

Parental Leave vs. Early Childcare

Nabanita Datta Gupta
Jonas Jessen

Parental leave provisions and subsidized childcare are key family policy levers in high-income countries. Policies such as paid parental leave aim to increase female labor force participation and facilitate work–life balance. However, are parental leave and childcare subsidies equivalent in terms of their impact on child development? This research brief reviews evidence from a number of causal studies focusing on the long-term effects on children exposed to either maternal care or childcare in early childhood. The authors show evidence of the changing demands among parents for childcare over time, report the effects on cognitive and noncognitive outcomes on children and discuss the role of childcare quality, parental time use and socioeconomic differences.

Nabanita Datta Gupta is Professor at the Department of Economics and Business Economics at Aarhus University. *Jonas Jessen* is a postdoctoral researcher at the Institute of Labor Economics (IZA).

“Almost all 3–5 year old children are enrolled in childcare.”

Introduction

Institutional childcare is increasing in high-income countries. Childcare facilities allow mothers to remain in the labor market. However, what are the long-term effects on children? How does childcare compare to parental leave?

This report summarizes a growing literature on the effects of early childcare on children’s development versus those from more exposure to parental care. The focus will be largely set on *maternity* leave, as most of the evidence to date stems from leave-taking by mothers and mothers commonly still take substantially longer leave than fathers.¹ Some of the findings reported here appear in previous work by the authors.²

DEMAND FOR AND USE OF FORMAL CHILDCARE IS GROWING

It is increasingly common that children in high-income countries are exposed to some type of formal institutional childcare during early childhood. The accessibility and affordability of such care varies widely even among rich countries. Scandinavian countries have been frontrunners in this area by providing universal, subsidized, center-based childcare or other types of more informal but regulated care for infants and toddlers since the 1960s and 1970s. However, other wealthy nations, such as Australia, Japan and the United States, still lag behind in terms of providing population-wide access to formal childcare and education programs for children under the age of three.³

For many children in European countries, attending childcare is the norm these days rather than the exception. Figure 1 (left panel) shows that 36 percent of children aged 0–2 years attend formal childcare institutions

across OECD countries, with some having enrollment rates above 50 percent. For older children aged 3–5 years, almost all are enrolled in childcare.⁴ This development has been fueled by a growing need for female labor force participation in nations with aging populations and restrictive immigration policies. In part, these rising trends also are a natural consequence in nations achieving gender equality over time as successive generations of women become better educated and begin to have career aspirations similar to those of men. The right panel of Figure 1 shows paid maternity leave and employment-protected leave entitlements for the same set of countries. With the exception of Finland and Hungary at the upper end and Spain and the Netherlands at the lower end, paid maternity leave lasts for approximately one year in most European countries. For families to avoid larger income losses thereafter, care arrangements other than parental care are needed.⁵

Figure 2 shows the share of respondents from the same countries as in Figure 1 who agree with the statement that a child of preschool age suffers with a working mother. Across countries, the share of those who agree has declined strongly in recent decades. In the absence of widely available alternative care arrangements, childcare provision is an important tool to enable maternal employment (or, more generally, employment by a single parent or both parents) and to help reconcile work and family life.

CHILDCARE OR PARENTAL LEAVE

The questions we wish to explore are as follows: What are the long-term consequences of formal childcare in early childhood on child development? How do the effects of formal childcare on

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1. More extensive reviews on the child development effects of maternity leave and early childcare can be found in Cnaan et al. (2022) and Duncan et al. (2022), respectively.
 2. Datta Gupta & Jessen (2023).
 3. Gromada and Richardson (2021).
 4. In addition to variation in enrollment, differences in the quality of childcare and early childhood education and care (ECEC) services exist across countries. We do not address this issue here but refer the reader to the OECD Family Database for information across countries on relevant indicators such as child-to-staff ratios and minimum qualifications for ECEC staff. See OCED (2017).
 5. As we discuss later, paid paternity leave has been expanded in recent years. However, it is commonly substantially lower than paid maternity leave and take-up is also lower.

