

Chapter 8

Intergenerational Transmission and Day Care

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IN NORTH AMERICA and Europe since the 1980s, a growing proportion of children younger than six have been in nonparental care while their parents are at work. By 2006, the majority (52.6 percent) of children below six in OECD countries were in formal care or preschool (OECD 2010). This is a huge shift in how children spend many hours of most days during their formative years. It will affect intergenerational mobility depending on the pattern of substitution between modes of care and the distribution of changes in care quality. For some countries, the first generation of children involved in this expansion has now completed schooling and entered the labor market. Denmark has had one of the most comprehensive systems of publicly provided day care for decades. In this chapter, we describe the relationship between the expansion of publicly provided child care in Denmark and the intergenerational transmission of schooling and earnings.

Denmark is especially informative for several reasons. It has probably the lowest intergenerational income elasticity in the world (Björklund and Jäntti 2009), public provision of care for the under-sixes is the most comprehensive (76.9 percent in 2006), expensive (\$4,940 per child in 2006) and highly prioritized (1.2 percent of GDP in 2005) (OECD 2010), and coverage has a long and well-documented history. Two generations of Danes have now been exposed to the institutionalization of childhood from early ages. This may seem like a national experiment without a control, but by virtue of differential municipal organization of preschool care, there is a wealth of historical variation from which we can learn. Day care plays a very important role in Danish society.¹ Most Danes spend most days during their formative years in day care. Yet the effects of day care are largely unknown. This chapter describes the contribution of expansion of day-care provision to intergenerational mobility.

Day care is often cited as being one of the main engines of high intergenerational mobility. Pedro Carneiro and James Heckman (2003) propose a theoretical framework of learning-begets-learning to interpret the observed high returns to targeted early childhood interventions (for a reinterpretation of the most influential experimental findings, see Andersen 2007). Gösta Esping-Andersen (2008) argues that maternal employment reduces child poverty risk and, in combination with substitution to high quality non-parental care, can diminish reproduction of inequality. In Denmark, current provision is now population-wide, but there has been an enormous variation in development of provision over time across municipalities. It is this differential regional expansion that we will relate to changes in intergenerational transmission for children growing up at different times in different parts of the country.

Three recent studies are closest to ours in terms of topic and design, though with different focus. They all look at day care or preschool in a quasi-experimental (differences-in-differences) framework, but focus on the causal effect on child outcomes of day care or preschool per se. Our focus is the extent to which day care might moderate correlations between parent and child outcomes. Michael Baker, Jonathan Gruber, and Kevin Milligan (2008) analyze the phased introduction of the Quebec Family Policy, a heavily subsidized \$5-a-day day-care program in Quebec for children age four in 1997 down to those age one and younger in 2000. Other Canadian provinces were not part of the program, and the Canadian National Longitudinal Survey of Children and Youth 1994–2003 is used to compare outcomes for children younger than four years before and after in Quebec with the rest of Canada. They find uniformly negative short-run effects on maternal reports of child behavior and health, in terms of increased anxiety, aggression, illness, and poorer motor skills. Although these short-run outcomes may miss unmeasured long-run positives and partially reflect adjustment costs of rapidly introducing such an extensive program, it is remarkable that they are so consistently and significantly negative.

Tarjei Havnes and Magne Mogstad (2009) analyze the 1976 to 1979 Norwegian expansion in publicly provided day care for children ages three to six. The expansion was differential between municipalities and administrative register data for children born between 1967 and 1976 on outcomes at ages thirty to thirty-three are compared for those growing up in high- versus low-expansion day-care regions. They find uniformly large and positive effects on long-run outcomes, in terms of length of schooling, employment, earnings (especially for women), and reduced welfare dependency. These positive findings are in stark contrast to those for Canada. Apart from differences in place and time and time horizon of the analyses, an important reconciling factor is likely alternative mode of care. Most Canadian mothers reentered the labor market, whereas most Norwegian mothers were already employed,

and substitution from parental or informal nonparental care probably differed accordingly.

