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Promoting integration through child care: Lessons from Norway

HOW TO SECURE THE INTEGRATION of new immigrants is high on the agenda in most western countries today. Increasing child care enrollment is a promising lead. The existing evidence suggests that child care is particularly beneficial for children from disadvantaged families. This report summarizes the findings from two different interventions in Oslo that provided free child care for one to two years before children started school. The first intervention was implemented in 1998 and the second in 2006. Children with an immigrant background who received the offer of free child care performed better during their early years of school.

INCREASED ENROLLMENT AMONG IMMIGRANT CHILDREN. The results suggest that an offer of free child care for four hours a day in combination with active recruitment measures is an effective way of getting children from an immigrant background to enroll in child care centers. Enrollment increased by approximately 15 percent when children became eligible at age 4.

IMPROVED SCHOOL READINESS AND LANGUAGE SKILLS. An offer of free child care may help level the playing field in terms of school readiness. Moreover, the first intervention increased language skills among girls with an immigrant background at the end of compulsory schooling.

CHILD CARE MATTERS FOR INTEGRATION. The lesson to take from the interventions in Oslo is that child care seems to matter for the integration of children from an immigrant background, particularly for girls. Other things that may be relevant to the success of such a policy is the age of enrollment and the language environment to which children are exposed in the affected centers.

AUTHOR
Nina Drange, Senior Researcher,
Statistiska Sentralbyrå, Norway.
E-mail: nina.drange@ssb.no

Graphic design: Patrik Sundström. *Original:* Gabriella Stjärnborg.

How to secure the integration of new immigrants is high on the agenda in most western countries today. One promising method has been implementing policies to recruit children from immigrant families to child care centers. Because children are more susceptible to language stimulation at an earlier age, enrolling children with little knowledge of the majority language into child care early may help mediate the language barrier that such children often experience when they start school (Bleakley and Chin, 2008).

Improved school performance with early language training.

Having more developed language skills early on may help level the gap between minority- and majority-language speaking children and lead to better outcomes throughout the educational careers of immigrant children. In fact, evidence from a number of studies that examined the effects of child care for young children suggest that child care is beneficial for most children, particularly for children from disadvantaged families in which both the mother and father have low education and earnings (Havnes and Mogstad, 2011).

Pilot projects in Oslo

Children with immigrant background underrepresented in child care.

Since 1998, several pilot projects directed at recruiting children with immigrant backgrounds to child care centers have been implemented in Oslo. The share of children with an immigrant background is high in the Norwegian capital, but this group has been underrepresented in child care centers across the city. This report presents the evidence gathered from studying these policies.[1]

This section gives an overview of whether such recruitment policies have successfully increased the enrollment rates and, if so, how the children affected by the policies have fared throughout their school career. It also briefly describes what the evidence says about the possible effects of providing free child care on parental outcomes, such as education and earnings.

The first set of policies was implemented in August 1998 in two city districts in the east/center of the city: Gamle Oslo and Grünerløkka (Drange and Telle, 2017a). Children from immigrant families amounted to 25 percent of the pupils in Oslo in the school year 1996/7 and were underrepresented in preschool. The two administrative districts of Gamle Oslo and Grünerløkka had the highest shares of immigrant families with preschool-aged children, and they received funding from both the municipality of Oslo and the Norwegian Government to offer child care, free of charge, to all five-year-olds, i.e., in the last year prior to starting school. The policy ensured free child care four hours a day, but the family could pay an additional fee if they wanted to increase this to full-time care.

The intervention in Gamle Oslo was initially planned to last three years (until summer 2001) but was partly extended until summer 2004. In Grunerløkka, the intervention also lasted until summer 2004, but the funding decreased starting in 2001. To meet the anticipated surge in demand, the number of available preschool slots in the two districts was expanded.

The second pilot policy was introduced in 2006/2007, and in this case, five city districts were selected to offer child care free of charge (Drange and Telle, 2015). During this intervention, coverage was expanded, and both four- and five-year-old children could enroll in child care for free.

