

## **The Long-Term Effects of Childhood Poverty in Adult's SES Attainment. How Important Is the Neighborhood? (Sweden, 1947-2015)**

*Gabriel Brea-Martinez<sup>1</sup>*  
*Finn Hedefalk<sup>1</sup>*  
*Vinicius de Souza Maia<sup>1</sup>*

Research has shown that childhood poverty increases the likelihood of being poor as an adult, and growing up in poverty is also associated with worsened social outcomes, such as access to networks, unemployment, psychological and health problems, and risks of social exclusion in adulthood (Duncan & Brooks-Gunn, 1997; Halleröd & Larsson, 2008; J. Jonsson & Mood, 2014). Accordingly, some studies pointed out that spending part of childhood and adolescence in low-income families could be highly consequential to socioeconomic and demographic aspects. This was true in places with high inequality as the US, and in more egalitarian societies, such as the Nordic ones (Duncan & Magnuson, 2013; Mood, 2015).

Similarly, scholars have long hypothesized that peer interaction in poor neighborhoods could also contribute to maintaining a culture of poverty, emulating negative role models in aspects such as non-participation in school and work. Therefore, individuals exposed in childhood and adolescence to deprived and segregated neighborhoods would have higher odds of adverse outcomes throughout their lives (Ludwig et al., 2012; Wilson, 2012). Additionally, living in economically deprived areas could prompt “segregation traps” as the likelihood of residential mobility is lower among individuals living in poor neighborhoods, and their mobility is usually towards other poor areas (Huang, South, Spring, & Crowder, 2021; Van Ham, Hedman, Manley, Coulter, & Östh, 2014). However, some studies argued that it is unclear whether this neighborhood effect would be determined directly by the place of residence rather than a reflection of accumulated disadvantaged individual and family contexts (Jencks & Mayer, 1990). In this regard, some authors focused more on the socioeconomic composition of neighborhoods as the primary driver of stratification and booster of likely detrimental consequences for individuals later on (Massey & Denton, 2019).

Studies dealing primarily with educational outcomes have stressed different theoretical insights from psychology addressing the interaction between family poverty and exposure to neighborhood deprivation (Wodkte, 2016). Accordingly, there is a general view in these studies that a family's economic status would moderate the neighborhood's socioeconomic influences, especially educational ones. Nonetheless, these theoretical approaches diverge on how and with the direction of familial moderation. For instance, the *Compound disadvantage theory* argues that family poverty intensifies the adverse effects of impoverished neighborhoods, as children tend to depend more on their community in the absence of family capacity (Wheaton & Clarke, 2003). In other words, compounded disadvantages coming from families and neighborhoods can have multiplicative negative effects. Conversely, *relative*

---

<sup>1</sup> Centre for Economic Demography, Department of Economic History, Lund University.

*deprivation theory* argues that deprived children at the family level surrounded by non-poverty tend to have more erratic and risky behaviors and, therefore, achieve lower SES outcomes (Turley, 2002). It would happen because as lower the parental resource, the more complex the ability to acquire networks (Jencks & Mayer, 1990). However, recent articles dealing with neighborhood effects have shown the contrary, as being surrounded by well-off children was beneficial for children of low SES (Chetty et al., 2022; Hedefalk & Dribe, 2020)

Some researchers have attempted to evaluate family and neighborhood economic status interactions in recent decades. However, only some studies tried to measure the impact of such interactions, usually finding mixed and inconclusive evidence with education as the primary outcome (Brooks-Gunn, Duncan, Klebanov, & Sealander, 1993). Moreover, scholars usually argue that exposure ages and timing are essential. Accordingly, few studies have shown that neighborhood exposure is crucial, especially for ages with higher network intensity, like adolescence (Wodtke, Elwert, & Harding, 2016). Conversely, other theoretical insights emphasize the critical ages of human capital formation, which usually are below age 5-7 (Duncan, Yeung, Brooks-Gunn, & Smith, 1998; Heckman, 2006; Heckman & Mosso, 2014). More recent research on the long-term effects of disadvantaged neighborhoods has shown that living in poor areas during childhood and adolescence could increase risk behaviors, for instance, in adolescent parenthood (South & Crowder, 2010; Wodtke, 2013). Likewise, recent studies have shown that moving out of poor neighborhoods could alleviate the socioeconomic consequences of childhood poverty (Chetty, Hendren, & Katz, 2016).

Despite the research on neighborhood effects improved substantially in the last decades, most of it focused on contemporary times, typically from the 1970s onwards, often with cross-sectional data sources. However, segregation has been recognized as a longitudinal phenomenon for a long time. Besides, most of the research dealing with the spatial component of long-term consequences of disadvantages suffered from a geographical bias, usually set in great metropolises of the US, where important specific characteristics such as racial segregation explained a significant part of socioeconomic inequality (Galster, 2012; South & Crowder, 2010; Timberlake, 2009). On the other hand, studies in different geographic contexts, such as the UK, Sweden, or the Netherlands, although with unprecedented levels of technical sophistication (e.g., use of bespoke neighborhoods), usually cover contemporary periods (Andersson, Janssen, Ham, & Malmberg, 2022; Knies, Melo, & Zhang, 2021).

We still know little about the geographic role of the transmission of disadvantages in the past, its long-term development, and among less racially segregated and populated areas (e.g., medium-sized European cities). Therefore, in such contexts: What spheres of exposure could be more critical, only poverty at the family or the neighborhood level too? Which ages matter most for exposure? Could poverty in the neighborhood also affect individuals from non-poor families? Or did it only work with an amplificative effect of familial poverty?

In this study, we measure poverty in two exposures: exposure to familial poverty and neighborhood. By using longitudinal, geocoded (at the block level) socioeconomic and demographic microdata for the industrial city of Landskrona (Southern Sweden), 1947-1967, linked to national registers, 1968-2015, we can establish a historical and long-term follow-up of children growing amidst the post-WWII in Sweden until almost the 1970s. Analytically, the paper interacts with the importance of geographic and familial dimensions and the time length of age-specific exposure to poverty through different childhood and adolescence stages (ages 0-5, 6-11, and 12-17) as a proxy to different critical ages. In this regard, the paper first assesses which poverty exposure (familial or geographic) could be more detrimental to children's adult socioeconomic performance. Second, we also analyze which age-ranged poverty experiences could be more consequential and if they changed when interacting with familial or neighborhood exposure.

This paper contributes to observing individuals through their childhood and adolescence with simultaneous familial and neighborhood exposure and their association with longitudinal information in adulthood. Moreover, we also aim to add to the literature a more historical and long-term view of the association between childhood neighborhood poverty exposure and adult SES outcomes. Among our main findings, we identify that poverty in neighborhoods had an independent association net of the familial poverty experience. Such association seemed more consequential for men at younger ages, especially among children from families in the low and middle socioeconomic stratification. Moreover, the role played by the neighborhood poverty was constant over time and across cohorts despite our observational period coinciding with the first expansion of the Swedish welfare state.

## **Data and methods**

This study uses data from the Scanian Economic-Demographic Database (SEDD), which gathers individual-level longitudinal information for an area in the southernmost county in Sweden, Scania. Specifically, our study area includes Landskrona, a medium-sized industrial city. Landskrona's economic and demographic development in the twentieth century was similar to other industrial towns in Sweden, with an industrial expansion from early in the century to about 1970, when the industrial crisis hit the city, especially in the shipyard sector that drove the economic structure of the city during most of the 20<sup>th</sup> century. (Dribe & Svensson, 2019). Landskrona represents a classic working-class town, and its average income levels were lower than in most Swedish cities both early and late in the twentieth century. Conversely, the city's income inequality coincided with the national trends (Brea-Martinez, 2022). The data for Landskrona comes from continuous population registers with information on sociodemographic events and annual socioeconomic details. Moreover, from 1968 onwards, individual-level information covering the entire country is available in various administrative registers at Statistics Sweden and has been linked to the data before 1968. Therefore, we can follow the individuals observed in childhood Landskrona all over Sweden in adulthood without any biases related to internal migration.