In chapter 7 of this volume, Christelle Dumas and Arnaud Lefranc consider the 1971 to 1982 French expansion of publicly provided preschool for children ages two to four. The expansion differed between departments and both survey and administrative data for the 1969, 1972, and 1978 birth cohorts on educational attainment and wages are compared for those who did and did not attend preschool. Recall data on attendance is instrumented by the provision of local preschool. Dumas and Lefranc find significant positive effects of preschool attendance on both educational attainment and wages. Interactions with paternal occupation show that the effect is primarily felt in families with low socioeconomic status.

The importance of alternative care in driving results is evident and obvious because day care is about who is caring for the children. Evaluating care depends on substituting between alternatives. However, both the Canadian and Norwegian studies address this indirectly through maternal labor supply response to subsidized public provision. In analyzing Norwegian and French regional day care and preschool roll-out, the maintained assumption is that maternal demand does not determine which municipalities provide day care and when. The Danish data we have access to does not, at present, have enough identifying information to pursue the causal effects of day-care exposure. Although we do not look at maternal labor supply response to day-care expansion, the context of alternative forms of child care are likely closer to the Norwegian than the Canadian and French cases (for a long time series of day-care provision and female labor supply, see Statistics Denmark 2001).

To preview our results, intergenerational correlations are moderated only slightly (insignificantly downward) by including a simple measure of local day-care provision—municipal places per child. Interactions with municipal day-care density are positive and modest across parental schooling distribution, but mostly insignificant across parental earnings distribution. Density of day-care provision is correlated with longer daughter schooling for mothers with least schooling in nonrural areas, and with longer son schooling for mothers with intermediate schooling in urban areas. Father-daughter correlation interactions are similar to mother-daughter. However, father-son correlation interactions are largely insignificant. We conclude that (our simple measure of) municipal day-care provision contributes little to the high level of intergenerational mobility.

Institutional Background

Public provision of child care in Denmark has a long tradition (see Enoksen 1997). The first kindergartens were developed in line with the ideas of German pedagogue Friedrich Fröbel. In the beginning, efforts were all privately organized, but in 1919 the government began sub-

sidizing existing kindergartens, albeit to a small extent. A 1933 reform increased the subsidy. Still, growth was slow. By 1940, nurseries had been established for 1,100 children and kindergartens for 11,000, a tiny fraction of Denmark's child population. Until around 1950, the major purpose of subsidies was to assist "those parents who had to leave their homes to earn a living," and accordingly the institutions, to maintain their subsidy, were required to have two-thirds of enrolled children from poor households. Thus there was clearly a social purpose to publicly subsidized child care. The political foundation for day-care expansion was laid, but bad business cycles in the 1950s delayed implementation. In the 1960s, demand for female labor increased with the economic upswing, which spurred the growth and expansion of institutions.

The training and education of personnel in child-care institutions improved over these years, but no formal educational requirements existed. By the early 1950s, however, regulations were enacted. Various existing private educations became organized and financed by the state. The duration of education was later extended to three years. Each institution should have a certain minimum proportion of educated personnel but could also employ untrained helpers.

The laws regulating and subsidizing child-care institutions were changed several times. By 1965, the shift from social institutions to pedagogical institutions was almost complete. The state covered all housing costs and 40 percent of running costs, municipalities 30 percent, and parents the remaining 30 percent. After 1976, responsibility for organization and public funding was transferred to municipalities, and the growth in the number of institutions and places took off.

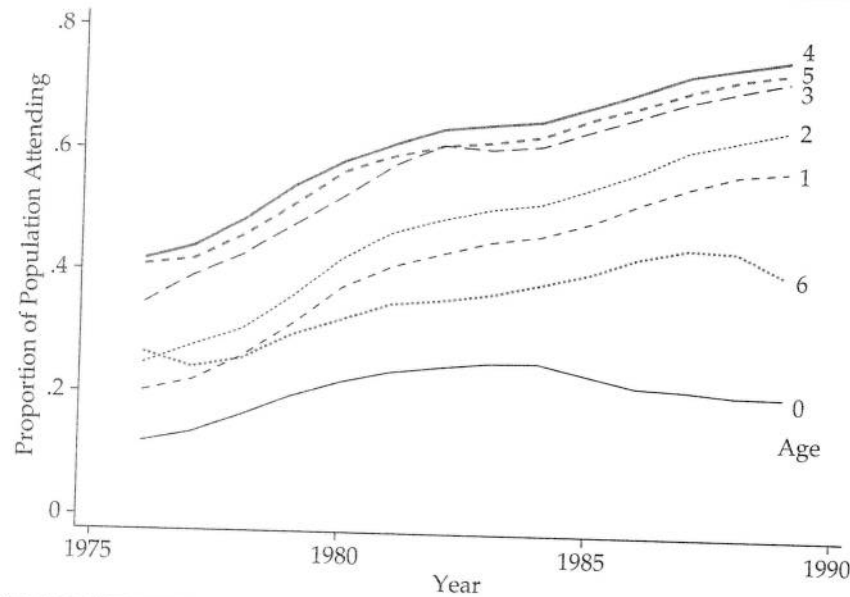
A private alternative to institutions has always existed: licensed carers opening their homes for two to five children. Most of those arrangements were organized and quality-assured by the municipality, and most carers were municipality employees. No formal educational requirements for licensed carers were in place.