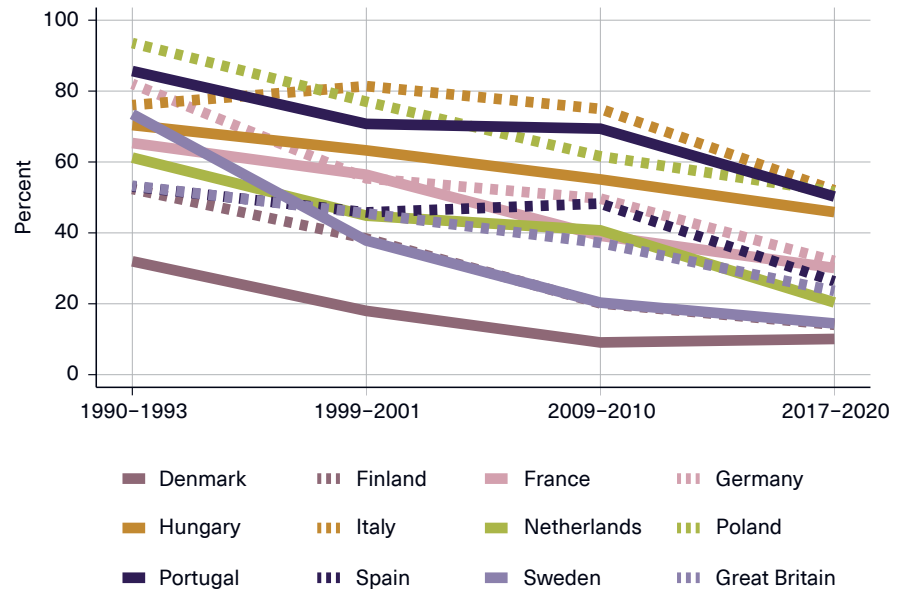
Figure 1. Childcare and parental leave across countries.



Figure shows the percent of children of two child ages enrolled in formal childcare. Data from 2017–2019, depending on availability. Source: OECD Family Database.

Figure shows the days of paid maternity leave available and the days of employment-protected parental leave available to mothers. Data from 2020. Source: OECD Family Database.

Figure 2. Percent agreeing: pre-school child suffers with a working mother.



The figure shows the percent agreeing or strongly agreeing to the statement that a pre-school child suffers with a working mother. Source: European Value Survey, own elaboration.

“Reducing maternal care hours increases average maternal care quality.”

child development compare to the effects of parental leave? Do children taken care of outside the home environment during early childhood develop strong cognitive as well as socioemotional skills later in life?

The general role and purpose of formal childcare has shifted over time from ‘child minding’ to a form of early investment in children’s skills. Early investments at ages under three, such as high-quality childcare and health-care services, pay off in terms of better health, education, and labor market outcomes. This is because brain development is at its expansionary phase (a large share of the human brain develops before age five) and because skill acquisition is a dynamic and self-productive process.⁶ Thus, sending children to childcare is not necessarily detrimental for them and may even aid in their development. However, these outcomes depend on the quality of the alternative – i.e., the care arrangement the children would alternatively have received, be it from parents, other family members, nannies, etc., had they been looked after at home instead. In most cases, this would be provided by the mother, but it might also be in other informal care arrangements.

This leads us also to the question of whether the effects of sending children to formal childcare from an early age vary by the family’s socioeconomic background. Parents from strong socioeconomic backgrounds can arguably deliver better quality care themselves at home and thus can compensate for sending children to childcare by investing intensively in their skill development when they are at home with them. For this group, formal childcare may have little effect on children’s skill formation in the long run. On the other hand, early childcare may have positive effects for children from families with less educated backgrounds whose parents may not necessarily have the resources to deliver the same high quality of care as what the children receive in formal childcare. For children with a migrant background, gaining better language skills to equip them for school may be an additional benefit.

This presumes that childcare is of high quality, which may not be the case in all settings. If the childcare is of inferior quality, e.g., in terms of structural quality (measured by the number of teachers per child, square footage per child, average teacher education level, playground facilities, etc.) or process quality (the quality of teacher–child interactions), this may harm children and lead to poorer long-term outcomes than if they had been looked after at home. A meta-analysis of nine studies

shows that children looked after in childcare, particularly those younger than 36 months and in poorer quality settings, show a small increase in the stress hormone cortisol and a different diurnal trend compared to children looked after at home.⁷ However, whether exposure to higher levels of stress experienced in childcare causes long-term damage has not been documented.

At the same time, relying on a single caregiver (primarily the mother) may also be risky, especially if the mother has a low level of education or health or substance abuse problems. Studies show that mothers with mental health problems tend to judge their child’s abilities more harshly.⁸ This may in turn affect their investment in the child. Of course, a period of early bonding with a parent is essential for forming secure attachments later in life.⁹ At the same time, there may also be a case for exposing young infants to several caring and stimulating adults during infancy for the purpose of establishing generalized trust in others. According to a report by the National Scientific Council on the Developing Child,¹⁰ science indicates that young children can benefit significantly from secure relationships with multiple caregivers (within or outside the family), while their attachments to their parents remain primary and central.