We select individuals aged 0-17 who resided for some time in Landskrona between 1947 and 1967 (i.e., cohorts born 1930-1967) and follow these children until adulthood (ages 40-49) regardless of where they lived in Sweden to analyze the effects of childhood poverty both at family and at the neighborhood on socioeconomic outcomes in adulthood. The income information, defined as total gross income (before tax), comes from individual tax returns about total income from labor-related sources (including self-employment) and income from capital and real estate. Poverty in childhood and adolescence is measured using income in SEDD from 1947 to 1967, and economic outcomes in adulthood are measured using income data from Statistics Sweden (SCB).

We measure childhood poverty in two ways. Our main analysis is conducted with a relative measure, as individuals are considered poor if they live in a family where the income in a given year was below 60 percent of the median income, similar to the approach taken by the European Statistical Office (EUROSTAT). For defining exposition to poverty annually between 1947 and 1967, both at the family and neighborhood level, we defined relative poverty as having a family income below the 60% of Landskrona's median family income in a given year. Thus, an Individual  $i$  aged 0-17 would be considered to belong to a low-income family in year  $t$  if the *Family income*  $i,t < 60\%$  of Landskrona's family median income<sup>2</sup>  $t$ .

Additionally, for robustness checks purposes, we also measure poverty in absolute terms, which in other words, refers to having a fixed minimum threshold value for defining poverty, in a similar way it is done in the US. Accordingly, we used information published in Daniel Rauhuts's (2002) doctoral thesis: "*Fattigvård, socialbidrag och synen på fattigdom i Sverige 1918-1997*" (Poverty Care, Social Assistance and the View of Poverty in Sweden 1918-1997). In his dissertation, Rauhut estimated the poverty norm based on amounts used to clear disputes across municipalities (payments between municipalities for poor registered in one municipality/parish but received payments in another where individuals de facto lived). Rauhut calculated the poverty norm annually between 1918-1990 in fixed 1990 prices per month for adults. Thus, we used this approach to set an absolute poverty line for equivalized family income and defined those below this line as poor, in an operationalization similar to the one used with relative poverty.

We considered individuals to have lived in a poor neighborhood by the proportion of the block's residents regarded as at risk of poverty at the family level. We categorized relative-poor areas if more than 30% of its residents belonged to poor families (in relative terms), and the same with more than 20% of residents living in absolute-poor neighborhoods. Accordingly, we follow the standard procedure in studies dealing with neighborhood poverty (Wodtke, 2013).

---

<sup>2</sup> We calculate the equivalized family income for each family in a given year, scaling the sum of the family income and dividing it by the square root of the sum of all individuals living in the same household. We include all families, regardless of whether they had children or not. This equivalence method follows the OECD guidelines adopted in most studies dealing with family poverty and economic inequality.

The main studied outcome is the adult lifetime income (proxied at ages 40-49) for all children observed in Landskrona between 1947-1967. In this regard, we established three main dependent variables. First, we estimated the income percentile ranks in adulthood separately by birth year and sex. For this, we used all the information available from the national registers to approach economic status at the national level, similarly in other studies dealing with economic mobility (Brea-Martinez, 2022; Chetty, Hendren, Kline, & Saez, 2014). Finally, we also created dummy variables signaling if boys or girls living in Landskrona were adults at the bottom or top quartiles of their income distribution.

Our main covariates in this study capture whether children in Landskrona faced poverty in the family or neighborhood (NB) from 1947-1967. We define two dummy variables showing if children ever experienced poverty at family and neighborhood exposures<sup>3</sup>. In this regard, we take into account the entire age window 0-17, but also age-specific exposure to poverty through different childhood and adolescence stages (ages 0-5, 6-11, and 12-17) as a proxy to different critical ages (Baulos & Heckman, 2022). Our main controls are sociodemographic and socioeconomic variables during childhood (both time-invariant or averaged time-variant).

Finally, in order to test some likely mechanisms associated between childhood poverty exposure and adult's SES level, we also create dummy variables capturing whether individuals attained a university degree or a white-collar job, as well as if they moved to another region than Scania in their adulthood (see table 1 for checking the main used variables for the different age groups observed). In our models, we look at which poverty exposure (familial or neighborhood) during childhood (ages 0-17) is associated more (negatively) with adult income. It is done either in the percentile rank by estimating an Ordinary Least Square (OLS) model, as well as in the probability of attaining the adult's income bottom or top quartiles with a Linear Probability Model (LPM) :

$$y (\text{Adult income})_i = \alpha + \beta X_i (\text{ever lived in poor Family}) + \lambda X_i (\text{ever lived in a poor NB}) + \theta X_i (\text{Sociodemographic controls}) + \eta X_i (\text{Number of yearly observations ages 0-17}) + \varepsilon_i \quad (1)$$

Moreover, we also repeat the same modeling strategy to analyze if the poverty exposure (family or neighborhood) could associate differently with the ages children experienced it (ages 0-5, 6-11, and 12-17). Finally, we run the last model to assess whether neighborhood exposure could amplify or signify different consequences of familial poverty interacting with both family and neighborhood exposures. From this model, we predict different sets of average percentile ranks and probabilities of attaining both the bottom and top quartiles of adult income:

$$y (\text{Adult income})_i = \alpha + \beta X_i + \lambda X_i + (\beta X_i \times \lambda X_i) + \theta X_i + \eta X_i + \varepsilon_i \quad (2)$$

---

<sup>3</sup> The reason for only differentiating poverty and non-poverty categories of exposure, rather than measuring its intensity, responds to the fact that most of children living in poverty in this period did only during one year, as it has been also observed in previous studies with the same data (Brea-Martinez, Dribe and Stanfors, *forthcoming*)

Table 1: Descriptive statistics

	Ages 0-17			Ages 0-5			Ages 6-11			Ages 12-17		
	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Birth year	1952	1930	1967	1957	1942	1967	1949	1936	1961	1943	1930	1955
Sex (women)	0.49	0	1	0.49	0	1	0.49	0	1	0.49	0	1
Birth order	1.56	1	8	1.68	1	8	1.55	1	7	1.26	1	6
Sibship	2.11	1	8	2.08	1	8	2.3	1	8	1.97	1	8
N obs	7.24	1	18	3.56	1	6	4.33	1	6	4.26	1	6
Years lived in relative poverty (family)	1.5	0	18	0.98	0	6	0.92	0	6	0.85	0	6
Years lived in relative poverty (NB)	1.27	0	18	0.72	0	6	0.76	0	6	0.77	0	6
Family Income	56766.04			52469.58			59030.85			64304.72		
<b>SES Background (%)</b>												
Higher white-collar	16.10			16.26			18.56			12.88		
Lower white-collar	27.60			26.38			29.69			28.10		
High blue-collar	29.87			30.56			29.19			29.03		
Farmer	0.13			0.10			0.16			0.18		
Low blue-collar	18.86			19.67			16.63			19.51		
Unskilled worker	4.16			3.92			4.03			4.84		
NA	3.28			3.11			1.74			5.46		
<b>Adult Outcomes</b>												
Percentile rank ages 40-49	53.55	1	100	53.3	1	100	53.9	1	100	54	1	100
University degree	0.49	0	1	0.5	0	1	0.48	0	1	0.46	0	1
Extra-regional migration ages 30-39	0.56	0	1	0.58	0	1	0.54	0	1	0.55	0	1
White-collar occupation ages 40-49	0.64	0	1	0.64	0	1	0.64	0	1	0.63	0	1

Note: All income assessed between 1947 and 2015 was adjusted for CPI at the 1990-fixed level (SCB, 2020). Source: SEDD (Bengtsson, Dribe, Quaranta, & Svensson, 2021).

