <li>Motivations to use childcare (ex. mother work)</li> <li>Level of trust</li> <li>Decision heuristics</li> </ul>	<ul><li>Fees</li><li>Subsidies</li><li>Opportunity costs</li></ul>
Factors hindering action in case of	Accessibility
favorable preferences	Proximity
<ul> <li>Cognitive, social and temporal resources available</li> <li>Administrative and linguistic proficiency</li> <li>Sludges and friction costs</li> </ul>	<ul> <li>Shortages (lack of places)</li> <li>Admission criteria</li> <li>Functioning (e.g., opening hours)</li> <li>Bureaucratic requirements</li> </ul>

#### Figure 1. Classification of the different factors underlying access to early childcare<sup>(5)</sup>

#### III. Methods

#### **III.1. Search strategy**

We first preregistered our data extraction protocol in the Open Science Framework repository of the project (https://osf.io/68d2b/). Then, following the PRISMA methodological framework, an extensive search was carried out in three databases (PsycINFO, Education Resources Information Center (ERIC), and Persée) and using two search tools: Google Scholar and ProQuest. To be as exhaustive as possible, the search was conducted in French and English between December 2020 and February 2021, and no publication date limit was imposed. To ensure reproducibility, the search results were recorded in a spreadsheet available online after duplicates were removed.

Our search algorithm, implemented in French and English, was composed of one term referring to early childcare ("childcare" OR "child care" OR "daycare" OR "ECEC" OR "early childhood education and care" OR "creche" OR "nursery") and one term referring to the phenomenon ("barriers" AND/OR "access" OR "enrollment" OR "use" OR "enrollment gap"). Some optional terms were also included ("experimental" OR "costs" OR "subsidies" OR "beliefs" OR "norms" OR "trust" OR "information" OR "informational" OR "geographical" OR "lack of space" OR "admission criteria" OR "culture" OR "cultural" OR "cognitive and behavioral" OR "social" OR "parental skills" OR "inequalities" OR "underprivileged" OR "persistence").

<sup>&</sup>lt;sup>5</sup> Perceived quality was not initially present in our classification (see Results)

Two additional strategies were also implemented: 1) the table of references of the main recent articles in the field were explored, and the citations of older articles were explored, and 2) four experts in the field were contacted to provide a list of relevant references.

# **III.2.** Eligibility criteria

Our population of interest consisted of underprivileged families in Western countries with at least one child of the age to attend early childcare (as soon as early childcare use is possible in one country) or expecting a child. We excluded studies dealing exclusively with a specific population (e.g., children with disabilities) or that did not cover any type of underprivileged population (e.g., measured in terms of income, education, or migration background).

The review focused on the factors underlying unequal access to early childcare. Studies were therefore required to empirically address at least one factor. Our main outcome of interest was the effect of the factor(s) identified in the article on access to early childcare for underprivileged families. Only primary studies (as opposed to literature reviews) were included. We wanted to be as exhaustive as possible in our review. We therefore conducted a mixed-methods systematic review including all methodology types, whether quantitative, qualitative, or mixed-methods. Studies had to be published in English or French, the two languages mastered by the coders.

Articles were initially excluded based on their titles and abstracts if they clearly did not meet these criteria. When the full text was available, the remaining articles were included or excluded based on a full reading. The authors of the articles for which the full text was not available were contacted individually, and, if a response was not received, the corresponding articles were excluded.

# **III.3. Data extraction**

The first author of this review and a colleague independently extracted data from the resulting sample of articles. For each article, the following information was extracted: title, publication date, author name(s), methodology type (quantitative, qualitative, or mixed methods), journal and its discipline when available, and the main discipline of the authors.

Then, for each article in the final sample and each mention of an element relating to a factor in our classification (or additional factors that were not initially included), the following were extracted: the country(ies) covered; the method type used (semidirected interviews, focus group, observational or correlational study, quasi-experimental, or randomized controlled trial); how the factor was assessed (through declarative measures, external measures such as administrative data or both); the type of underprivileged population being studied (e.g., defined according to income level, employment status, and education); the sample size and nature (country, decision-makers, parents or children); and the age range of the children covered, if relevant. Then, for each occurrence of each factor mentioned, we extracted the following: the factor type (e.g., fees, perceived accessibility, information, etc.); the specific nature of the outcome (e.g., the relationship between the belief that X and early childcare application); an impact score between -2 and 2 (see below), and when possible, whether the result was significant; the associated p value (in the approximate form of "<0.05" or exact if available); the type of test performed; and the associated test value and standard deviation, if available.