From an economics vantage point too, tapping into a diversified set of inputs can improve the quality and inputs from parents, and professional childminders may well be complementary. Team production can lead to greater productivity than if individuals work on their own. Personnel economics theories show that when worker skills are complementary, information is rapidly changing and the product is complex, teamwork may be more productive than the individual working alone, even if the individual (e.g., the mother) has an absolute advantage in a certain skill.¹¹ Another aspect recently mentioned in the academic literature is that of maternal fatigue or the “exhaustion effect”. One study finds that this effect is substantially important and that reducing maternal care hours increases average maternal care quality.¹²

While not the focus of this report, it is worth noting that both parental leave and childcare have implications for household income and, potentially, for gender inequality. Parental leave benefits replace a part, but commonly not all, of forgone income from the labor market. When formal childcare is used, which is either free or heavily subsidized in most European countries, this enables both parents to participate in

6. Cunha & Heckman (2007).

7. Vermeer & van IJzendoorn (2006).

8. Datta Gupta et al. (2018).

9. Ainsworth & Bell (1970).

10. National Scientific Council on the Developing Child. (2004).
The National Scientific Council on the Developing Child is a multidisciplinary, multi-university collaboration in the United States.

11. Lazear & Shaw (2007).

12. Chaparro et al. (2020).

“Attending formal childcare benefits children from disadvantaged backgrounds the most.”

the labor market, resulting in a higher household income, which, in turn, has been linked with higher test scores of children in adolescence.¹³ As mothers commonly take a much larger share of parental leave, the use of childcare also has the potential to reduce gender inequalities in earnings among parents.

As mentioned, use of formal childcare is rapidly becoming the norm in high-income countries. In the following passages, we distill the main findings from the recent research that focuses on the effects of maternity leave and childcare attendance on children’s educational, labor market and socio-emotional outcomes in the medium and long terms.

MAIN FINDINGS

After reviewing a number of recent studies (described in depth in the next section), we can summarize some main findings:

1. Parents in most European countries now support the ability of mothers of small children to continue to work. The increased demand for labor in these countries due to population aging and restrictive immigration policies is likely to lead to a continuous increase in demand for high-quality childcare.
2. When the alternative care type in society is of low quality, expanding maternity leave has positive effects on child outcomes. On the other hand, when the alternative care type in society is of high quality, expanding maternity leave hardly has any positive effects, especially after approximately the first six months.
3. While attending formal childcare benefits children from disadvantaged backgrounds the most, it does not hurt children from advantaged backgrounds. In fact, mixing children in childcare from an early age may enhance social skills and have positive effects on social mobility.
4. The quality of the care type is crucial, and attending childcare centers of inferior quality can produce negative effects in the long term.
5. While parents spend less time with their children when their children attend childcare, time spent on stimulating parenting activities is not strongly reduced in many settings.
6. Even in countries with universal childcare systems on paper, some groups tend to be underrepresented, e.g., ethnic minorities or children from parents with less education. Wider information provision, an impartial and transparent application system and low fees can reduce enrollment gaps.
7. More research is needed on the opti-

mal hours of attendance, optimal starting age and determinants of childcare quality (in particular, process quality), as well as on the effects of expanding paternity leave on children’s long-term outcomes.

In the next section, we review a set of recent studies that bring causal evidence to the question of what the consequences of parental leave or formal childcare are for children.

Causal evidence of parental leave and early childcare on child development

Some of the most convincing evidence comes from studies that exploit exogenously induced expansions of either maternity leave schemes or childcare coverage to identify effects of the extra exposure of either type of care on child outcomes at later ages. Due to the increasing availability of high-quality (administrative) data combined with advances in econometric techniques in recent years, these studies provide convincing and reliable evidence with a high degree of internal validity.¹⁴ We will first turn our attention to parental leave before discussing the effects of childcare attendance on child development.

EFFECTS OF PARENTAL LEAVE

Causal studies on the effects of parental leave on child outcomes exploit introduced support systems for parental leave or, more commonly, variation induced by reforms on the duration or generosity of these schemes. In essentially all settings, eligibility for certain parental leave policies depends on sharp cutoff dates by the birthdate of the child, allowing for a clean identification of effects by comparing outcomes of just affected and just not-affected children. Most papers carefully account for potential selection into a maternity¹⁵ leave regime by excluding observations for which births could have been shifted around the cutoff and at the same time using only births in relative proximity to the cutoffs as a more generous parental leave regime may have an effect on, e.g., the fertility of a selected group of parents.¹⁶

The alternative matters

A study from Austria analyzes a maternity leave extension from 12 to 24 months in Austria from 1990.¹⁷ Detailed administrative data allow the authors to consider a wide range of outcomes to draw a rich picture of the developmental effects of this unusually

13. Tominey et al. (forthcoming).

14. *Internal validity* means whether the identified effects of parental leave or childcare can be cleanly causally attributed and not be explained by other confounding factors. In contrast, *external validity* denotes to which extent the findings can be generalized to other contexts.