## Results

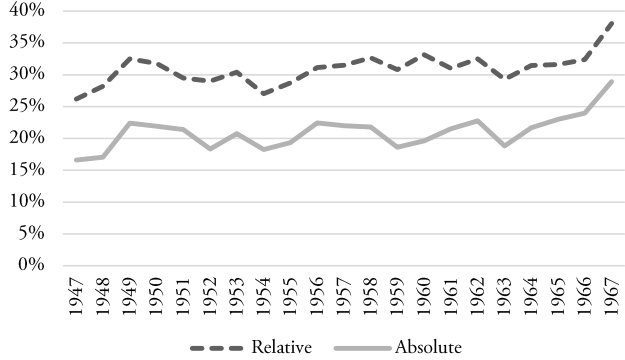
### *Identifying the associations of poverty in the family and the neighborhood with adult outcomes*

At the descriptive level, we first present the yearly share of children aged 0-17 in Landskrona between 1947 and 1967 who belonged to a family in poverty, both by measures using relative and absolute poverty concepts. Overall, it can be seen that the percentage of children aged 0-17 considered poor annually in Landskrona was pretty stable during most of the two observed decades. In this regard, the levels moved around 27-31% in relative poverty and showed lower shares with absolute poverty ranging from about 17-21%. These differences in poverty always exist, whether they are measured in relative or absolute terms. In this regard, absolute measures are more based on a constant poverty threshold, i.e., as a basic living level regarding food, clothes, and housing. Conversely, relative measures of poverty are better seen as indicators of inequality than only of poverty per se. In any case, across the observed period, we see only a significant increase in poverty for 1967. This might respond to a contextual and localized economic shock in Landskrona caused by the closing of *Landsverk Kockums* foundry, the major employer in the shipyard sector of the town at the time, leading to a sudden increase in unemployment (Dribe & Svensson, 2019) (see figure 1).

Next, we display the annual share of children aged 0-17 living in a poor neighborhood. The shares of yearly exposure to an impoverished area were not stable, as in the case of family poverty. From 1947 to 1959, the percentages fluctuated between 15-20%. In the 1960s, the shares increased significantly for relative poverty to around 25% and jumped close to 35% in 1967 (see figure 2). Nevertheless, such an increase in the share of children living in poor neighborhoods since 1960 is not

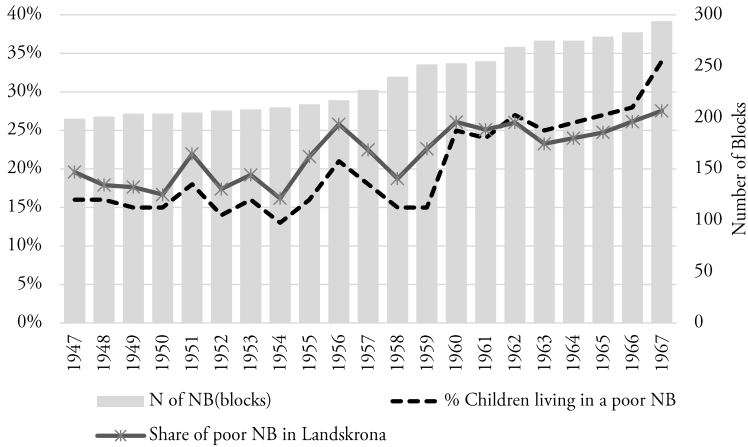
associated with an increase in poverty but rather with how low-income families were distributed through blocks, as the share of blocks considered in poverty just increased by five percentage points. Moreover, this process is highly related to the city’s urban growth increase in blocks’ number (neighborhoods) from around 250 in 1960 to almost 300 in 1967 (see figure 2).

Figure 1: Annual share of children living in poverty at the family level by type of poverty measurement (relative and absolute) in Landskrona, 1947-1967



Source: Same as figure 1.

Figure 2: Annual share of children living in a neighborhood considered poor, the share of poor neighborhoods in relative terms, and the total number of blocks in Landskrona, 1947-1967

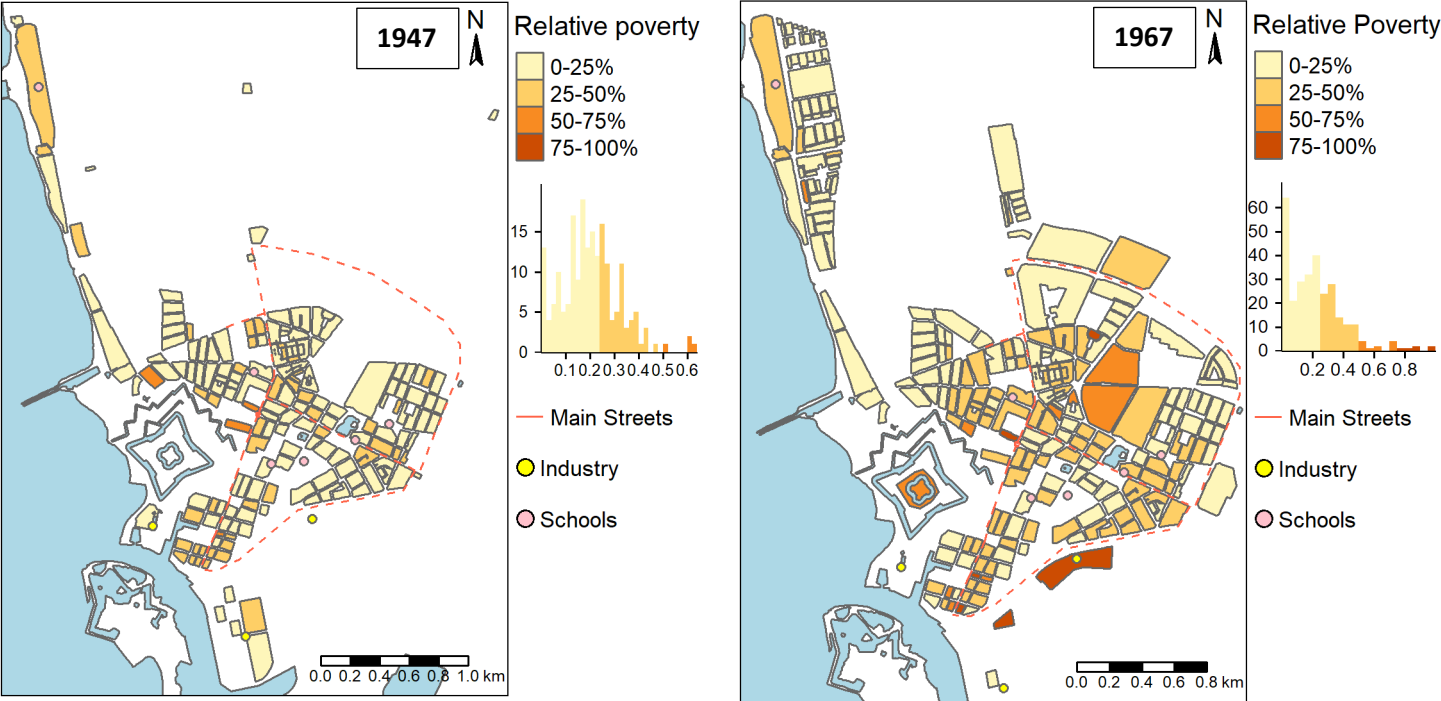


Note: A neighborhood was defined as poor if more than 30% of its residents belonged to a poor family in relative terms. Source: Same as figure 1.

Accordingly, figure 3 shows the spatial distribution of families in relative poverty in Landskrona at two points, 1947 and 1967. In 1947, poverty was more evenly distributed across neighborhoods, with most blocks ranging between 8% and 20% maximum. Conversely, in 1967, poverty was much more concentrated, as more than one-third of blocks had almost no poverty, and others accumulated more than 50% of residents in poverty (see figure 3). Such differences align with Landskrona’s industrial transformation and urban growth in the 1960s (Dröbe & Svensson, 2019). Still, although neighborhoods with higher poverty concentration increased over time, we do not observe a trend of clusterization or isolation of poor areas, which partly might relate to the dynamic of the medium-sized city Landskrona

always had. Besides, the same geographic distribution for 1947 and 1967 was also observed when considering absolute poverty (see figure A2 in the appendix).