Active recruitment and educational content

Both interventions contained several elements: an active recruitment approach for families with an eligible child, a free part-time child care slot and an increased focus on tailored educational content for the group of children with an immigrant background. In some cases, there have also been offers of language courses for parents. The target group has been children from immigrant families, but both interventions have provided four hours of child care free of charge to all children in the affected city districts, including children without an immigrant background.

The recruitment policy has implied that information about the free preschool has been actively conveyed through health care centers

1 This report builds on Drange and Telle (2017a) and Drange and Telle (2015).

and by district civil servants and social services. The information was distributed in several languages. The city district administration has made phone calls, sent letters and gone on home visits to families that have not applied for a child care slot for their child. The idea has been to ensure that every family knows that they can send their child to child care free of charge and to inform them about what happens in the child care center and why it may be beneficial for children to enroll. In addition, effort has been devoted to providing the children with an adequate pedagogical program, and some of the preschool teachers were multi-lingual. The interventions emphasized that the pedagogical content of the child care program should emphasize improving the language skills of the children.

Child care in Norway

Child care in Norway has been heavily subsidized throughout the period, but it became more accessible and cheaper starting in 2003, when the decision to expand availability and lower the price to a maximum of 2 500 NOK a month was made. Regardless of how the maximum price has varied, Oslo has had a substantially lower price cap for low-income families. In 2008, the price of a full-time child care slot in Oslo was approximately 800 NOK per month for parents with a family income below 150 000 NOK, 2 100 NOK for a family income between 150 000 and 300 000 NOK and 2 350 NOK if the family income was above 300 000. The fraction with a family income below 150 000 was approximately 16 percent in the sample of immigrant families in city districts that had access to free child care.[2]

The structural quality in the centers is regulated. The share of child care teachers per child is regulated by law, and municipal regulations in Oslo state that one teacher should work with two assistants. There are no educational requirements for the assistants, but a child care teacher degree implies a three-year bachelor degree from a college. There are also regulations in place for the size of the play area and recommendations for what the children should learn throughout the year. However, child care is still heavily influenced by the social pedagogical tradition, in which learning through play is the important focus. While child care centers can be both privately and publicly operated, centers that meet the official requirements will qualify for government and municipal subsidies. Hence, the private market for formal, non-subsidized child care is very small.

Children in Norway start school in August of the year in which they turn six. Most children will be enrolled in child care when they are between 1 and 2 years old. However, children from immigrant families enroll later and are less likely to enroll at all.

Children with immigrant background older at enrollment.

Finding effects of the interventions

To assess the effects of interventions such as free child care, we need to take into account that the families that choose child care for their child may be different from those that choose to have their child at home. Therefore, we cannot simply compare the outcomes of children attending child care to those of children not attending. If we do this, we will measure a combination of 1) the effect of enrolling in child care and 2) the effect of belonging to a family who wants child care for their child.

Challenging to disentangle effects of child care.

If families that favor child care are also more prone to favor other educational activities, i.e., if they are more likely to also read to their child at home, it is hard to disentangle the effect of child care from the effect of growing up in a family favoring educational activities. However, since we have two interventions that aimed to recruit new children to child care, we can take advantage of this to find a suitable comparison group. The idea is that we need a measure of what would have happened to the children that received the offer of free child care had they not received the offer. It is impossible to obtain such a measure, but we can see what happens to similar children in city districts that do not offer free child care and use this as a proxy for

2 For cohorts of children born 2004-2007.

Method box: difference-in-differences

Difference-in-differences is a quantitative method that is used to evaluate quasi-experimental interventions. The method compares outcomes before and after an intervention among groups that were and were not affected (by the intervention). The affected group is often referred to as the treatment group, and the non-affected is referred to as the comparison group. Here, the treatment group consists of families residing within the intervention districts in Oslo. The comparison group consists of families residing in neighboring districts that are similar but unaffected by the intervention. The idea is that the comparison group will be a good measure of what would have happened to the treatment group in the absence of the intervention. Removing the difference between the groups should then leave us with the causal effect of the intervention.

what would have happened to the children who received the offer of child care.