15. As we describe later in this report, we focus on maternity leave as mothers on average take substantially longer leave than fathers and only in more recent years have reforms been implemented to further incentivize fathers to take longer leave. Therefore the bulk of evidence on child development effects of parental leave in fact relates to maternity leave. E.g., the studies from Norway discussed in the following concern parental leave which was available to both parents, but until a paternal leave quota was introduced in 1993, the percent of fathers taking any parental leave was in the low single-digit numbers.

16. E.g., a parental leave reform in Germany in 2007 caused an increase in the fertility of high-earning women (see Rauthe, 2019). However, this effect materialized only six months after the reform was introduced. That is, children born just before and after the cut-off do not differ systematically in terms of their socioeconomic background.

17. Danzer et al. (2020).

large extension. Health outcomes of children exposed to longer maternity leave are positively affected when measured as being nondisabled or fit for military service. However, the study finds no effects on education outcomes such as PISA scores or attending a higher educational track concluding with a university entrance exam and similarly no longer term effects were visible on labor market outcomes. The effects are similar for children of different socioeconomic backgrounds. The importance of considering the alternative mode of care is emphasized in the findings: All outcomes are positively affected by the maternity leave extension when children would otherwise have been in informal care. If formal childcare was already available, the maternity leave extension had no effect on children's outcomes. This is in line with research on the introduction of Norwegian parental leave in 1977,¹⁸ where improvements in both education and labor market outcomes for children are found in a context where counterfactual care arrangements were largely informal.

Parental leave at different child ages

Subsequent parental leave expansions in Norway that further expanded leave from 18 to 35 weeks are analyzed in another study.¹⁹ This expansion led to mothers substituting time spent at work with more time spent at home in that period. As few other formal care arrangements were available, parental leave largely substituted informal care arrangements. In contrast to the introduction of parental leave in 1977, the expansion had little effect on children's exam grades and dropout rates. This emphasizes that locally identified effects of parental leave expansions at certain lengths are often time-sensitive and not generalizable. Introducing parental leave by a set number of weeks does not necessarily have the same effect on children's development as extending it by a similar length.

A study from Germany examines substantial maternity leave expansions at different child ages.²⁰ Three reforms in 1979, 1986 and 1992 increased the length of leave from two to six months, six to ten months and 18 to 36 months, respectively. None of the extensions had positive effects on the education or labor market outcomes of children, and the last reform even showed small detrimental effects on educational attainment. A more recent reform in 2007 extended paid maternity leave specifically for higher-earning mothers but had no effect on child development across socioeconomic groups.²¹ The alternative care arrangement in both

cases is mainly grandparents or other relatives, who probably offer a similar quality of care as mothers do, which could explain the lack of significance in the findings.

Parental leave in a setting with high-quality childcare

A study from Denmark exploits a reform from 1984 that substantially increased parental leave from 14 to 20 weeks (two weeks of leave were guaranteed to fathers, who were not entitled to paid parental leave before).²² It compares test scores, probability of high school enrollment and high school grades of children born two months before and two months after the cutoff date and finds no significant differences in any of these outcomes between the children whose mothers were entitled to 14 weeks of maternity leave and children whose mothers were entitled to 20 weeks of maternity leave. There could be several reasons why children performed equally well under both regimes. Either Danish parents who send their children to childcare are better at making compensatory investments of either time, effort or goods when they are home with their children or Danish childcare is of high quality and therefore neutral compared to maternal care or the reform took some pressure off the childcare system, thereby improving care quality, so the children who attended after the reform performed better. In a similar high-quality setting, a study from Sweden finds no effect on children's academic performance as measured by test scores and grades at age 16 when parental leave benefits were extended from 12 to 15 months in 1988.²³ However, it finds that children of highly educated mothers performed better after the leave was extended. No other heterogeneities are found by parental income or father's education, suggesting that the mechanism is that highly educated mothers can better stimulate their children by spending more time with them. In any case, the evidence shows that increasing parental leave does not seem to affect children's outcomes on average in a setting with high-quality alternative care and that increasing parental leave may actually reinforce the effect of parental background on children's school performance.