Figure 3: Share of individuals living in poverty (in relative terms) by neighborhood in Landskrona, 1947 and 1967



Note: There were 200 blocks in 1947 and 253 in 1967. Source: Same as figure 1.

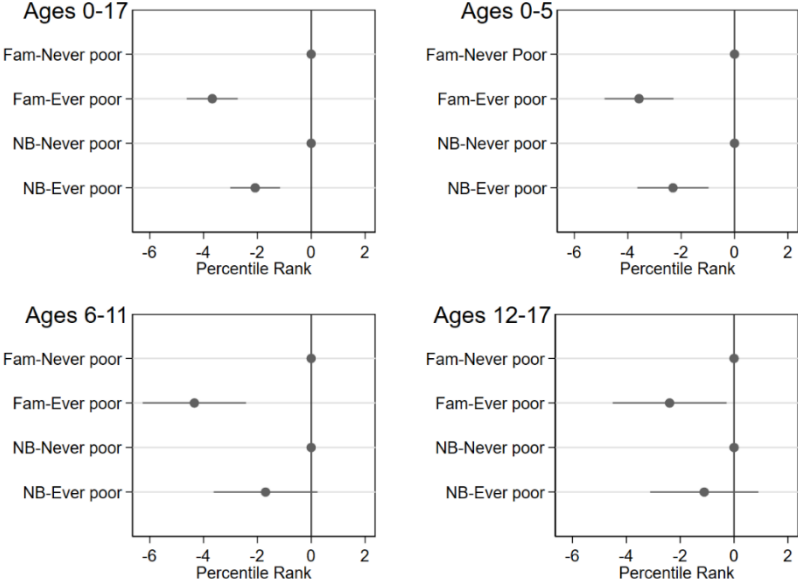
In the following three figures (3-5), we present the regression estimates for the association between adult income and childhood exposure to poverty at both family and neighborhood levels. The figures relate to the full models, including the two types of poverty exposure and controls for the sex, birth year, sibship size, birth order, SES background, and the number of observations for each child in Landskrona. Overall, the coefficients for family and neighborhood poverty were similar in direction and level in all models run step-wisely (see tables A1 to A4 in the appendix).

Starting with the regression estimates of income percentile rank in adulthood, we see that for all ages 0-17, ever facing family poverty was, on average, detrimental for adult income, lowering four rank positions compared to children who never lived in poverty. However, when looking at the coefficients of ever living in a poor neighborhood (NB), we see an independent association with lower adult income, leading to, on average, two rank positions less than children who never lived in a poor neighborhood (See figure 3). The same pattern existed when observing children aged 0-5 but vanished for ages 6-11 and 12-17. Accordingly, NB poverty per se was associated with lower rank positions for all ages when not contrasted to family poverty (see model 2 in tables A1 to A4 in the appendix). However, only for ages 0-5 the association of NB poverty exposure was not muted by family poverty. This might show that, at least when using delimited blocks, living in a poor neighborhood seemed consequential only for the youngest children, recalling the idea of aversive exposure at critical ages (Baulos & Heckman, 2022).



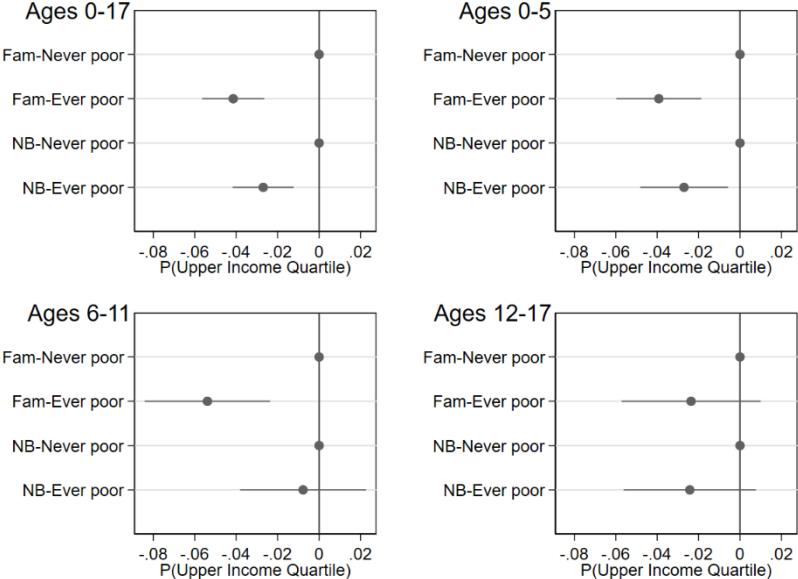
Similarly, the regression estimates on the probability of attaining the bottom or top income quartiles in adulthood (see figures 4 and 6) showed the same patterns by age group. Accordingly, for all age groups, ever facing poverty at the family level increased the probability of attaining the bottom quartile by 4-5 percentage points and decreased the likelihood of achieving the top 25% of the income distribution by the same. However, the NB poverty exposure seemed to affect significantly children aged 0-5, with differences of about three percentage points. The same results were found when using absolute poverty instead of relative (see table A5 in the appendix).

Figure 3: Regression estimates of percentile rank in adult income (OLS) by age groups



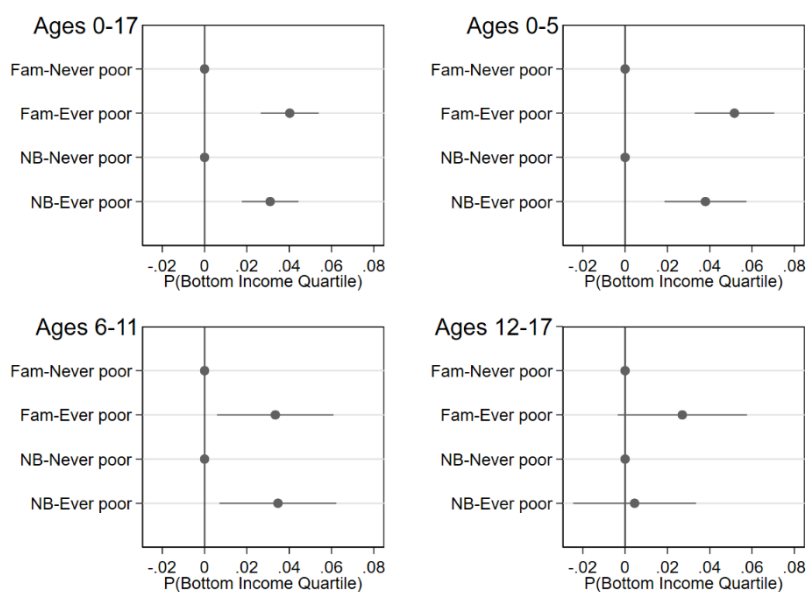
Note: Estimates from the full model (M4). The model controls for sex, birth year, sibship, birth order, SES background and number of observations at ages 0-17. *p*-values: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ . Source: Same as figure 1.

Figure 4: Regression estimates of attaining a high income (upper quartile) in adulthood (LPM) by age groups



Note: Estimates from the full model (M4). The model controls for sex, birth year, sibship, birth order, SES background and number of observations at ages 0-17. *p*-values: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ . Source: Same as figure 1.

Figure 5: Regression estimates of attaining a low income (bottom quartile) in adulthood (LPM) by age groups



Note: Estimates from the full model (M4). The model controls for sex, birth year, sibship, birth order, SES background and number of observations at ages 0-17. *p*-values: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ . Source: Same as figure 1.