#### **III.4. Data-coding strategy**

Article disciplines:

Initially, it was intended that the discipline of each article would be defined based on the journal where it was published. However, our systematic review included several unpublished manuscripts. In addition, many of the journals were interdisciplinary and therefore difficult to classify. For this reason, the discipline of the article was finally defined according to that of the first author.

#### Impact score:

One of the challenges of mixed-methods reviews is to report both quantitative and qualitative evidence in a unified manner. To do so, the two coders independently assigned an impact score between -2 and 2 to each occurrence of each factor type to qualify its impact on early childcare access. This score refers to the article's conclusions about the impact of the factor on access to childcare for underprivileged populations [-2: the evidence shows that the factor has no differential effect on access to childcare for underprivileged populations; -1: the evidence suggests that the factor has no effect; 0: the evidence is inconclusive; 1: the evidence suggests that the factor has an effect; 2: the evidence attests that the factor has an affect].

The rating correlation between the two coders was found to be very strong (correlation coefficient = 0.89, IC 95% [0.85; 0.92], t = 24.2; p = 2.2-16; (Evans, 1996)).

Factor coding:

Through a post hoc iterative process, the different outcomes present in the literature were grouped thematically within factor categories (e.g., "the relationship between the belief that X and early childcare demand" were classified under the category "parents' beliefs and norms"). New factor categories that were not initially present in our classification were added when necessary. This process resulted in an operational classification into 15 intelligible categories of the factors found in the literature. Each was characterized by a question that best described it (see Figure X in the Results for a presentation of the final classification). For each of these 15 categories, an average impact score out of 2 was calculated from the impact scores assigned for each item in the category, regardless of whether the item came from a quantitative or qualitative article. Consistent with our classification, these factor categories were then grouped into two broad categories: "demand-side factors" and "supply-side factors".

### **III.5.** Meta-analysis

#### P curve analysis:

In the case of a positive impact score, we wanted to assess the robustness of this effect (i.e., Is the factor category likely to have an impact on underprivileged populations' access to early childcare, or could this effect be due to publication bias?) . Therefore, we performed p curve analyses on the available sample of p values (Simonsohn, Nelson and Simmons, 2014). Based on the distribution of the p values below the significance threshold, this method allowed us to estimate whether an existing result emerging from the review could be due to p hacking or is likely to actually exist. We ran the analysis for the p values sample of both coders to ensure the validity of the results, both for the demand-side factors and for the supply-side factors.

#### Effect Sizes:

We computed the associated standardized effect size for each mention of each factor type in the quantitative articles, along with the related confidence interval and variance. The calculations were performed using the ESC package in R (Lüdecke, 2018).

#### III.6. Bias assessment among the included studies

To find the mixed-methods review risk-of-bias assessment tool that would best fit our sample of articles, we evaluated several tools on a small sample of articles . Based on this assessment, we chose the Quality Assessment Tool (QATSDD; Sirriyeh et al., 2012). It consists of 16 criteria, each scored on a scale of 0 to 3, that apply to quantitative and/or qualitative studies. Studies are then compared according to their percentage of the maximum possible score on these different criteria (Sirriyeh et al., 2012; Hong, 2017). Using a test–retest protocol on one article three months apart, the intrarater reliability of the first author was assessed as being very high according to Cohen's criteria (correlation coefficient r = 0.95, IC 95% [0.90; 0.98]; (Cohen, 1960, p. 19)). When the grading of the two coders was compared, the interrater reliability was found to be very strong (correlation coefficient r = 0.83, IC 95% [0.65; 0.92];).

#### **IV.** Results

#### **IV.1. Systematic search results**



Figure 2. PRISMA flow chart

As shown in Figure 2, during the inclusion phase, 3,423 items were identified. Once duplicates were removed, this number was reduced to 525 studies. These 525 studies were then included or excluded based first on their titles and then on their abstracts. Following this screening phase, 452 articles were excluded, and 72 were retained for the eligibility phase. We did not find the complete manuscript for 5 of these articles. Therefore, 67 manuscripts were fully read during the eligibility phase. At the end of this phase, 40 items were excluded because they did not meet our eligibility criteria, namely, 18 did not address any factor relevant to accessing

early childcare for underprivileged populations; 13 were systematic reviews or theoretical studies; 6 focused on a population that was too specific for our study topic (e.g., children with disabilities); 2 dealt with access to educational structures for older children (e.g., preschool or kindergarten); and 1 had a study population that was not from a developed country. The remaining 27 articles were included in the systematic review.