Socioemotional skills

In a 2002 reform in Denmark, parental leave was further extended, which essentially substituted mothers for out-of-home care by approximately three months at the end of the first year. A study analyzing this reform found no

18. Carneiro et al. (2015).

19. Dahl et al. (2016).

20. Dustmann & Schönberg, (2012).

21. Huebener et al. (2019).

22. Rasmussen (2010).

23. Liu & Skans (2010)

effects on academic grades on average but positive effects on socioemotional skills, emotional stability and school absences in seventh and eighth grades as well as significant effects on continuous assessment grades for the children who benefited most in these dimensions, i.e., children of mothers who would have taken short leave and are coming predominantly from lower socioeconomic backgrounds.²⁴

Effects on older siblings

While most studies focus on children directly affected by parental leave policy changes, their older siblings' environment may also be affected by such changes, making it important to also consider effects on them. An interesting study from Sweden analyzes a 1989 reform that granted longer parental leave benefits if two births occurred within a specific interval.²⁵ The authors find that in families with longer benefits after the birth of the younger child, outcomes of children born around the cutoff (i.e., the children commonly studied) are not affected, but the educational outcomes of their older siblings improve. This could be driven by increased exposure to maternal time when mothers are spending more time at home due to the parental leave extension for the younger child. This positive effect arose most likely because the alternative care was informal care or family daycare. A related article studies a nationwide reform that made it mandatory for Swedish municipalities to provide childcare to older children whose parents were on leave taking care of infants.²⁶ The study finds that the reform produced no effect on average for the younger children's sixth grade test scores, but had positive effects for certain groups, i.e., boys of less than university-educated mothers and girls of highly educated mothers. The study compared infants with and without older siblings before and after the reform (a "difference-in-differences" analysis). The study suggests that a possible mechanism could be improved quality of parent-child interaction due to more one-on-one time with the parent without having to compete for parental attention with an older sibling.

Negative effects of parental leave

Some studies also find negative effects of maternity leave extensions. At the end of 2000, in Canada, maternity leave was extended from around six months to 12 months. The extension did not have a noticeable effect on children's development in the first two years,²⁷ but a follow-up study examining outcomes at ages four to five documents negative effects on cognitive

skills and no effects on behavioral measures.²⁸

Drawing general conclusions from parental leave expansions is evidently not an easy feat. As discussed, the results depend on the time period in a child's life and the duration of the extension, alternative care arrangements and, naturally, the quality of care provided by parents, including potentially compensating investments when they manage to spend less overall time with their children. Furthermore, for a full assessment of effects on child development, it is necessary to consider a wide range of outcomes, such as educational attainment, labor market outcomes, and noncognitive measures. A careful summary of the existing evidence seems to suggest that in most settings, there are few positive gains in children's outcomes from increasing maternity leave beyond six months and that these would demand justification other than children's development.

EFFECTS OF CHILDCARE

Identifying the effects of childcare is notoriously harder than identifying the effects of parental leave, as comparable cutoff rules mostly do not exist for childcare attendance. Many studies use regional variation in childcare expansion²⁹ or other age-specific policy rules in an attempt to isolate the effect of childcare attendance from other confounding factors. E.g., in many countries, children enrolled in formal childcare have better outcomes. However, this must not be an effect of childcare itself but because parents of children with better outcomes are more likely to place their children into formal childcare.

The type of childcare matters

A study based on Danish survey data exploits the fact that a guaranteed access to preschool policy (GAPS) was in place in certain municipalities but not others.³⁰ A higher take-up of childcare in municipalities with guaranteed access is used to identify the causal effects of attending childcare (both formal and informal) on child behavior at school entry age. The study finds that child behavior as measured by the Strength and Difficulties score at age seven is not significantly different between children who had attended center-based care (preschool) at age three and children who had been looked after at home. However, child behavior at age seven is worse for the children who had attended informal care at age three than the children who had been looked after at home. These findings are driven by boys and children of less-educated mothers. Although

24. Houmark et al. (2022).

25. Ginja et al. (2020).

26. Sjögren, A. & Tallás Ahlzcén, M. (2022).

27. Baker & Milligan (2010).

28. Baker & Milligan (2015).

29. We note that childcare expansions can be associated with a worsening of some structural quality indicators such as child-to-staff ratio, at least in the short-term, if expansions are not accompanied by proportional increases in staff, facilities and so on. Evidence on the importance of quality is briefly discussed further below in the report. If the identification of causal effects stems from age cutoffs or assignment lotteries, as in one of the studies discussed from Norway, it is more likely that childcare quality is held constant.

30. Datta Gupta & Simonsen (2010).

“Attending high-quality care is neutral compared to maternal care and superior to informal care.”

both types of care are regulated in Denmark, informal caregivers have only limited pedagogical training beyond high school compared to formal caregivers who hold a pedagogical degree requiring 3.5 years of study beyond high school.

Using the same empirical strategy as above but exploiting Danish register data on two birth cohorts of children, a study followed children from childcare entry up to the final year of compulsory school and finds that children’s grades in Danish are 0.2 standard deviations higher if they had attended center-based care than if they had attended informal care.³¹ On the other hand, care type has no effect on mathematics scores. These findings are driven by boys and children from low socioeconomic backgrounds. Thus, the quality of childcare matters—attending high-quality care is neutral compared to maternal care and superior to informal care.