### ***The interrelation between family and neighborhood poverty and its association with adult outcomes***

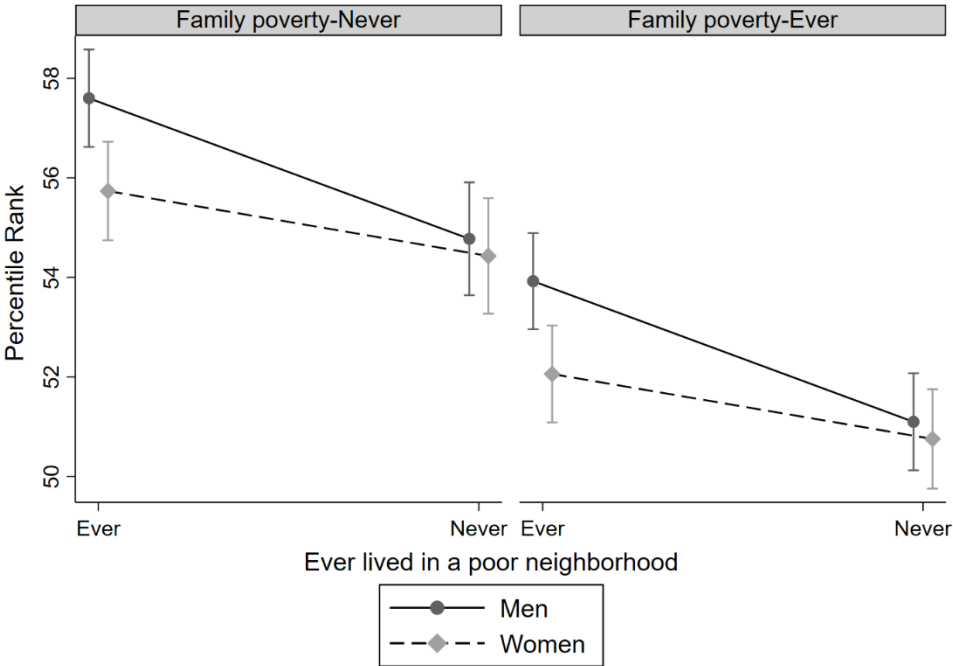
Apart from identifying the potential independent associations of poverty in the neighborhood over adult outcomes, this study aimed to dig more into the interrelation between exposure to family and neighborhood deprivation and its likely consequences in adults' SES. In this regard, we estimated a regression model interacting family and neighborhood poverty exposures to predict differences in adults' average percentile rank attainment (see M5 at table A1 in the appendix for the full estimates).

Figure 6 shows the predicted average percentile rank for men and women who ever lived or not in a family in poverty during their childhood, conditional on whether they ever lived in a poor NB between ages 0-17. First, looking at the left panel, we can see all individuals who never spent their childhood in a family facing relative poverty. Living in a poor NB would significantly decrease the average rank of boys from non-poor families by two rank positions. At the same time, the differences for women were not statistically significant and lower than one rank position. Second, look at the right panel, displaying only individuals who ever lived in a family facing poverty. We see the same pattern again, as boys who lived in a poor NB would have, on average, three rank positions less than those who never lived in a poor NB but belonged to a family in poverty at some point in their childhood. Besides, women show no differences.

However, perhaps the most interesting finding in figure 6 is comparing being part of a non-poor family but living in a poor neighborhood against being from a family in poverty but never living in a poor NB. Accordingly, there were almost no differences for men, as the average ranks were virtually the same. However, for women, being part of a family in poverty was more detrimental than living in a poor NB. These results suggest that the exposure to poverty in the neighborhood seemed to *affect* only

boys, while being or not part of a low-income family was the only determinant association for girls. These divergent gendered results were also found in other neighborhood studies with similar data but different outcomes as for instance education (Hedefalk & Dribe, 2020).

Figure 6: Predicted average percentile rank of adult income of men and women by neighborhood poverty status in childhood (Never-Ever): Left Panel= Never poor at the family level; Right Panel=Ever poor at the family level.

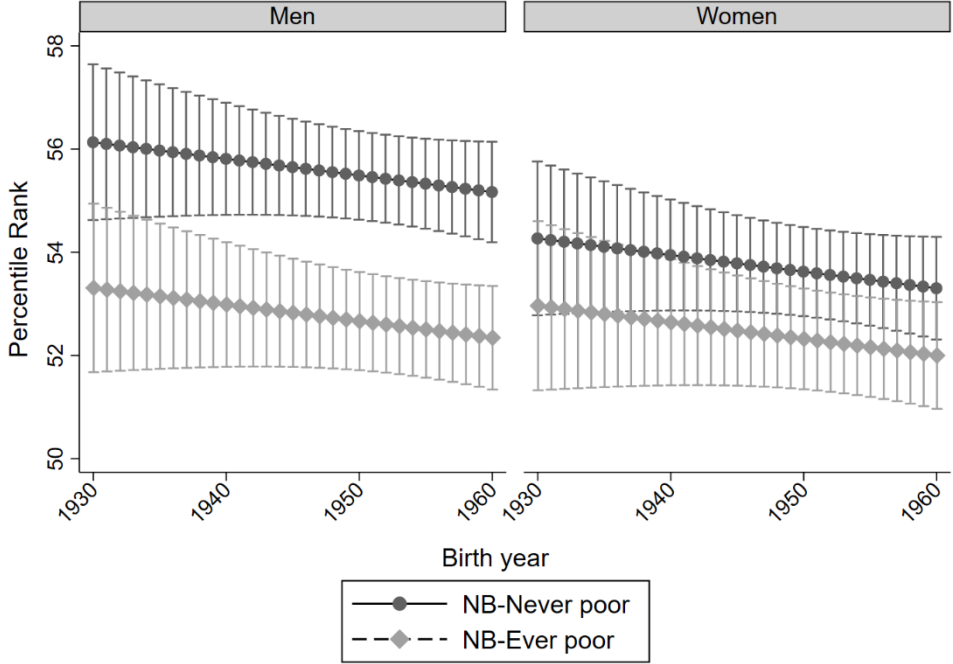


Note: Predicted probabilities with confidence intervals estimated from the interaction between family poverty and neighborhood status (M5 in table A1). Source: Same as figure 1.

As we saw gendered results existed, we also tested the hypothesis of changes across birth cohorts in the interrelation between family and neighborhood exposure to poverty. One might expect to see changes over time in the consequences of the existing NB poverty as the cohorts born between the 1930s and 1960s grew up in a critical period of Sweden’s welfare state expansion (Björklund, Jäntti, & Lindquist, 2009). Therefore, we predicted the average percentile rank of men and women conditional again on whether they ever resided in a poor NB between ages 0-17, as a result of the interaction model between poverty in the family and the neighborhood (see M5 on table A1 in the appendix). The results separated by sex show again that differences in income only existed for men but not women. However, we observe no changes across birth cohorts for any of the two, and in any case, a slight general worsening in the average income level.

Therefore, in the light of this not so conclusive results, we would discard a clear improvement for younger cohorts who benefited more from welfare policies, but at the same time, also show no amplification of differences due to the so-called welfare culture (Dahl, Kostøl, & Mogstad, 2014; Lindbeck, Nyberg, & Weibull, 1999).

Figure 7: Predicted average percentile rank of adult income of men and women by neighborhood poverty status in childhood and birth year (Never-Ever): Left Panel= Men; Right Panel=Women.