#### **IV.2. Individual study results**

Given the low number of retrieved articles, relatively few empirical studies seem to have investigated why underprivileged children are underrepresented in early childcare in Western countries. An overview of the 27 articles included is available in Figure 3. This literature is relatively recent, as 89% of the studies were published between 2010 and 2021. The data mainly came from liberal countries (7 articles each from the US and the UK). The category "underprivileged population" was mainly operationalized in the literature in terms of income (in 18 of 27 articles), educational level (10 articles), employment status (5 articles) and migration background (5 articles). Most of the articles (16 of 27) were based on observational or correlational data and on declarative measures (18 of 27). Overall, this systematic review aggregated data from 32 countries collected from 243 decision-makers (early childcare staff, early childcare directors, etc.), 322,914 parents, and 973,584 children.

Figure 3.	The	reviewed	studies	by	publication	date,	country,	research	discipline,
evidence	type, o	experimen	tal desig	n ty	ype, measure	ement	type, nun	iber of pa	rticipants,
operationalization of "underprivileged populations" and risk of bias									

	Reference	Date	Country	Discipline	Evid. Type	Design	Type of measure	N	Operationalization of "underprivileged"	ROB
(1)	Abrassart & Bonoli	2015	Switz.	Economics	Quantitative	Quasi-experimental	Both	875	Income	64,2
(2)	Binet	2003	Canada	Sociology	Qualitative	Interviews	Declarative	18	Income; employment status	73,8
(3)	Busse & Gathmann	2018	Germany	Economics	Quantitative	Quasi-experimental	Both	16827	Income; education; marital status	66,7
(4)	Farfan-Portet et al.	2011	Belgium	Economics	Quantitative	Quasi-experimental	External	264 456	Income	66,7
(5)	Fenech & Skattebol	2019	Australia	Sociology	Quantitative	Interviews	Declarative	8	Income	52,3
(6)	Grace et al.	2014	Australia	Educ. Sci.	Mixed	Observ./Correlational	Declarative	101	Income; employment status	58
(7)	Greenberg et al.	2016	US	Economics	Qualitative	Interviews	Declarative	45	Income; migration background	40,4
(8)	Greenberg	2010	US	Economics	Quantitative	Observ./Correlational	Declarative	14480	Income	71,4
(9)	Herman	2017	France	Sociology	Qualitative	Interviews	Declarative	19	Employment status; poverty rate	14,2
(10)	Holloway	1998	UK	Geography	Qualitative	Interviews	Declarative	32	Index	45,2
(11)	Jessen et al.	2020	Germany	Economics	Quantitative	Observ./Correlational	Declarative	62437	Education; migration background	83,3
(12)	Johnson et al.	2017	US	Psychology	Quantitative	Observ./Correlational	Declarative	1050	Income; migration background	59,5
(13)	Kahn & Greenberg	2010	US	Sociology	Quantitative	Observ./Correlational	Declarative	7209	Migration background	45,4
(14)	Marshall et al.	2013	US	Educ. Sci.	Quantitative	Observ./Correlational	Declarative	665	Income; education	59,2
(15)	Ünver et al.	2018	Europe	Economics	Quantitative	Observ./Correlational	Declarative	7213	Income (subjective)	69
(16)	Pavolini & Van Lancker	2018	Europe	Pol. Sci.	Quantitative	Observ./Correlational	Both	32643	Index	73,8
(17)	Pennerstorfer et al.	2021	Austria	Pol. Sci.	Quantitative	Observ./Correlational	External	814115	Income; education; house price	71,4
(18)	Petitclerc et al.	2017	US; Can.; Dutch.; Norway; UK	Educ. Sci.	Quantitative	Observ./Correlational	Declarative	21437	Income; education	66,6
(19)	Rönkä et al.	2019	Finland	Psychology	Quantitative	Observ./Correlational	Declarative	302	Income (subjective); education	42,8
(20)	Sandstrom & Chaudry	2012	US	Educ. Sci.	Qualitative	Observ./Correlational	Declarative	86	Income; migration background	71,4
(21)	Sibley et al.	2015	Norway	Educ. Sci.	Quantitative	Observ./Correlational	Declarative	60270	Income; education; employ. status	64,2
(22)	Skattebol	2016	Australia	Sociology	Qualitative	Interviews	Declarative	131	Income	30,9
(23)	Van Lancker & Ghysels	2016	Europe	Sociology	Quantitative	Observ./Correlational	Both	22590	Education	76,2
(24)	Vandenbroeck et al.	2012	Belgium	Educ. Sci.	Mixed	Observ./Correlational	Both	3789	Income; ethnicity	35,4
(25)	Vandenbroeck et al.	2008	Belgium	Educ. Sci.	Quantitative	Observ./Correlational	Both	100	Education	40,4
(26)	Wolf et al.	2020	Europe	Educ. Sci.	Quantitative	Observ./Correlational	Declarative	943	Education; employment status; migration background	38,1
(27)	Zangger & Widmer	2020	Switz.	Economics	Quantitative	RCT	Both	540	Index	71,4

Can. = Canada / Educ. Sci = Education Sciences / Pol. Sci. = Political Sciences / Observ. = observationnal / RCT = Randomized Controlled Trials ROB = Risk of Bias

# IV.3. Empirical evaluation of the classification

State of the literature and general empirical validity of the classification

The factors underlying unequal access to early childcare that were found in the articles reviewed can be seen in Figure 4.