Subsidies were organized such that municipalities were given incentives to save on day-care costs, especially from 1976. The choice was between licensed care and the more expensive institutions that also provided a qualitatively different type of care. The result was that municipalities with other budgetary priorities had fewer institutions than their counterparts where pedagogical concerns dominated. The division was largely political but also urban versus rural. Over time, institutions with educated personnel have become more and more the norm.

Data Description

The Statistics Denmark day-care institution register begins in 1976, and we use this through 1989 to capture relevant exposure for birth cohorts 1976 through 1983 for ages zero through six. Figure 8.1 illustrates

Figure 8.1 Day-Care Expansion

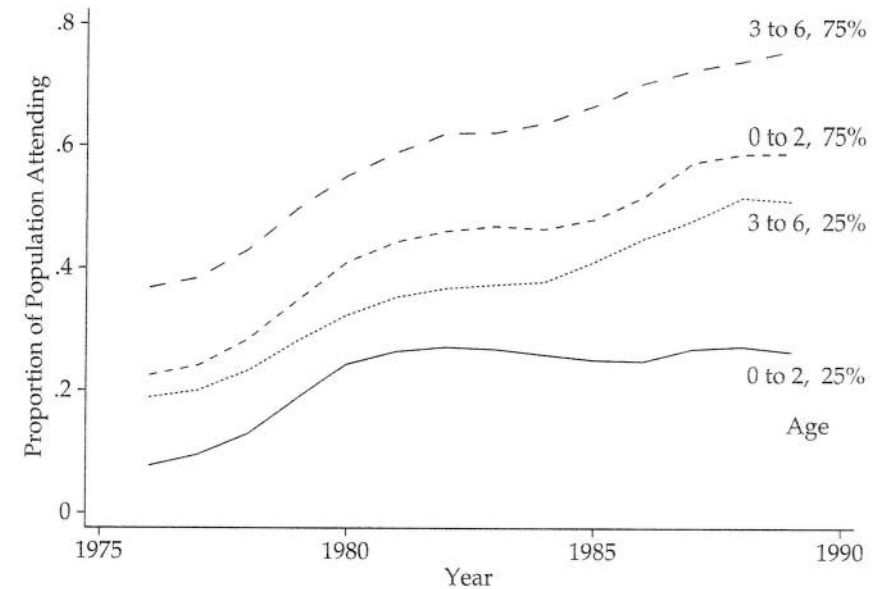


Source: Authors' calculations based on administrative register data documented in Statistics Denmark (2011b) and described in Statistics Denmark (1990).

the expansion of day care by child age between 1976 and 1989. Figures are proportion of children in day care by age and year. For ages one through five, aggregate expansions were roughly parallel by age, the youngest experiencing a threefold increase and the oldest a doubling of coverage. Half of the expansion took place in the first five years. Coverage increased dramatically for one-year-olds, from 20 percent in 1976 to 40 percent in 1981, and then slowed to reach 58 percent by 1989. For five-year-olds, the corresponding figures are 40, 60, and 77 percent. The exceptions are those younger than one and age six because of changing parental leave and interactions with school start, respectively.