The aim of both interventions was to improve the children's language skills and promote integration by providing all children with experience starting in preschool, before starting school at age 6. In both cases, preschool that was free of charge was only available for the families residing within the intervention districts, so none of the neighboring districts were affected. This is useful when we are interested in exploring the effects of the interventions because we can implement a research design in which we compare how children fare in city districts with and without the intervention before and after the policy was implemented. By comparing groups of children before and after the pilot policies were introduced across city districts with and without access to free child care after the introduction, we can get an unbiased estimate of the causal effects of the interventions.

Comparing children with and without access to free child care ...

... to evaluate effects on enrollment, child development and parental outcomes.

For the outcomes from the two interventions, due to data availability, there are somewhat different measures that we can examine. In both cases, we are interested in knowing whether the interventions actually increased enrollment in child care. Moreover, we want to know if the interventions affected child development. Finally, parental outcomes are important, and previous studies find positive effects on mothers' labor supply from getting access to subsidized or free child care (Simonsen, 2010, and Baker, Gruber and Milligan, 2008).

The first intervention, introduced in 1998, allows us to explore child development, as measured by school performance at the end of compulsory schooling (children are aged 16) and parental outcomes such as labor supply. The second intervention, introduced in 2006/2007, can be used to study enrollment in child care and parental outcomes. We can also look at child outcomes for younger children, but there are certain challenges to the latter. We have access to data containing results on tests in languages and mathematics in the first, second and third grades. However, these outcomes are not available until 2010. This implies that we do not have access to this outcome for children living in the districts in question before the intervention, so we cannot conduct the before-after comparison discussed above.

Instead, we compare the school performance of children in city districts with and without the intervention. To account for possible differences between children in city districts with and without the intervention, we control for a number of parental background characteristics, such as education, country of origin, earnings and age. We also look at the difference between children with and without immigrant backgrounds across the districts, as children without an immigrant background in districts with the intervention are as likely to attend child care before the free child care becomes available at age 4.

To account for the possible observable changes between city districts with and without the intervention over time, our analysis includes controls for the background variables of the children. We account for the sex of the child, whether the mother (father) is a young parent, labor force participation for each of the

parents, parental education and whether the mother (father) received welfare support. We also account for whether the child was born outside Norway (or whether only the parents are born outside Norway) and the family's country of origin and decade of immigration to Norway. Because children born early in the calendar year are older when graduating, we account for the birth month in the analysis. Finally, we account for whether the child lives with a single parent.[3]

Effects on enrollment and child outcomes

This section starts by presenting the results on child enrollment from the latter intervention. In this analysis, we have compared child care use before and after free child care is available in city districts with and without free child care. Figure 1 reports the results from this analysis. The upper panel shows the development of child care use across ages for children without immigrant backgrounds in the intervention (blue line) and the comparison (red line) city districts. As is clear from the figure, these lines follow each other, suggesting that there is no effect of the intervention on child care enrollment among children without immigrant backgrounds. In fact, at the age of three, virtually all children without immigrant backgrounds are enrolled in child care.

No effect on enrollment among children without immigrant background.

Turning to the bottom panel and enrollment rates for children with immigrant backgrounds, it is clear that children in the comparison and intervention city districts are equally likely to be enrolled in child care as young children; however, this changes as the children become eligible at age four. The enrollment rates when children are four and