# Figure 4. Classification of the factors contributing to unequal access to early childcare according to their frequency in the empirical literature, their average impact score and their risk of bias.

	Factor	Codes graphs	Theoretical question behind	% of articles mentioning (ref.)	Impact score	Risk of bias
s	Information	information	Are parental preferences informed by all accessible information?	<b>19%</b> (2; 5; 7; 10; 22)	2	50.5
	Parents' beliefs	beliefs	Are parents' beliefs in adequation with early childcare use?	<b>33%</b> (2; 6; 7; 11; 12; 20; 22; 25 26)	1.4	67.3
	Social norms	norms	Are parents' norms in adequation with early childcare use?	<b>26%</b> (6; 10; 11; 12; 16; 23; 26)	1.3	65.5
	Trust towards the institutions	trust	Is parental trust towards institutions sufficient to rely on early childcare?	<b>19%</b> (2; 5; 6; 12; 20)	1	59.3
e facto	Different motivations	motivations	Do parental motivations for the type of childcare used differ from upper classes? (e.g, more informal care available, no employment)	<b>37%</b> (2; 10; 11; 12; 13; 14; 15 16; 21; 23; 26)	1.9	65.9
nd-side	Perceived accessibility	perceived_accessibility	Do parents perceive early childcare as accessible?	<b>11%</b> (2; 7; 15)	1.75	60.7
Deman	Perceived affordability	perceived_affordability	Do parents perceive early childcare as affordable?	<b>11%</b> (2; 14; 22)	1.5	55.1
	Perceived quality	perceived_quality	Is the perceived quality of early childcare sufficient to use them?	<b>29%</b> (5; 6; 12; 14; 20; 22; 23)	1.93	73.7
	Decision heuristics	NA	Are childcare decision-making shaped by decision heuristics?	0%		
	Resources and skills	resources_skills	Do parents have the resources and skills to sustain the application process?	<b>41%</b> (2; 5; 6; 7; 10; 11; 12; 13; 22; 24; 25; 26)	1.65	48.7
	Proximity	proximity	Is there any early childcare structure at an acceptable distance?	<b>37%</b> (2; 5; 6; 7; 10; 11; 12; 20; 25; 27)	1.84	65.5
	Sufficient number of places	shortage	Is the number of places sufficient to cover parents' needs?	<b>37%</b> (1; 2; 4; 6; 7; 11; 12; 14; 26; 17; 24)	1.42	70.5
Supply-side factors	Access criteria enabling access	access_criteria	Do early childcare admission criteria enable access for underprivileged parents?	<b>15%</b> (5; 9; 7; 23)	1.5	27.4
	Adequate functioning to parents' life	functioning	Is the functioning of the early childcare compatible with parents' lives?	<b>30%</b> (2; 5; 6; 7; 11; 19; 20; 27)	1.6	67.9
	Direct costs: fees	lees	Can parents afford the direct costs of early childcare?	<b>44%</b> (1; 2; 3; 4; 5;7; 8; 11; 13; 20; 22; 23)	1.29	64
	Lack of subsidies	lack_of_subsidies	Are there subsidies available to help parents afford the costs of early childcare?	<b>15%</b> (18; 20; 23; 27)	2	69.5
	Bureaucratic requirements	NA	Are bureaucratic requirements in line with what parents can provide?	0%		
	Opportunity costs	NA	Is decision-making driven by the opportunity costs of staying at home?	0%		

On the one hand, three factors that were initially present in our classification do not appear to have been covered by the empirical evidence. This was the case for the decision heuristics within the demand-side factors, and within the supply-side factors, it was also the case for both the opportunity costs of using early childcare and the bureaucratic requirements. On the other hand, one factor that was not present in the initial classification had to be added through

our review process. Indeed, 15% of the articles pointed out the importance of perceived quality as an important factor contributing to access dynamics (e.g., if the perceived quality of early childcare was insufficient, underprivileged parents were not willing to use them; see below for more details).

Empirical evaluation of the demand-side factors:

To assess the importance of the demand-side factors based on the available empirical literature, we formed two value subsamples: demand-side factors vs. supply-side factors, as depicted in Figure 4 (light blue for the former, dark blue for the latter). We then performed analyses on these value subsamples.