Positive effects for children from worse backgrounds

The Oslo city administration uses an assignment lottery in case of oversubscription in childcare. This lottery creates a random element in who attends childcare; i.e., children who do or do not attend childcare are similar in their characteristics and are used to estimate the effect of enrollment in childcare at ages 1–2 on school grades.³² Children who received an offer through the lottery have higher test scores in both language and mathematics. While the effects are positive for children of all backgrounds, the positive effects are particularly pronounced for children from lower socioeconomic status (SES) backgrounds measured by parental education or household income and for boys. Childcare attendance at this young age thus has an equalizing effect, a finding that has also been reported for children aged 3–6 for whom coverage was mostly extended in the 1970s.³³

Scandinavian countries were the first to widely expand childcare availability, and combined with excellent and widely available administrative records, much early evidence on the development effects of childcare came from these settings. In more recent decades, however, other countries have also strongly expanded childcare coverage, and combined with better data availability, the evidence base has widened substantially.

A German study exploits differential timing in childcare expansion for 0- to 2-year-old children across school districts to examine the effects of earlier attendance (at older ages, almost all children are enrolled) on children’s

motor and socioemotional skills measured in mandatory primary school entrance examinations.³⁴ Boys, who are otherwise behind in those measures compared to girls, benefit in their language, motor and socioemotional development. Immigrant children also gain in their language skills, and children coming from lower educated parents show improved socioemotional behavior. For Norway, formal childcare equalizes some of the differences in child development introduced by family background that would otherwise likely widen even further in school. School entrance examinations are a valuable source for assessing child development at a young age, as they assess the diverse skills of children. The findings reveal that effects, overall and by subgroups, may differ depending on which precise indicator is being assessed, emphasizing that focusing on a small subset of child development indicators may miss the whole picture.

Home environments

A common finding of more positive effects of childcare for disadvantaged children is often explained through the arguably worse alternative environment at home, i.e., children from lower socioeconomic backgrounds are exposed to a less enriching environment when they are not in formal childcare.³⁵ However, the underlying mechanisms of this theory and data on the home environment are usually missing. This gap is addressed by a study from Japan analyzing childcare expansion for 2- and 3-year-old children.³⁶ In contrast to most other studies, the data contain both child outcomes and measures of parenting and their well-being. For children of less educated parents, enrollment reduces behavioral problems such as inattention and hyperactivity. Children of highly educated parents are unaffected and display similar outcomes. The authors move on to study how parents’ behavior and especially their parenting are affected by the childcare expansion. Parenting by highly educated parents is unaffected, but for less educated parents, an index of parenting quality increases strongly with the expansion. Additionally, for less educated mothers, subjective well-being increases and stress is lowered, both of which arguably enable better, more engaged parenting. These findings fit well with research from Germany, which uses detailed time-use data to analyze how parenting activities are impacted by using formal childcare.³⁷ The reduction in stimulating parenting activities is very small, as mothers increase the intensity of these activities in the late

31. Datta Gupta & Simonsen (2016).

32. Drange & Havnes (2019).

33. Havnes & Mogstad (2015).

34. Felfe & Lalive (2018).

35. See, e.g., Cornelissen et al. (2018).

36. Yamaguchi et al. (2018).

37. Jessen et al. (2022).

“The home environment should thus not be seen as remaining constant when children attend formal childcare.”

afternoon and evening to compensate for the reduced exposure while their children are in formal care. The home environment should thus not be seen as remaining constant when children attend formal childcare.³⁸

Similar to the effects of extended parental leave, earlier childcare does not always have an effect on child development, as some beneficial and detrimental effects of attending childcare can be balanced out. In the mid-2000s, Italy extended access to highly subsidized childcare for 2-year-old children. The eligibility for subsidized childcare depended on the date of birth of the child. Children born before a certain date were not eligible for subsidized childcare, while children born after this date were eligible for subsidized childcare. The outcomes of the children who were just eligible and who were just not eligible for subsidized childcare are then compared.³⁹ Irrespective of family background, the expansion had no effects on children’s test scores measured at age seven. This is despite a pronounced increase in mothers’ labor force participation, implying a noticeable change in family finances and their home environment.