The large aggregate expansions presented in figure 8.1 cover a wide variety of regional experience. Figure 8.2 illustrates the variance of the expansion over time by considering the 25 and 75 percentile municipalities of the day-care density distribution in each year. Variance in coverage began large and expanded, especially for nursery (ages two and younger). For nursery (kindergarten), the interquartile range was 12 percent (18 percent) in 1976, increasing to 18 percent (24 percent) in 1981, and ending the period

Figure 8.2 Day-Care Coverage



Source: Authors' calculations based on administrative register data documented in Statistics Denmark (2011b) and described in Statistics Denmark (1990).

at 32 percent (26 percent) in 1989. It is clear from figure 8.2 that the expansion was different across the country, and indeed the variance between municipalities increased markedly.

Our data spans this period of growth in level and dispersion of day-care provision with birth cohorts 1976 through 1983 with ages zero through six. We distinguish between outcomes for boys and girls throughout the chapter. Gender differences in patterns of intergenerational transmission have long been recognized (Black and Devereux 2010), and stronger day-care effects for girls have been found (Havnes and Mogstad 2009). We also distinguish between municipalities according to urbanicity (thirds of the distribution). For a given density of provision, access to care is likely to be more costly in the countryside, and alternative (extended family) modes of care are likely to be available to a different extent. Separating regions according to urbanicity allows day-care density to be interpreted differently according to costs of care and likely crowd-out, at the expense of reduced between-municipality variation.

Tables 8.1 and 8.2 present descriptive statistics for outcomes and covariates of interest in the analysis. Table 8.1 shows means and standard

Table 8.1 Descriptive Statistics

Covariate	Female		Male		Semi		Urban		Rural		Male		Semi		Male		Urban	
Mother school years	11.25	(2.74)	11.53	(2.74)	11.50	(2.72)	11.25	(2.73)	11.52	(2.73)	11.52	(2.73)	11.50	(2.73)	11.50	(2.72)	11.50	(2.72)
Father school years	11.94	(3.06)	12.27	(3.00)	12.29	(2.94)	11.95	(2.97)	12.27	(3.05)	12.27	(3.05)	12.30	(2.97)	12.30	(2.94)	12.30	(2.94)
Offspring school years	12.99	(2.05)	12.98	(2.11)	12.77	(2.16)	12.85	(2.13)	12.81	(2.06)	12.81	(2.06)	12.64	(2.13)	12.64	(2.19)	12.64	(2.19)
Parents' earnings (DKK)	557646	(279845)	613586	(300538)	608623	(295177)	554054	(298433)	611408	(276794)	611408	(276794)	607182	(298433)	607182	(294276)	607182	(294276)
Offspring earnings (DKK)	159781	(111603)	159237	(115535)	145781	(113214)	223973	(144000)	215712	(141049)	215712	(141049)	199349	(144000)	199349	(142029)	199349	(142029)
DD	0.230	(0.118)	0.364	(0.157)	0.442	(0.129)	0.230	(0.158)	0.364	(0.118)	0.364	(0.118)	0.442	(0.158)	0.442	(0.128)	0.442	(0.128)
	65334	201	55148	59	50652	15	69212	59	57689	201	57689	201	53698	59	53698	15	53698	15

Source: Authors' calculations based on administrative register data documented in Statistics Denmark (2011a) and described in Leth-Sørensen (1993).

Notes: Offspring schooling is measured in 2006.

Parental schooling is measured when child is age eight.

Offspring earnings are measured in 2006.

Parents' earnings are means of mother plus father while child is seven through sixteen reflat to 2006 DKK.

DD indicates the number of day-care places by municipality per child age six or younger.

Standard deviations in parentheses.

Table 8.2 Correlation Matrix

	DD	School Offspring	School Mother	School Father	Earnings Offspring	Earnings Parents
DD	1.000	-0.083	0.103	0.100	-0.098	0.171
Offspring school	-0.083	1.000	0.245	0.205	0.268	0.233
Mother school	0.103	0.245	1.000	0.365	-0.019	0.369
Father school	0.100	0.205	0.365	1.000	-0.008	0.352
Offspring earnings	-0.098	0.268	-0.019	-0.008	1.000	0.054
Parents earnings	0.171	0.233	0.369	0.352	0.054	1.000

Source: Authors' calculations based on administrative register data documented in Statistics Denmark (2011a) and described in Leth-Sørensen (1993).