First, we found that the factors underlying access to early childcare for underprivileged populations remain underexplored in cognitive and behavioral sciences. Indeed, as Figure 3 shows, the majority of studies came from either economics or education sciences (9 of 27 studies for each discipline), and only two studies came from psychology (developmental psychology; (Johnson, Padilla and Votruba-Drzal, 2017; Rönkä et al., 2017)). None of them came from cognitive and behavioral sciences. Hence, it is perhaps unsurprising that most of the demand-side factors put forward in our classification were rarely theorized in the articles, i.e., they were rarely mentioned as relevant factors to consider in the introduction, theory or methods of the articles reviewed. Indeed, the role of preferences was mentioned in 30% of the articles (8 of the 27 articles reviewed) but the factors shaping these preferences and, more broadly, parents' decision-making, remain rarely explored. Perceived accessibility was the only additional demand-side factor of our classification present in the introduction and the material and methods of the articles reviewed. Ünver et al. (2018) studied the parents' perceptions of the accessibility of early childcare across European countries. Perceived accessibility was systematically lower for underprivileged parents even in countries where access is relatively high (Ünver, Bircan and Nicaise, 2018). Although the article did not link perceived to actual accessibility, its findings may suggest the hypothesized discrepancy between parents' perception and actual characteristics of the offer.

However, even though they are not identified as such, most of the demand-side factors identified in our classification were present in the results of several of the articles, as shown in Figure 3. Apart from the two articles coming from psychology, some articles studied the mothers' beliefs and norms from a sociological perspective as well as their trust toward institutions (Holloway, 1998; Binet, 2003). Some economics and education sciences articles also used survey or panel data to document both some beliefs, norms and parental skills and some supply-side factors (Abrassart and Bonoli, 2015; Skattebol, 2016; Van Lancker and Ghysels, 2016; Johnson, Padilla and Votruba-Drzal, 2017; Pavolini and Van Lancker, 2018).

Impact score:

As shown in Figure 5, each demand-side factor identified was found to have an impact on the underrepresentation of underprivileged families in early childcare.

# Figure 5. Number of articles mentioning each factor, according to the mean impact score and risk of bias



No significant differences were found in the mean impact score between the demand-side factors and the supply-side factors ( $M_{demand-side} = 1.47$ ,  $M_{supply-side} = 1.62$ ; t value = -1.13; p > 0.1; N = 156)<sup>(6)</sup>. Figure 5<sup>(7)</sup> graphically represents the number of articles mentioning each factor reviewed, according to its mean impact score and related risk of bias. Thus, studies using very different protocols tended to note that the demand-side factors identified also played a substantial role in the dynamics of access to early childcare for underprivileged populations. However, when more articles studied one factor, the mean impact score of the articles seemed to decrease, which could suggest a publication bias.

#### P curve:

To assess whether this overall abundance of positive results is due to publication bias, p curve analyses were performed (Simonsohn, Nelson and Simmons, 2014). The available p values were first grouped into two broad factor categories: demand-side factors and supply-side factors. Because a low number of p values was available, significant p values were aggregated into two groups: those below 0.01 and those between 0.01 and 0.05. One p value per article in each category was then randomly drawn. A Bernouilli test was performed to determine whether the proportion of the p values below 0.01 was significantly different from 20%. Indeed, under the null hypothesis, i.e., in the absence of an effect, the proportion of p values lower than 0.01 should be equal to 20%. This random draw was then repeated 100 times,

<sup>&</sup>lt;sup>6</sup> The results presented in this section are based on the mean between the coding of coder 1 and the one of coder

<sup>&</sup>lt;sup>7</sup> The results hold when the analyses are run independently on coder 1 data as well as on coder 2 data (see Supplementary Material for a comparison of the results obtained in each case).

followed by the Bernouilli test, to ensure the validity and robustness of the process. We could thus estimate if the relevance of the demand-side factors identified and that of the supply-side factors were supported by the empirical studies (i.e., whether the proportion of the p values less than 0.01 was strictly greater than 20%).

While both the impact score and the p-curve analyses concluded to an impact of demand-side factors on underprivileged populations' access to early childcare, the literature did not allow us to quantify the relative magnitude of their impact compared to supply-side factors. On the one hand, on average, the 98% replications of the p curve analyses validated the effect of the supply-side factors on access to early childcare for underprivileged families. The results were positive only 74.5% of the time on average for the supply-side factors.

However, on the other hand, the effect sizes (Hedges' g) were too heterogeneous to be comparable. Turning to the quality of the evidence, the demand-side factors appeared on average more prone to risks of bias than did the supply-side factors, but this difference was not statistically significant (MQATSDD demand-side = 58.8; MQATSDD supply-side = 62.2; t = -0.76; p > 0.1).