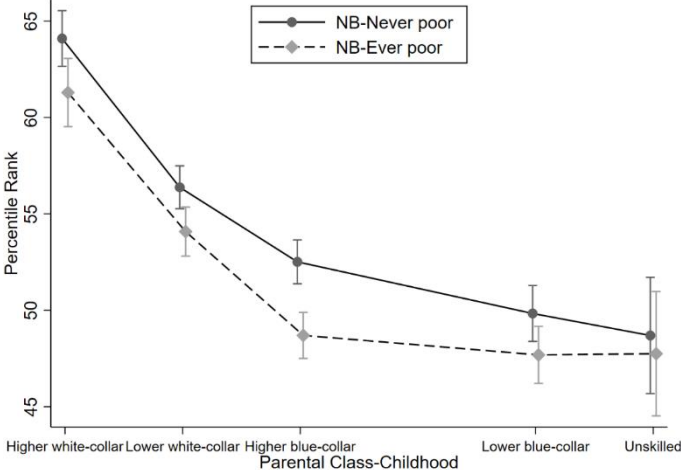
Note: Predicted probabilities with confidence intervals estimated from the interaction between family poverty and neighborhood status (M5). Source: Same as figure 1.

So far, we could see in the previous results, especially in figure 6, that the NB poverty exposure is associated negatively with two scenarios. On the one hand, experiencing NB poverty seemed to amplify the already adverse consequences of facing poverty at the family level. However, exposure to a poor neighborhood would also have lowered adults’ socioeconomic outcomes among individuals who never lived in family poverty. Therefore, we wanted to test what segments of the socioeconomic strata were more negatively exposed to NB poverty. We estimated two models interacting neighborhood poverty with the SES background of children in Landskrona (see table A6 in the appendix). In this regard, we estimated one model including the highest occupational information of the family in childhood and the other with the family income categorized in quintiles. Besides, we did not include the covariate of family poverty. It would act as a confounder or inadequate control as the highest occupational classes, or income quintiles would likely never be poor.

Figure 8 shows the predicted average percentile rank of children ever living or not in a poor neighborhood in Landskrona by the highest occupational status of their families when they were aged 0-17. Overall, we see that for almost all occupational groups, children who lived in poor neighborhoods tend to have lower percentile rank positions. However, the differences are more substantial and statistically significant among the most numerous occupational groups, usually in the low and high middle classes (lower white-collar and higher blue-collar). Conversely, we see almost no differences among children of unskilled workers, which might be more related to the small size of this group, of about only 4% of the total occupational structure (see table 1).

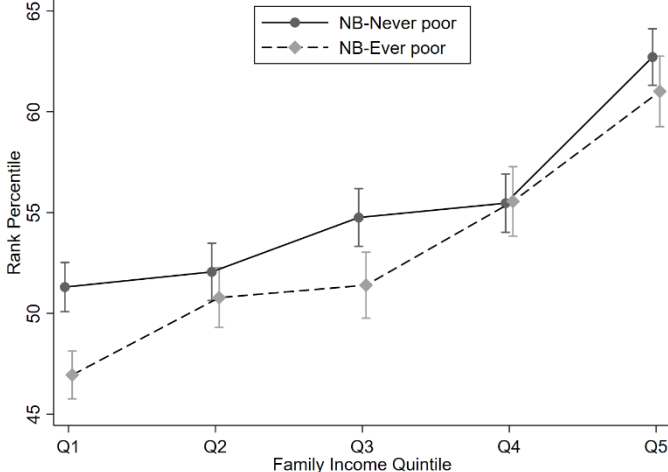
Finally, in figure 9, we repeat the analysis by replacing the occupational class with the quintile of children’s averaged family income (computed separately by children’s birth year). In this case, the results repeat a certain gradient in the differences by income group and it is clear that among the low and middle incomes (Q1-Q3), the exposure to a poor neighborhood was much more consequential than among the most economically advantaged families.

Figure 8: Predicted average percentile rank of adult income according to children’s SES background by neighborhood poverty status in childhood (Never-Ever)



Note: Predicted average with confidence intervals estimated from the interaction between neighborhood poverty and family highest occupational status (See table A6). Source: Same as figure 1.

Figure 9: Predicted average percentile rank of adult income according to children’s family income quintile by neighborhood poverty status in childhood (Never-Ever)



Note: Predicted average with confidence intervals estimated from the interaction between neighborhood poverty and family income quintiles (See table A6). Source: Same as figure 1.

**Potential mechanisms mediating neighborhood poverty and adult income**

All previous results have shown a constant and independent association of childhood neighborhood poverty (net of the family) with worsened income outcomes in adulthood. However, although family and neighborhood exposures of poverty coincided in the association direction and

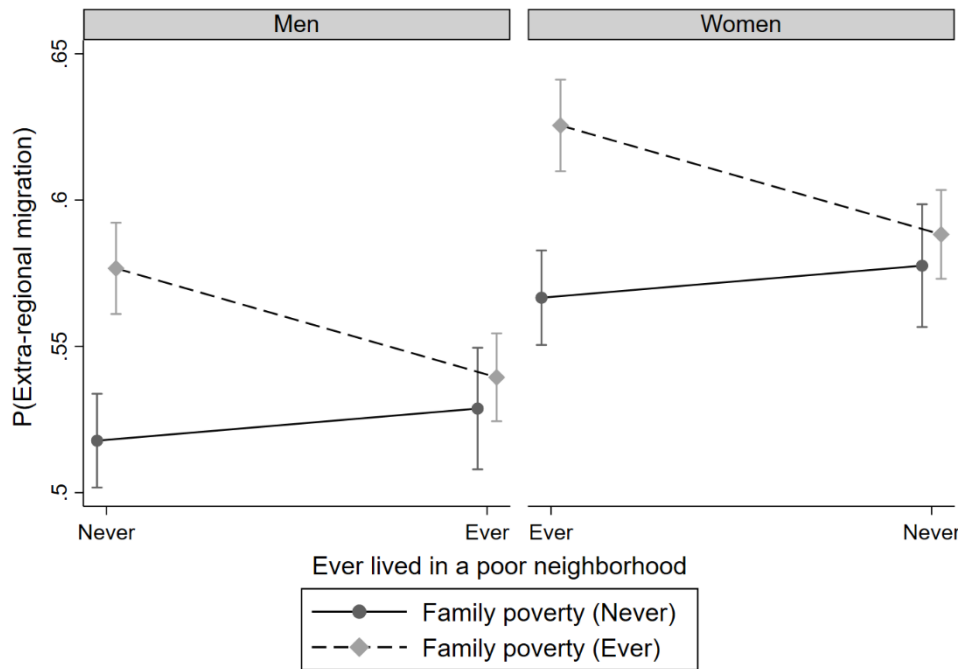
relatively on its size, it is unclear whether the mechanisms through which NB poverty “affects” individuals would be the same or different than the ones in the family. In other words, we wanted to evaluate if being exposed to poverty in the neighborhood would only amplify or complement disadvantaged familial exposure or if it would move by different channels. Accordingly, we select two different outcomes in adulthood: 1) The likelihood of residing permanently in another region than the one Landskrona belonged to (Scania) and 2) The likelihood of having a university degree.

We measure the likelihood of residing extra-regionally in adulthood (40-49) by controlling whether individuals already had a permanent extra-regional migration at ages 30-39. The reasoning for including such an outcome relates to empirical evidence that internal migration of relatively higher distances usually associates with better labor outcomes and a positive selection of individuals with better human capital and backgrounds (Borjas, Bronars, & Trejo, 1992; Westerlund, 1998). Thus, we can evaluate if exposure to poverty in the neighborhood could amplify family disadvantage or even have an independent association. Similarly, testing the likely associations of poverty experience with the odds of attaining a university degree relates to the potential obstacles that a disadvantaged exposure in childhood could lead to human capital formation (Becker & Tomes, 1986; Breen & Jonsson, 2007; Heckman, 2006; J. O. Jonsson & Erikson, 2000).

In the following models, we interact again with the exposure to poverty in the family and the neighborhood (see table A7) and separately predict the probabilities of both outcomes by family poverty and neighborhood status for men and women. Figure 10 shows the probability for extra-regional migration at ages 30-39. Overall, the extra-regional migration was high for children born between the 1930s and 1960s in Landskrona, ranging between 0.3 and 0.6. Such high levels may relate to the economic and industrial decline of the city since the 1970s (Dribe & Svensson, 2019). However, let’s look only at children who never faced poverty at the family level. Experiencing or not poverty in the NB did not change the chances of migrating in adulthood.