Note: DD indicates day-care density.

deviations for our population of 188,431 girls and 199,384 boys distributed across 275 municipalities. Parents living in urban or semi-urban municipalities (when their child is eight) have about 0.25 years more schooling and 10 percent higher earnings (when the child is seven through sixteen) than parents living in rural areas. However, there is a slight penalty of 0.2 years of schooling and 10 percent of earnings (in 2006) for offspring living in an urban municipality at age eight compared with those living rural or semi-urban. Offspring earnings have a relatively high variance because in 2006, at ages twenty-three through thirty, they have not all completed full-time schooling and entered career jobs. Earnings variance and age of observation have important implications for measuring intergenerational correlations, to which we will return when interpreting our estimates (for a discussion of life-cycle bias in estimation of intergenerational income mobility, see Björklund and Jäntti 2009). Day-care density (DD) is higher in more urban municipalities, but standard deviations of the density indicate substantial remaining variation.

Table 8.2 shows raw correlations between outcomes and covariates of interest. Day-care density is negatively correlated with all offspring outcomes and positively correlated with parental schooling and earnings. Intergenerational correlations are conventionally positive: 0.24 mother's schooling, 0.21 father's schooling, and 0.05 for earnings. Earnings correlations are small regardless of whether we consider up to ten years of parental earnings. There is little flexibility for child earnings because they are still so early if indeed they have begun their labor market career. Earnings correlations should increase if more years for older offspring were considered.

Estimation Results and Discussion

Ordinary least squares (OLS) regression models are run separately for dependent variables child log earning and years of completed schooling by child gender and urbanicity. Explanatory variables of interest are parental earnings and schooling, day-care density, and its interaction with parental earnings and schooling. Other controls are dummies for (seven) years of birth and (275) municipalities of residence at birth. Ours is essentially a difference-in-differences approach in which we aim to identify an intention to treat effect (similar to Baker, Gruber, and Milligan 2008; Havnes and Mogstad 2009). Christelle Dumas and Arnaud Lefranc (chapter 7, this volume) instrument individual preschool attendance to identify an effect of treatment on the treated. Our estimates could be scaled up by dividing by the proportion attending to obtain a similar treatment on treated measure. However, in our case it is not clear what the treatment would be in terms of substitution between maternal and other forms of care (for a similar argument for Canada, see Baker, Gruber, and Mulligan 2008).

Table 8.3 presents estimates from six regressions for years of completed schooling. The relationship between both longer maternal and paternal schooling and longer offspring schooling is clear and positive. Interaction terms between dummies for low maternal schooling and day-care density are positive, which means offspring of short-schooling mothers benefit from day-care exposure in terms of increased length of schooling. Interactions of paternal schooling with DD differ by offspring gender, benefiting the schooling of urban girls with short-schooling fathers and associated with shorter schooling for urban boys of long-schooling fathers. In alternative specifications excluding DD and DD interaction terms, coefficients on parental schooling dummies were quantitatively similar to those presented here.² There is no obvious general pattern of interactions by urbanicity and child gender as might have been expected because of differential proximity and alternative modes of care along these dimensions. Intergenerational transmission of schooling appears to be only moderated slightly by the inclusion of our measures of day-care availability. The most consistent result is for longer schooling with day care for children of low-schooling mothers.

Table 8.4 presents estimates from six regressions for child log earnings.³ There is a clear positive relationship between parental earnings and offspring earnings. Interaction terms between dummies for parental earnings quartile and day-care density are largely negative for low earnings and positive for high. This is consistent with high-potential-earnings families' offspring benefiting most from day-care provision because of the associated greater family income gain from working. However, intergenerational earnings correlations are poorly determined. R-squared goodness-of-fit