# **IV.4.** Heterogeneity of the demand-side factors across different underprivileged populations

The importance of some demand-side factors varied depending on how the underprivileged populations were defined. In particular, some factors appeared to weigh more for immigrants than for low-income or low-educated populations. For instance, the fact that underprivileged populations have more informal care opportunities (e.g., unemployed relatives) than more well-off populations was an important dimension among the low-educated and low-income populations. This is, however, not the case for migrant populations, who often had even fewer informal care opportunities that were available on average. Conversely, families' difficulties with administrative procedures and linguistic barriers were even more prevalent among the migrant populations than they were among the low-educated and low-income families. Figure 7 summarizes the main occurrences of the demand-side factors found in the articles reviewed as well as how their importance can vary according to the population type.

Figure 6. Heterogeneity of the demand-side factors found in the literature across different types of underprivileged populations (i.e., whether they are defined in terms of migration background or socio-economic background)

Factors	Reported items	Stronger for immigrant populations?	Impact score (/2)			
Drivers of parental preferences						
	Benefits of early childcare (5) (10)		2			
Lack of information	Available early childcare structures (8) (10)		2			
	Existing subsidies and help (2)		2			
Lack of traditional	At least one of the parents is <b>unemployed</b> (2) (11) (12) (13) (14) (15) (21) (23) (26)		2			
motives	More opportunities for informal care (10) (11)	-	2			
	"A child who is not yet old enough to go to school must stay with her parents" (2) (11)		1,6			
	Lack of familiarity with early childcare in parents' culture (holding the belief about		2			
Beliefs and norms	positive effects of early childcare on child development is a facilitator) (12)		2			
	Preference for informal childcare (11) (20)		2			
	Lack of legitimacy, feeling of « stealing a place » to working parents (2)		2			
Lack of <b>trust</b> in the	Lower trust level in early childcare staff to take care of ones' child (5) (12) (20)		1			
services	Lower trust level in state institutions (2) (7)	+	1,5			
	Perceived security of early childcare (5) (6) (11) (14)		2			
Low perceived quality	Perceived cultural sensitivity of EC (11)	+	2			
	Insufficient perceived <b>staff quality</b> (e.g., training, involvement) in early childcare (6) (22) (23)	+	1,67			
Factors hindering action in case of favorable preferences						
	Reduced administrative proficiency and knowledge of the system (2) 5) (6) (7) (11) (22)	+	1,4			
	Reduced access to the media required to gather information and apply (5) (11) (24)		2			
	Reduced knowledge of the application subtleties (2) (22) (24) (25)	+	2			
	Linguistic barriers (7) (12) (13) (26)	+	1,4			

+ : yes / none : no difference found / - : less prevalent among immigrant families

# V. Discussion

Despite the major role of early childcare structures in alleviating poverty and its consequences, the factors accounting for the underrepresentation of underprivileged families in early childcare remain understudied. Only 27 relatively recent articles covering this topic were found, while no restrictions were placed on the publication date, discipline or methodology of the articles included.

While supply-side factors are essential, the main scope of this review was to identify and assess whether the several demand-side factors identified in our extensive classification could also contribute to these dynamics. Since they had never previously been theorized in this field of study, the first contribution of our work was to identify such a precise set of demand-side factors. We found that several factors may generate a discrepancy between the actual state of the supply of early childcare and parental representations. If parents intend to enroll their children, some other factors may also hinder the parents' action and make the enrollment process too costly. While their role has been overlooked, we found that the demand-side factors identified could be at least as important as the supply-side factors in this access dynamics. One possible explanation for why demand-side factors remain little explored is that most studies are performed in either economics or education sciences. Nonetheless, re-examining the existing evidence through a systematic review of the empirical literature allowed us to identify and validate their practical importance. Indeed, 98% of the replications of a p curve analysis on the p values of the demand-side factors identified allowed us to conclude that this category of factors has an effect. This was only the case for 73.5% of the replications for the supplyside factors. However, more work is needed to evaluate them in greater depth, given the methodological limits of the available literature and the absence of these factors in the existing

theoretical frameworks. Public policies currently focus exclusively on supply-side factors (Carbuccia et al., 2020). If they are confirmed by further research, this review suggests that removing structural barriers may not be sufficient to increase participation of underprivileged families in early childcare and that more attention should be given to the psychology of underprivileged parents.