3 For details on the control variables in each analysis, see Drange and Telle (2015) and Drange and Telle (2017a).

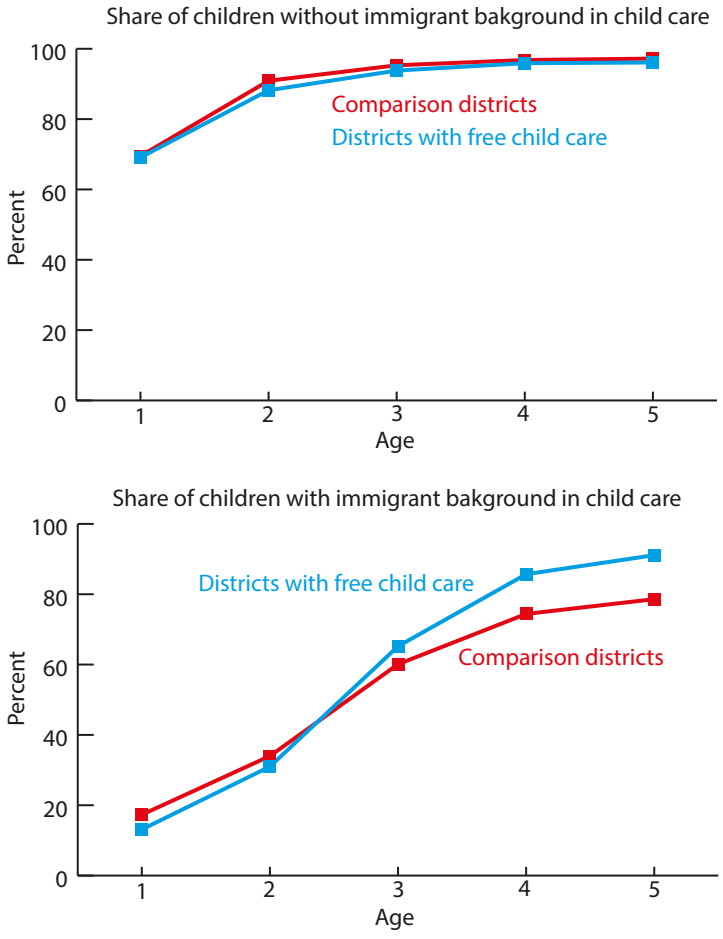

Figure 1. Share of children with and without an immigrant background in child care (Drange and Telle, 2015).

five are higher in intervention districts, which is in line with what would be expected if the intervention succeeded in attracting new children to child care centers. The figure also indicates that children from immigrant families are much less likely to be enrolled in child care as young children than are children from native families. While above 80 percent of children without an immigrant background is enrolled in child care at age 2, this is only the case for approximately 30 percent of children with an immigrant background. This pattern is similar, regardless of whether children are residing in intervention or comparison city districts.

When estimating the effect on enrollment as four- and five-year-olds compared to ineligible one-, two- and three-year-olds, we show that enrollment increases by approximately 15 percent in intervention city districts compared to comparison districts.

Early childhood outcomes

How does free child care affect subsequent school performance during the early years in school? In Table 1, we see that the children of immigrants in treated city districts do better on 1st grade tests than do children of immigrants in the comparison districts. From left to right in the table, we look at results in literacy, the likelihood of scoring below a critical threshold in literacy, the math results, the likelihood of scoring below the critical threshold in mathematics and, lastly, the average of the score in literacy and mathematics. The critical threshold in the two subjects is defined on the national level, and it is constructed as a tool that the teacher can use to identify children that need to be followed closely. Across grades 1-3, children in intervention city districts score better on tests in literacy and mathematics. The critical threshold in the two subjects is defined on the national level, and it is constructed as a tool that the teacher can use to identify children that need to be followed closely. For literacy in second grade, and both mathematics and literacy in third grade, the share of children scoring above the critical threshold is positive, implying that these children are less likely to need extra resources in school. Overall, we see that estimates for first grade are similar to the second and third grade results, indicating that the difference that exists in first grade is persistent and lasts until children are approximately 9 years old.

Keeping in mind the previous discussion on the shortcomings of the approach that we have used to analyze these school outcomes, we

Table 1. Difference in score among children with immigrant children in city districts with and without intervention.

	Reading	Above limit	Math	Above limit	Pooled score
Results 1. grade	0.098*	0.039	0.106*	0.036+	0.111*
	(0.037)	(0.023)	(0.045)	(0.019)	(0.037)
N	6 639	6 639	6 641	6 641	6 605
Results 2. grade	0.051+	0.030*	0.082*	0.021	0.065*
	(0.024)	(0.011)	(0.036)	(0.012)	(0.026)
N	6 289	6 289	6 337	6 337	6 259
Results 3. grade	0.079	0.038*	0.092*	0.042*	0.102*
	(0.050)	(0.014)	(0.032)	(0.013)	(0.044)
N	5 909	5 909	5 947	5 947	5 860

Note: Results for reading and math are reported as the share of the standard deviation. The results for the above limit outcomes are measured in percentage points. Standard errors in parentheses, + $p<0.10$, * $p<0.05$. Source: Statistics Norway and Utdanningsetaten in Oslo.

have also done estimations where we include children without immigrant backgrounds as a comparison group since these children were not affected by free child care. This does not change the results substantially, which is reassuring because it means that the other interventions that are taking place at the city district level are unlikely to explain the differences in school outcomes.