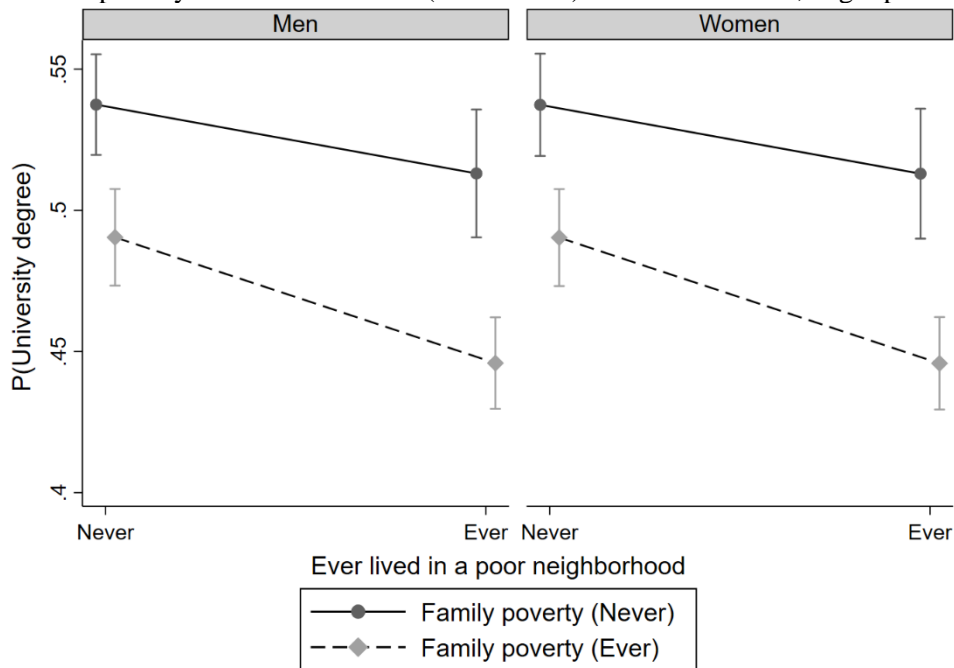
Conversely, living or not in a poor NB prompted significant differences among children who belonged to a family in poverty. Accordingly, the probability of extra-regionally migrating would be, on average, five percentage points lower for children with a poverty background and living in a poor NB. These results suggest that if we assume migration was a suitable mechanism for escaping adverse socioeconomic outcomes through the search for better labor opportunities, the experience of NB poverty would increase obstacles (see figure 10). Finally, figure 11 shows a similar prediction for the probability of attaining a university degree at ages 40-49. Here, we see similar patterns again. Overall, individuals from low-income families would always have a lower probability of going to university than those who never belonged to a family in poverty. However, while living or not in a poor NB made no difference for those non-poor in the family, it indeed made for their counterparts. To this effect, living in a poor neighborhood would decrease the probability of attaining tertiary education by four percentage points among disadvantaged children.

Figure 10: Predicted probability of extra-regional migration at ages 30-39 for family poverty status (Never-Ever) and neighborhood poverty status in childhood (Never-Ever): Left Panel= Men; Right Panel=Women.



Note: Predicted probabilities with confidence intervals estimated from the interaction between family poverty and neighborhood status. Source: Same as figure 1.

Figure 11: Predicted probability of attaining a university degree for family poverty status (Never-Ever) and neighborhood poverty status in childhood (Never-Ever): Left Panel= Men; Right panel=Women.



Note: Predicted probabilities with confidence intervals estimated from the interaction between family poverty and neighborhood status. Source: Same as figure 1.

## Preliminary conclusions

Among the main findings of our study, we highlight an independent association between neighborhood poverty exposure and adulthood outcomes, as the neighborhood coefficients per se did not get muted by family's ones. This seemed to be the case for the youngest ages 0-5. In previous studies dealing only with family poverty, neighborhood poverty exposure at early ages (0-5) also appears to be more consequential to long-term SES (Brea-Martinez, Dribe, and Stanfors, *forthcoming*).

Additionally, the models interacting both family and neighborhood exposure to poverty showed substantial gender differences in how each kind of poverty could be consequential in adulthood. Accordingly, living in a poor neighborhood was associated with lower income in adulthood. At the same time, for women, only poverty in the family seemed to count, as it was already observed, for instance, in previous studies conducted in Landskrona with different outcomes as education or health (Hedefalk & Dribe, 2020; Hedefalk, van Dijk, & Dribe, 2022). Conversely, we do not see any changes in how important neighborhood poverty could be across cohorts, even if children included in this study lived in a period of macro-changes regarding Sweden's welfare state expansion. Moreover, the results in this study were consistent regardless of the kind of poverty measurement used (relative or absolute).

Relating our findings to the two most applied theories in neighborhood-family poverty studies, we see insights in favor of the *compound disadvantage theory*. Neighborhood poverty seemed more consequential and negative among individuals who also faced poverty at the family level, which can be understood as a potential multiplicative "effect" of poverty on individuals (Wodtke et al., 2016). Nevertheless, we also find evidence suggesting that the poverty in neighborhoods *per se* could also be consequential independently, as it also lowered adult income for those who never faced poverty in their families. In this regard, individuals who had families in low and middle socioeconomic positions seemed more sensitive to poverty in the neighborhoods.

Overall, we argue that childhood exposure to poverty in the neighborhood had similar associations to family poverty in level and direction with lower income in adulthood. This was clear through analyzing the potential mechanisms through which poverty could hinder income progress in adulthood, for instance, in the lower probability of attaining a university degree. However, in tools related explicitly to escaping adverse socioeconomic outcomes among individuals of low-income distribution, as in the case of internal migration, the negative consequences of neighborhood poverty could have been even worst than the familial.



## References

- Andersson, E., Janssen, H., Ham, M. van, & Malmberg, B. (2022). Contextual poverty and obtained educational level and income in Sweden and the Netherlands: A multi-scale and longitudinal study. *Urban Studies*, 00420980221120492.
- Baulos, A., & Heckman, J. (2022). The Importance of Investing in Early Childhood Development and the Role of Families. In *Handbook of Research on Innovative Approaches to Early Childhood Development and School Readiness* (pp. 38–54). IGI Global.
- Becker, G. S., & Tomes, N. (1986). Human capital and the rise and fall of families. *Journal of Labor Economics*, 4(3, Part 2), S1–S39.
- Bengtsson, T., Dribe, M., Quaranta, L., & Svensson, P. (2021). The Scanian Economic Demographic Database: Version 7.2 (Machine-readable database). *Lund: Lund University, Centre for Economic Demography*.
- Björklund, A., Jäntti, M., & Lindquist, M. J. (2009). Family background and income during the rise of the welfare state: Brother correlations in income for Swedish men born 1932–1968. *Journal of Public Economics*, 93(5–6), 671–680. <https://doi.org/10.1016/j.jpubeco.2009.02.006>
- Borjas, G. J., Bronars, S. G., & Trejo, S. J. (1992). Self-selection and internal migration in the United States. *Journal of Urban Economics*, 32(2), 159–185.
- Brea-Martinez, G.; Dribe, M.; Stanfors, M. (n.d.). *The Price of Poverty: The Association between Childhood Poverty and Adult Income and Education in Sweden, 1947-2015* (No. Forthcoming).
- Brea-Martinez, G. (2022). Materfamilias: the association of mother's work on children's absolute income mobility, Southern Sweden (1947–2015). *European Review of Economic History*, heac010. <https://doi.org/10.1093/ereh/heac010>
- Breen, R., & Jonsson, J. O. (2007). Explaining change in social fluidity: educational equalization and educational expansion in twentieth-century Sweden. *American Journal of Sociology*, 112(6), 1775–1810.
- Brooks-Gunn, J., Duncan, G. J., Klebanov, P. K., & Sealand, N. (1993). Do neighborhoods influence child and adolescent development? *American Journal of Sociology*, 99(2), 353–395.
- Chetty, R., Hendren, N., & Katz, L. F. (2016). The effects of exposure to better neighborhoods on children: New evidence from the moving to opportunity experiment. *American Economic Review*, 106(4), 855–902.
- Chetty, R., Hendren, N., Kline, P., & Saez, E. (2014). Where is the land of opportunity? The geography of intergenerational mobility in the United States. *The Quarterly Journal of Economics*, 129(4), 1553–1623.
- Chetty, R., Jackson, M. O., Kuchler, T., Stroebel, J., Hendren, N., Fluegge, R. B., ... Jacob, M. (2022). Social capital I: measurement and associations with economic mobility. *Nature*, 608(7921), 108–121.
- Dahl, G. B., Kostøl, A. R., & Mogstad, M. (2014). Family welfare cultures. *The Quarterly Journal of*