What would it mean to consider the psychology of parents in public policies to increase the participation of underprivileged populations in early childcare? Our work outlines several possible directions. On the one hand, it could help optimize the efficiency of supply-side reforms already implemented. For example, Van Lancker & Ghysels (2016) found that how subsidies are implemented is not trivial : financial subsidies implemented on the demand side (e.g., tax deductions, ex-post allowances, etc.) are much less effective than are those on the supply side (e.g., subsidies paid directly to the structures). This result is not surprising since the former generate an additional cognitive and financial burden for parents (as they must apply and advance the money). Demand-side subsidies, therefore, decrease the economic barriers for underprivileged families but increase the administrative burden (Herd and Moynihan, 2019; Christensen et al., 2020). Adapting the procedures to the psychology of underprivileged parents is therefore necessary (Bettinger et al., 2009; Lakhlifi and Rozier, 2019). More generally, it could be beneficial for policy-makers and behavioral scientists to collaborate when designing supply-side reforms.

In addition, contrary to what has sometimes been argued (Peyton et al., 2001), an element that emerges from this review is that factors related to quality are an important source of concern for underprivileged families, sometimes even more so than are costs (Vandenbroeck et al., 2008; Grace, Bowes and Elcombe, 2014). Given that underprivileged families often access lower-quality early childcare, homogenizing the quality of early childcare is a priority (Becker and Schober, 2017). Recent work has emphasized the need to standardize training and raise awareness among early childcare staff so they can best meet the needs of parents and children from underprivileged backgrounds (Marshall et al., 2013; Archambault, Côté and Raynault, 2019). On the other hand, considering the psychology of parents could also imply the creation of new public policies to reduce the weight of demand-side barriers for underprivileged families. To our knowledge, only one recent study has explicitly targeted informational and behavioral barriers to lower the access gap in early childcare through an information and administrative support campaign in Germany (Hermes et al., 2021). This randomized controlled trial on underprivileged parents supports the relevance of these factors. Because decision-making processes are complex, reaching out to underprivileged families through proactive campaigns is essential (Bennett, 2012; Van Lancker, 2018; Archambault, Côté and Raynault, 2019; Sandstrom, Casas and Atukpawu-Tipton, 2022). First, these campaigns could include purely informational dimensions, for instance, about the actual characteristics of the supply and available support, about how to apply to structures and maximize the likelihood of obtaining a spot, and about available subsidies. Providing timely information about the timing of the process (e.g., reminders when the application campaign starts) also appears important (Vandenbroeck et al., 2008; Vandenbroeck, Geens and Berten, 2014). Moreover, the traditional incentives of more well-off families for using formal care (i.e., dual careers and few informal care opportunities) are often less salient for underprivileged families. It may thus be necessary to emphasize other motives, such as the benefits of early childcare for child's development or labor market and income prospects. Thus, making information more accessible or providing

it directly to parents through informational interventions could increase access to formal care for underprivileged families. This type of intervention has already proven to be effective in higher education access when the information is personalized and adapted to the targeted audience (Barone et al., 2018; Herbaut and Geven, 2019).

However, providing information, even if it is done at a convenient time, may prove insufficient to act on inequalities in early childcare access (Bettinger et al., 2009; Herbaut and Geven, 2019; Hermes et al., 2021). Indeed, the review suggests that some behavioral factors may prevent underprivileged families from completing the administration process even if they intend to do so. To our knowledge, no study has disentangled the importance of the cognitive from the behavioral factors in the case of early childcare access. As implemented by Hermes et al. (2020), administrative support might be necessary to overcome behavioral factors. However, the potential low level of trust of underprivileged populations toward external actors would require this administrative support to be carefully implemented. Scholars have suggested that working with community-based actors, such as local associations, could help increase the take-up for these campaigns (Archambault, Côté and Raynault, 2019). Additionally, interventions will likely need to be tailored to the target audience. For example, our review highlights factors specific to migrant populations, for whom barriers vary, at least in magnitude if not in nature. These populations could therefore be the focus of specific interventions (e.g., different types of information and language support ; (Fenech and Skattebol, 2019)).

In addition to the policy implications, this literature review also has several methodological implications. First, the operationalization of underprivileged populations was found to be very heterogeneous, often being defined by income level or employment status. However, both measurements can pose endogeneity problems (Abrassart and Bonoli, 2015 ; Jessen, Schmitz and Waights, 2020). Favoring measures such as parental education or migration status is therefore desirable in future studies to avoid these problems and make the results more comparable. Moreover, studies are most often based on either declarative or external measures, such as administrative data. Our review suggests that a significant gap could arise between the results obtained by these two types of measurement, as also found in Jessen et al. (2020). Thus, future research should cross-reference several types of measures, particularly "subjective" declarative measures and "objective" administrative measures.