Table 8.3 Parent and Offspring Schooling and Day-Care Density

Covariate	Female	Rural	Female	Semi	Female	Urban	Male	Rural	Male	Semi	Male	Urban
Mother school= 7-11	-1.0128	(0.0784)	-1.3075	(0.0940)	-1.5317	(0.1426)	-0.9911	(0.0798)	-0.9086	(0.0967)	-0.9853	(0.1472)
Mother school= 12-14	-0.3417	(0.0777)	-0.6090	(0.0931)	-0.5609	(0.1410)	-0.4315	(0.0790)	-0.3102	(0.0958)	-0.2487	(0.1455)
Mother school= 16-18	0.0815	(0.0935)	-0.0243	(0.1160)	0.2435	(0.1757)	0.0157	(0.0956)	0.1608	(0.1173)	0.1934	(0.1821)
DD*mother school= 7-11	0.2743	(0.2863)	0.6304	(0.2304)	0.8813	(0.3065)	0.7933	(0.2943)	0.2928	(0.2337)	0.2089	(0.3154)
DD*mother school= 12-14	0.1215	(0.2792)	0.5871	(0.2254)	0.4102	(0.3019)	0.5183	(0.2868)	0.1509	(0.2288)	-0.1402	(0.3095)
DD*mother school= 16-18	0.1425	(0.3282)	0.3799	(0.2742)	-0.1442	(0.3737)	0.2467	(0.3407)	0.0350	(0.2766)	-0.2026	(0.3854)
Father school= 7-11	-0.9186	(0.0900)	-1.1410	(0.1126)	-1.6681	(0.1515)	-0.7903	(0.0906)	-0.8526	(0.1123)	-1.0213	(0.1558)
Father school= 12-14	-0.4997	(0.0865)	-0.6889	(0.1082)	-0.9359	(0.1435)	-0.3277	(0.0870)	-0.3541	(0.1079)	-0.4748	(0.1474)
Father school= 16-18	0.0789	(0.1015)	-0.0941	(0.1264)	0.0399	(0.1745)	0.0271	(0.1027)	0.2322	(0.1280)	0.5678	(0.1795)
DD*father school= 7-11	0.2924	(0.3093)	0.3331	(0.2654)	1.4008	(0.3325)	-0.0336	(0.3129)	-0.1722	(0.2653)	-0.0368	(0.3415)
DD*father school= 12-14	0.2239	(0.2900)	0.3904	(0.2518)	1.1136	(0.3152)	-0.1882	(0.2930)	-0.2521	(0.2518)	-0.0006	(0.3234)
DD*father school= 16-18	0.2797	(0.3345)	0.3732	(0.2901)	0.3501	(0.3750)	0.0289	(0.3432)	-0.3514	(0.2927)	-0.9979	(0.3845)
DD	-0.5032	(0.4437)	-0.0477	(0.4328)	-2.0843	(0.7034)	-0.6956	(0.4568)	-0.4423	(0.4379)	1.7938	(0.7165)
Intercept	14.7518	(0.1174)	14.8577	(0.1587)	15.3981	(0.2823)	14.4381	(0.1192)	14.4619	(0.1605)	13.5401	(0.2882)
R ² within overall	0.1532	0.1546	0.1705	0.1613	0.1812	0.1853	0.0978	0.0990	0.1176	0.1126	0.1236	0.104
Number of observations, number of municipalities	65334	201	55148	59	50652	15	69212	201	57689	59	53698	1

Source: Authors' calculations based on administrative register data documented in Statistics Denmark (2011a, 2011b) and described in Leth-Sørensen (1993) and Statistics Denmark (1990).

Note: Dependent variable is years of completed schooling in 2006.

Parental schooling are measured when child is age eight. Reference schooling is fifteen years.

DD indicates the number of day-care places by municipality per child age six or younger.

Also included are year of birth and municipality dummies.