Effects on later school performance

As we have seen, the pilot project running from 2006 succeeded in enrolling more children into child care, and the child outcomes in the intervention city districts were higher than those in comparison districts. The first intervention that started almost ten years earlier helps us address the question of whether free child care may also affect children later in their education. The main results in this analysis are based on a comparison of children in intervention vs comparison city districts born from 1988-1992 (not affected by the policy providing free child care) with children in intervention vs comparison city districts born from 1993-1996 (some districts provided free child care).

In this analysis, we examined the results for girls and boys separately. As it turned out, the intervention improved the girls' grade point average (GPA). The effect was bigger for the first cohort of children that got access to free child care; i.e., the first year of the intervention somehow seems to have affected the girls' results to a larger extent than did the subsequent years. When looking at the results for separate groups of subjects, it is clear that the improved results for girls were driven by increased test scores in language, a measure summing up scores in Norwegian and English. We did not find support for the boys' GPA being substantially affected by the intervention. This difference between girls and boys may seem puzzling. It is discussed below in connection with the results from the analyses of parental labor market attachment.

Did free child care affect parents?

Providing free child care four hours a day could possibly improve parents' integration into Norwegian society, such as through their ability to attain work or education. We have looked at outcomes for parents in both interventions, and this section starts with the results from the earliest period. For the children in this study, we have analyzed the results separately by parents of boys and girls. We did not find any significant effect on parental education, and no effect on average earnings. We did, however, find some significant positive effects on labor market entry.

For the girls, the intervention affected their parents' likelihood of obtaining relatively low earnings (compared with no earnings). The intervention increased the likelihood that mothers' earnings corresponded to a low-paying part-time position by approximately 7 percentage points. The employment rate of the mothers in this group was initially low, and hence this amounts to a considerable relative increase. We also found evidence of a small increase in the employment of fathers of girls, but only at very low earnings levels. Interestingly, fathers of boys in intervention districts were more likely to earn above certain thresholds after the policy was introduced. However, since a considerably higher share of fathers are already earning above these given thresholds, the relative increase was lower among fathers than among mothers.

Increased employment among girls' mothers.

It appears to be a possibility that the higher employment of the parents, and perhaps in particular the mother, may have helped facilitate parents' integration into Norwegian society and, through this, helped improve their language skills. If this is the case, one likely mechanism for why girls' school performance is improved may have been that their mothers are now more integrated.

More integrated mothers may improve girls' school performance.

In the latter intervention, we have also studied whether parents were affected by the policy. However, we did not find that this intervention succeeded in securing a higher participation in the labor force. Neither mothers nor fathers were likely to work more after their child became eligible. They were

also not more prone to finish education on a high school or college level. This latter finding is in line with what we found for the earlier intervention that free child care did not seem to increase educational attainment among parents. We cannot, however, rule out that parents were more likely to attend a language course when eligible for free child care and through this obtain a better understanding of the Norwegian language.

Discussion: is free child care a promising policy to improve integration?

Current evidence from studies where children of immigrants are explicitly investigated point to improved school readiness among children who have been enrolled in child care. This is also after taking into account that parents who send their child to child care are different from parents who prefer to keep their child at home.

Improved language skills through free child care in Norway.

Both studies from Norway point to better language development among children with an immigrant background who were enrolled in child care when child care became free of charge. Evidence from other countries suggests a similar beneficial effect, such as a study from a large expansion of child care slots in Germany (Cornelissen et al, 2018). This is a study of child care becoming available rather than free, but child care in Germany is heavily subsidized. The study concludes that while children of immigrant ancestry are less likely to attend child care early, they experience higher gains in terms of school readiness than native children do. In the end, their findings suggest that attending child care early helps children with an immigrant background to catch up with the majority children in terms of school readiness.

Long-term benefits for children with immigrant background.