Negative effects of childcare

Many studies point toward null or positive effects of childcare on child development, with the latter commonly larger for children from disadvantaged backgrounds. However, there are also settings where some children are negatively affected by attending childcare.⁴⁰ Several studies have examined childcare expansion in Québec and its effects on children at different ages.⁴¹ In the short term at preschool age, children were negatively affected in their noncognitive development, but their cognitive development was unchanged. Affected cohorts also showed negative effects on child development in the longer term, as noncognitive outcomes of children in Québec remained lower compared to those of children from other provinces, and children also displayed other negative consequences such as worse health, lower wellbeing and higher crime rates. The setting of the study stands out from others as effects on maternal labor supply were large, hours in childcare increased strongly over a relatively short period of time and the quality of care suffered as a result and is seen therefore as relatively low in an international comparison.

Other evidence for the negative effects of universal childcare stems from the affluent city of Bologna, Italy. Research shows that for children from relatively advantaged backgrounds, IQ measured at 8–14 years dropped mark-

edly for those who attended childcare earlier, as did their noncognitive skills.⁴² The authors argue that, especially for children from more advantaged backgrounds, the decrease in one-to-one interactions in formal childcare, compared with parental care, may be especially harmful. As in Québec, indicators of childcare quality, such as adult-to-child ratios, are relatively low in Bologna compared to some of the previously discussed evidence from Scandinavian countries or Germany.

To summarize, many studies on childcare find positive effects on child development that are commonly larger for children from disadvantaged backgrounds. Formal childcare thus holds much promise to enable maternal employment and to positively affect child development while at the same time reducing inequalities by socioeconomic background. However, these positive effects are by no means universal. Several papers also find negative effects of childcare on children. What most of these findings have in common is that formal childcare in these studies is often of a relatively low structural quality. While ideally one would like to exploit variation in quality within an otherwise similar setting, the evidence still suggests that the quality dimension of formal childcare is important and that inadequate quality is more likely to have detrimental effects on at least some children.⁴³

Some open questions

Female employment and specifically maternal employment have increased strongly in recent decades (although the increase has slowed down more recently in many countries). In line with this, fewer people believe that a preschool child suffers from having a working mother, as seen in Figure 1. Across high-income countries, the vast majority of children attend formal childcare at some point (87 percent of 3- to 5-year-olds across the OECD in 2018).⁴⁴ For both parents and policymakers, the main questions are thus what the ideal starting age is, how many hours of childcare should be used and what an adequate minimum quality is (or which quality measures are particularly important). Research has made careful progress on these questions in recent years, but the evidence base is still quite scarce and limited to a few institutional contexts from which results are arguably not directly applicable to other settings. In parallel to reforms to parental leave and childcare expansions, some countries have also introduced or expanded parental sup-

38. See also Kuger et al. (2019).

39. Carta & Rizzica (2018).

40. As discussed above, Datta Gupta and Simonsen (2016) find that developmental effects on Danish test scores for children are positive when formal care is compared to informal care, suggesting that the type of care arrangements and the associated quality matters.

41. Baker et al. (2008, 2019).

42. Fort et al. (2020).

43. Bauchmüller et al. (2014) investigate the association between five indicators of structural quality and child development in Denmark and find a positive link of staff-per-child, male staff and pedagogically trained staff. Drange Rønning, M. (2020) show that in Oslo, Norway, a higher share of male staff and fewer sickness-related absences lead to better test scores among children in their early school years. Generally, due to data limitations there is little evidence on the importance of process quality.

44. Data from the OECD family database <https://www.oecd.org/els/family/database.htm>, last accessed January 5, 2023.

port services.⁴⁵ These are often designed for families during parental leave, such as those operated by childcare centers in Sweden, but may also be for families where children are enrolled in childcare. The evidence base on the developmental effects of these programs primarily stems from experimental settings, where predominantly disadvantaged families are targeted.

SOCIOECONOMIC BACKGROUND

A promise of childcare is that developmental effects are often, although not always, more positive for children from disadvantaged socioeconomic background. Childcare thus holds the promise to reduce early ingrained inequalities in child development that become harder to address at later ages due to the complementarities within and between skills.⁴⁶ If disparities in child development by family background are already pronounced in primary school, children trailing in their development will be struggling to catch up. Early childcare has the potential to “level the playing field”, at least to some degree. Indeed, a study exploiting a large-scale expansion of public childcare in Finland finds that access to childcare most strongly benefits children from low-income families and thereby reduces the intergenerational correlation between parental and child (adult) earnings.⁴⁷ The larger positive effects for children in low-income families are correlated with social competence rather than with academic competence. Hence, childcare seems to be especially beneficial in terms of social competence for children in low-income families. The study also provides evidence that childcare enhances social mobility by changing the jobs that children do later in life as adults. A shift from routine and manual jobs to service jobs is observed, which is also induced in part by childcare’s sustained effects on social skills.