Table 8.4 Parent and Offspring Earnings and Day-Care Density

Covariate	Female	Rural	Female	Semi	Female	Urban	Male	Rural	Male	Semi	Male	Urban
Quartile= 1 (low)	-0.4009	(0.0902)	-0.6588	(0.1130)	-1.4008	(0.1806)	-0.5542	(0.0825)	-0.5511	(0.1039)	-0.5931	(0.1647)
Quartile= 2	-0.2725	(0.0914)	-0.4756	(0.1132)	-0.5719	(0.1813)	-0.0953	(0.0834)	-0.0898	(0.1034)	-0.0808	(0.1639)
Quartile= 4 (high)	-0.0803	(0.0942)	-0.0501	(0.1173)	0.0350	(0.1734)	-0.3268	(0.0871)	-0.2134	(0.1083)	-0.1402	(0.1589)
DD*quartile= 1 (low)	-0.9183	(0.3655)	-1.0665	(0.2973)	0.4103	(0.3928)	0.2337	(0.3351)	-0.4008	(0.2731)	-0.8801	(0.3592)
DD*quartile= 2	0.0982	(0.3669)	0.1626	(0.3005)	0.3154	(0.4033)	0.2768	(0.3351)	-0.2532	(0.2737)	-0.2000	(0.3644)
DD*quartile= 4 (high)	0.1410	(0.3400)	0.0443	(0.2850)	0.0617	(0.3760)	0.6047	(0.3158)	0.3070	(0.2624)	-0.0179	(0.3436)
DD	0.6211	(0.5742)	0.3526	(0.6407)	-0.1640	(1.2234)	-0.0097	(0.5250)	0.0628	(0.5925)	1.4705	(1.1144)
Intercept 1	10.9819	(0.1218)	11.0050	(0.2017)	10.8910	(0.4606)	11.5747	(0.1113)	11.5338	(0.1865)	10.8264	(0.4200)
R ² within overall	0.0078	0.0081	0.0153	0.0154	0.0181	0.0183	0.0060	0.0053	0.0098	0.0093	0.0142	0.0100
Number of observa-	65334	201	55148	59	50652	15	69212	201	57689	59	53698	15
tions, number of municipalities												

Source: Authors' calculations based on administrative register data documented in Statistics Denmark (2011a, 2011b) and described in Leth-Sørensen (1993) and Statistics Denmark (1990).

Notes: Dependent variable is child annual log labor earnings in 2006.

Parents' earnings are means of mother plus father while child is age seven through sixteen deflated. Reference quartile is #3.

DD indicates the number of day-care places by municipality per child age six or younger.

Also included are year of birth and municipality dummies.

measures are 1.8 percent at best in table 8.4 compared with 18.1 percent in table 8.3 for schooling. This is largely due to the single-year observation of offspring earnings and it being so early in the working life, that it is very unlikely to reflect a measure of permanent lifetime earnings more commonly sought for intergenerational earnings and income mobility measurement. Our correlations are likely downward biased and lacking in precision in the light of our not taking account of this, and should be regarded as lower bounds for these outcomes.

Summary and Conclusion

We describe the relationship between the intergenerational transmission of schooling and earnings and the expansion of day care. We use administrative data for all children born in Denmark between 1976 and 1983, and we correlate parental schooling when the offspring is eight and earnings when the child is ages seven to sixteen with offspring schooling and earnings, respectively, in 2006. Intergenerational correlations are moderated only slightly by inclusion of a simple measure of local day-care provision—municipal places per child of each age six and younger. We find some significant interactions with day-care provision. Child schooling is especially benefited by day care for children of mothers with low schooling. Child earnings are higher when day-care coverage increases for high-earning parents.

The most important result in this chapter is the finding of a significant and positive relationship between local day care and offspring outcomes seventeen to thirty years later. We also find that day care does not have any significant effect on the education level of children with higher-educated mothers or fathers. Interactions of day-care provision with low maternal schooling is associated with longer offspring schooling. Similarly, high parental earnings are associated with higher earnings among children who have been attending day care.

Our study has several limitations. Day-care density at the municipal level is quite a crude measure of day-care availability, especially in rural areas. More detailed proximity to care institution information would increase relevance and the precision of estimates. Our long-run outcomes are measured at age twenty-three, where there may still be transitions from schooling and into career occupations. Earlier day-care institutional records would allow analysis of earlier birth cohorts, and more recent outcome measures would overcome this limitation. Administrative data does not indicate which alternative types of care are available. However, whether publicly provided care draws children from parental (maternal) care at home or informal care likely has important consequences for its relative impact. Measuring associated changes in maternal labor supply, as others have done, is a feasible but indirect approach.

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Notes

1. Throughout, we use *day care* generically to mean nursery (*vuggestue*) for ages two and younger and kindergarten (*børnehave*) for ages three through six.
2. R-squared goodness-of-fit measures were at best 1 percent higher with inclusion of DD and interactions. Results are available on request.
3. We have also considered parent and offspring annual income and different treatments of zeros. Estimates of coefficients of interest are qualitatively quite similar across specifications.

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