Overall, evidence suggests that child care is beneficial for children from an immigrant background and that child care helps level the playing field in terms of school readiness. Our study of the outcomes of children by the end of compulsory schooling points to that improved language outcomes continue throughout the school trajectory, although it seems to be the case for girls only. Better language proficiency may be important for integration. More specifically, in Oslo, a higher grade point average will increase the likelihood of being admitted to a better high school. Thus, while there is still the need for more research on long-term outcomes of children from immigrant families, the evidence that we do currently have concludes that child care is important for language development and school readiness among these children.

While it seems fair to conclude on the basis of the current evidence that child care can be important for children of immigrants, the question of how to secure a high participation among this group still remains. While the two interventions in Norway did recruit more children with an immigrant background into child care, it is hard to disentangle whether it was child care becoming free of charge, whether it was the active information dissemination, or whether it was a mixture of both that made the policies successful. This distinction is important for policy makers because both free child care and recruitment policies are costly. We cannot draw firm conclusions on this point given the data we have access to. What we can say is that an extensive qualitative evaluation of the Oslo intervention starting in 2006 concluded that the recruitment policies were important (Bråten et al, 2014). Giving recommendations based on these studies implies that both measures should be considered simultaneously.

While both interventions in Oslo achieved some of the objectives set prior to implementation, the question of whether they could have been even more successful still remains. First, some of the child care head teachers interviewed in the formerly mentioned evaluation said that in their opinion starting at four was too late for some children if the goal was to speak Norwegian fluently before starting school. Keeping in mind the different pattern in child care use that we observed in Figure 1, the largest overall difference in child care use between children with and without immigrant background is that the former children start much earlier.

Second, several parents with an immigrant

background that were interviewed in the same evaluation were worried that the language environment in the child care center their child attended was influenced by a very high share of other children with an immigrant background. In another study we have been undertaking in Oslo to examine how children with and without an immigrant background are clustered across child care centers, we find a pattern in line with this (Drange and Telle, 2017b). Studying how children are allocated to centers both within Oslo but also within city districts, we find strong evidence of the clustering of children with an immigrant background in certain centers. In the ten percent of centers with the highest share of children from immigrant families, approximately 80 percent of the children have this background. The clustering is present both when comparing between city districts and also, perhaps more surprising, within city districts.

While it seems likely that a language environment with many minority language speaking children poses a challenge for language development, we do not currently have evidence that can back this up empirically. We do, however, know more about whether starting early may be beneficial for language development. In another study, we take advantage of a lottery implemented in Oslo during the years 2005-2007 among young children who had applied for a child care slot (Drange and Havnes, 2017). Due to the random assignment of children, we can compare first grade language test scores between children who got an offer in the lottery and started early, and children who did not get an offer and started later.

Children without offers were delayed entry to child care between 0-12 months, with the average being 3 months. This analysis shows that children who started early performed better on a language test in first grade. While we cannot do this analysis for children with and without an immigrant background due to a small sample size, we have looked at whether the effects differ by family income and parental education. We find that these results are entirely driven by children from families where parental education is low or where family income is below the median. These findings do suggest that starting earlier than four years may be particularly beneficial for children from disadvantaged families.

Concluding remarks

The lesson to take from the interventions in Oslo is that child care seems to matter for the social mobility of children from an immigrant background, particularly for girls. It may, however, be appropriate to question whether families should be encouraged to enroll their children earlier than age four. It may also be important to keep an eye on the language environment in the affected centers. We should also keep in mind that the interventions we have studied imply both a recruitment plan and a substantial subsidy to encourage families to enroll their child.

Child care may prove beneficial for integration in Sweden.

It is not clear how our findings will generalize to a Swedish context. However, Norway and Sweden have similar welfare states, and child care plays an important role as a starting point for children in both countries. Hence, ensuring that all children have the opportunity to enroll in child care, regardless of their parents' country of origin and family income, may prove beneficial for integration in Sweden as well.

The current situation in Norway today is that child care for four hours a day is free for three-, four- and five year-old children from families with an income below a certain threshold (as of 2017/2018, this threshold is 450 000 NOK). In addition, a regulation stipulates that a family should not pay more than 6 percent of their family income in child care expenses. These policies have just recently been introduced (starting autumn 2015), and we do not yet know the effects of such similar but more general programs.

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