However, children from less educated families are underrepresented in childcare in most OECD countries.⁴⁸ Despite their intentions, many childcare systems are not truly universal, and from a child development perspective, this seems inefficient.⁴⁹ The understanding of these enrollment gaps by family background is still limited. Research from Germany considers both demand- and supply-side explanations to analyze the nature of these gaps and how they could potentially be reduced.⁵⁰ Reducing shortages and fees in childcare lowers the gap by parental education but not by their migrant background. For migrant parents, discrimination, lack of information and quality concerns could be drivers of the

gap, but hard evidence on this is missing. Reasons for these enrollment gaps, such as the application system and fee structure, differ strongly across countries, but some simple recommendations hold promise for reducing enrollment gaps: (i) information provision on the cost and benefits of attendance and on the application system,⁵¹ (ii) an impartial application system with transparent selection criteria to reduce the possibility of discrimination in the process, and (iii) a (more) progressive fee structure. Future research will determine how effective these measures are and what further steps must be undertaken to ensure that childcare systems are universal and serve children of all backgrounds equally.

PATERNAL LEAVE

This research brief mostly concerns the effects of maternity leave, as mothers are still the main caregivers in most families and take the bulk of parental leave (even in countries where parental leave is effectively gender neutral). However, in recent years, many countries have implemented policies with some parental leave earmarked for fathers, and in August 2022, EU directive 2019/1158 came into effect, which grants ten days of paternity leave for the period directly following childbirth and an additional two months of nontransferable parental leave for fathers. Mothers are likely to continue taking the larger amount of parental leave, even in more gender-egalitarian Scandinavian countries that have had policies on paternal leave for some time, but the effects of increasing paternal leave on child development is an interesting avenue for future research.⁵²

Concluding remarks

Parental leave and early childcare are key family policies to support young families in reconciling work and family life. Scandinavian countries were among the first to heavily expand high-quality, universal childcare coverage, at least since the 1970s. Over the past decades, most high-income countries have followed suit and have expanded childcare provision while at the same time also providing longer paid parental leave.

The objectives for these policies are loosely twofold:⁵³ First, in light of a continuing increase in female and maternal labor force participation – a welcome development in light of aging societies and a desirable increase in gender equality – parental leave and childcare help parents to take some time off work and then return, often to

45. A prominent, widely implemented program is Triple P, which focuses on fostering “positive parenting” with the goal of reducing the prevalence of behavioral and emotional problems in children.

46. Cunha et al. (2006).

47. Silliman & Mäkinen. (2022).

48. See, e.g., Datta Gupta & Jessen (2023) or Flood et al. (2022).

49. One could make the point that higher educated mothers have a higher earnings potential and if their children attend childcare this enables them to return to the labor market with a higher propensity for gaining income (this argument, although, is not unproblematic from an equity perspective).

50. Jessen et al. (2020).

51. Hermes et al. (2021) treat a random set of lower-SES families in two large cities in Germany with application assistance which reduces the SES gap by about half.

52. Evidence from Norway (Cools et al. 2015) reveals that an introduction of four-week paternal leave in 1993 had a positive effect on the school outcomes of children whose fathers had higher education levels than their mothers.

53. Protecting maternal health can be seen as a third objective, but we refrain from discussing this aspect in this short brief as all European countries have a motherhood protection period in place for the weeks following childbirth.

their prebirth employers. Second, these policies aim to foster child development and potentially to reduce inequalities in their development by parental background.

Maternity leave enables mothers to spend more time with their children in a critical period of their lives. Breastfeeding, engaging and stimulating one-to-one interactions with their child, and less stress associated with having to balance a potential early return to employment and childrearing can all have beneficial effects for their children. Universal, high-quality childcare similarly holds much promise. In particular, children from disadvantaged backgrounds may have a more enriching environment in formal childcare, and all children can gain valuable social skills. An additional benefit of childcare could be that children are exposed to a diverse set of peers.

The causal evidence discussed in this research brief points toward beneficial effects of parental leave mostly within the first six months or so and in cases when the predominant form of care would otherwise be of an informal, less regulated nature. Expanding parental leave beyond this would demand other justifications, such as insufficient availability of qualified childcare staff or evidence that this is shown to be beneficial for parental (mental or physical) well-being.⁵⁴ Most studies of universal, high-quality childcare find neutral or positive effects on child development that tend to be larger for children from disadvantaged backgrounds. Formal childcare can play an important role in reducing early disparities in child development. On the negative side, detrimental effects of childcare have been identified in settings with a relatively low quality of care and mostly for children coming from more privileged backgrounds. A rapid expansion of low-quality childcare at the expense of a high-quality environment is not a desired strategy in the interest of child development.

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SNS

Box 5629, 114 86 Stockholm

Phone: +46 8-50702500

info@sns.se www.sns.se

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