In addition, while the type of childcare used (e.g., early childcare, informal care, etc.) is known to modify parents' preferences a posteriori (Pungello and Kurtz-Costes, 2000; Chaudry, Henly and Meyers, 2010), all studies examining their preferences are retrospective, i.e., conducted after childcare choices have been made (Holloway, 1998; Binet, 2003; Kahn and Greenberg, 2010; Sandstrom and Chaudry, 2012; Marshall et al., 2013; Grace, Bowes and Elcombe, 2014; Greenberg, 2016; Skattebol, 2016; Herman, 2017; Johnson, Padilla and Votruba-Drzal, 2017; Rönkä et al., 2017; Fenech and Skattebol, 2019; Jessen, Schmitz and Waights, 2020; Wolf et

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al., 2020). As such, it is not surprising that parents keeping their children at home often report a preference for this childcare arrangement. However, these preferences are difficult to interpret. It would therefore be essential that future research develop experimental protocols to study the upstream weight of preferences on parents' decision-making. Again, to limit bias, this young literature is likely to benefit from developing a systematic preregistration of the protocols. Finally, only a small part of the Western countries, mostly liberal, is represented in this review. Although this situation allows for some homogeneity of the results, it may also limit their external validity. The respective weight of factors can vary considerably according to institutional contexts (Van Lancker and Ghysels, 2016 ; Ünver, Bircan and Nicaise, 2018). Moreover, the effect sizes of the different factors are difficult to compare because of the diversity of methodologies and the exact nature of the elements investigated. Therefore, multiplying studies in different institutional contexts within a common methodological framework, such as the one proposed in this article, is a promising prospect for obtaining results that are more comparable.

The macrolevel context is known to cause variation in the weight of supply-side factors, which could also be the case for demand-side factors at the microlevel (Van Lancker and Ghysels, 2016; Van Lancker, 2018). This approach would therefore make it possible to study the relative weight of institutional factors on demand-side factors and to define the public policy tools that can be used to reduce them at the macrolevel level. In support of this hypothesis, Ünver et al. (2018) highlighted strong variations in perceived accessibility according to the institutional characteristics of European countries. On the supply side, the results suggest, for example, that the introduction of for-profit facilities into the early childcare supply tends to decrease perceived and actual accessibility for underprivileged families (Ünver, Bircan and Nicaise, 2018; Pennerstorfer and Pennerstorfer, 2021). Moreover, in general, perceived accessibility is higher for underprivileged families in integrated systems. The same holds in countries where having a place in informal care is listed as an opposable right (Van Lancker and Ghysels, 2016; Ünver, Bircan and Nicaise, 2018; Van Lancker, 2018). In terms of funding, perceived affordability for underprivileged families increases as the amount of state spending per child increases (Ünver, Bircan and Nicaise, 2018; Van Lancker, 2018).

## V.1. Limitations

Despite our efforts to limit the risk of bias and maximize the reproducibility of our research, our results present several limitations. First, given the state of the current literature, these results are mainly based on observational or correlational evidence. Additionally, in Figure 5, we observe that all the factors had a positive average impact score (between 1 and 2). Of course, the overabundance of positive results for all the factors raises the question of a potential publication bias in the reviewed literature. While the analysis of the p values around the 0.01 threshold did not suggest a publication bias, we could not statistically test for the 0.04/0.05 threshold because our observation sample was too small. For the same reason, we could not perform analyses independently on each factor.

In addition, despite the reliability tests performed on the search algorithm and our efforts to extend our scope as much as possible, we could not exclude a potential bias introduced by the

languages in which the searches were performed (French and English), by the database chosen or by the keywords used during the systematic search. More research is therefore needed to confirm our results.

### **V.2. Future research perspectives**

While demand-side barriers in access to early childcare could limit the impact of current supply-side policies, this topic is understudied in the behavioral sciences. Therefore, there is a crucial need for these disciplines to take up this field of study. From this perspective, this review outlines several avenues of research.

In addition, from a policy perspective, it is important not only that underprivileged parents have access to these structures but also that they persist in their usage long enough to elicit their potential positive effects on families (Archambault, Côté and Raynault, 2019). However, this review focused on general access to early childcare for underprivileged populations. We initially sought to also integrate some factors underlying parents' persistence in early childcare, namely, parents' satisfaction and the sustainability of the usage (e.g., Is the early childcare structure close enough for it to be sustainable ? Is it sufficiently inexpensive ?). However, too little evidence was available for this to be a meaningful category to analyze (only three studies mentioned it, and it was not at the core of their analysis (Binet, 2003; Greenberg, 2016; Fenech and Skattebol, 2019)).

Finally, given the small amount of available evidence, we could not study the barriers to highquality childcare, while high quality is the sine qua non condition for the benefits on children's development. Addressing this question is all the more important that we also found that quality is a major concern for underprivileged parents and that they are known to access lower-quality structures (Ruzek et al., 2014 ; Becker and Schober, 2017). We believe that these elements open promising avenues for future studies.

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