- Economics*, 129(4), 1711–1752.
- Dribe, M., & Svensson, P. L. (2019). Landskrona 1900–2000: a comparative analysis of the economic and demographic development. 2019; 59. *Lund Papers in Economic Demography*, 3.
- Duncan, G. J., & Brooks-Gunn, J. (1997). *Consequences of growing up poor*. Russell Sage Foundation.
- Duncan, G. J., Yeung, W. J., Brooks-Gunn, J., & Smith, J. R. (1998). How much does childhood poverty affect the life chances of children? *American Sociological Review*, 63(3), 406.
- Galster, G. C. (2012). The mechanism (s) of neighbourhood effects: Theory, evidence, and policy implications. In *Neighbourhood effects research: New perspectives* (pp. 23–56). Springer.
- Halleröd, B., & Larsson, D. (2008). Poverty, welfare problems and social exclusion. *International Journal of Social Welfare*, 17(1), 15–25.
- Heckman, J. J. (2006). Skill formation and the economics of investing in disadvantaged children. *Science*, 312(5782), 1900–1902.
- Heckman, J. J., & Mosso, S. (2014). The economics of human development and social mobility. *Annu. Rev. Econ.*, 6(1), 689–733.
- Hedefalk, F., & Dribe, M. (2020). The social context of nearest neighbors shapes educational attainment regardless of class origin. *Proceedings of the National Academy of Sciences*, 117(26), 14918–14925.
- Hedefalk, F., van Dijk, I. K., & Dribe, M. (2022). Childhood neighborhoods and cause-specific adult mortality in Sweden 1939-2015.
- Huang, Y., South, S. J., Spring, A., & Crowder, K. (2021). Life-course exposure to neighborhood poverty and migration between poor and non-poor neighborhoods. *Population Research and Policy Review*, 40(3), 401–429.
- Jencks, C., & Mayer, S. E. (1990). The social consequences of growing up in a poor neighborhood. *Inner-City Poverty in the United States*, 111, 186.
- Jonsson, J., & Mood, C. (2014). *Poverty and welfare among children and their families 1968-2010*. Institute for Futures Studies, Stockholm.
- Jonsson, J. O., & Erikson, R. (2000). Understanding educational inequality: The Swedish experience. *L'Année Sociologique (1940/1948-)*, 345–382.
- Knies, G., Melo, P. C., & Zhang, M. (2021). Neighbourhood deprivation, life satisfaction and earnings: Comparative analyses of neighbourhood effects at bespoke scales. *Urban Studies*, 58(13), 2640–2659.
- Lindbeck, A., Nyberg, S., & Weibull, J. W. (1999). Social norms and economic incentives in the welfare state. *The Quarterly Journal of Economics*, 114(1), 1–35.
- Ludwig, J., Duncan, G. J., Gennetian, L. A., Katz, L. F., Kessler, R. C., Kling, J. R., & Sanbonmatsu, L. (2012). Neighborhood effects on the long-term well-being of low-income adults. *Science*, 337(6101), 1505–1510.

- Massey, D. S., & Denton, N. A. (2019). American apartheid: Segregation and the making of the underclass. In *Social stratification* (pp. 660–670). Routledge.
- SCB. (2020). CPI Sweden. Historical Numbers 1830-. Retrieved from <https://www.scb.se/en/finding-statistics/statistics-by-subject-area/prices-and-consumption/consumer-price-index/consumer-price-index-cpi/pong/tables-and-graphs/consumer-price-index-cpi/cpi-historical-numbers-1830/>
- South, S. J., & Crowder, K. (2010). Neighborhood poverty and nonmarital fertility: Spatial and temporal dimensions. *Journal of Marriage and Family*, 72(1), 89–104.
- Timberlake, J. M. (2009). Effects of household and neighborhood characteristics on children's exposure to neighborhood poverty and affluence. *Social Science Research*, 38(2), 458–476.
- Turley, R. N. L. (2002). Is relative deprivation beneficial? The effects of richer and poorer neighbors on children's outcomes. *Journal of Community Psychology*, 30(6), 671–686.
- Van Ham, M., Hedman, L., Manley, D., Coulter, R., & Östh, J. (2014). Intergenerational transmission of neighbourhood poverty: an analysis of neighbourhood histories of individuals. *Transactions of the Institute of British Geographers*, 39(3), 402–417.
- Westerlund, O. (1998). Internal migration in Sweden: The effects of mobility grants and regional labour market conditions. *Labour*, 12(2), 363–388.
- Wheaton, B., & Clarke, P. (2003). Space meets time: Integrating temporal and contextual influences on mental health in early adulthood. *American Sociological Review*, 680–706.
- Wilson, W. J. (2012). *The truly disadvantaged: The inner city, the underclass, and public policy*. University of Chicago Press.
- Wodtke, G. T. (2013). Duration and timing of exposure to neighborhood poverty and the risk of adolescent parenthood. *Demography*, 50(5), 1765–1788.
- Wodtke, G. T., Elwert, F., & Harding, D. J. (2016). Neighborhood effect heterogeneity by family income and developmental period. *American Journal of Sociology*, 121(4), 1168–1222.

## ANNEX

### ANNEX

Table A1: Regression estimates (OLS) on the percentile rank and attaining the upper and bottom quartile (LPS) of adult income (ages 40-49) according to childhood exposure at ages 0-17

	Percentile Rank					P(Upper Income Quartile)					P(Bottom Income Quartile)				
	M1	M2	M3	M4	M5	M1	M2	M3	M4	M5	M1	M2	M3	M4	M5
Family-Ever poor (ref. Never)	-4.23*** (0.47)		-3.70*** (0.48)	-3.67*** (0.48)	-3.68*** (0.48)	-0.05*** (0.01)		-0.04*** (0.01)	-0.04*** (0.01)	-0.04*** (0.01)	0.05*** (0.01)		0.04*** (0.01)	0.04*** (0.01)	0.05*** (0.01)
NB-Ever poor (ref. Never)		-3.45*** (0.47)	-2.75*** (0.48)	-2.08*** (0.47)	-2.82*** (0.65)		-0.05*** (0.01)	-0.04*** (0.01)	-0.03*** (0.01)	-0.02 (0.01)		0.04*** (0.01)	0.04*** (0.01)	0.03*** (0.01)	0.04*** (0.01)
Family-Ever poor X NB-Ever poor					1.52 (0.91)					-0.01 (0.02)					-0.01 (0.01)
Women (ref. Men)	-1.15* (0.46)	-1.18* (0.46)	-1.17* (0.46)	-1.18** (0.45)	-1.86** (0.61)	-0.02* (0.01)	-0.02* (0.01)	-0.02* (0.01)	-0.02* (0.01)	-0.02* (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Birth year	-0.05 (0.03)	-0.02 (0.03)	-0.04 (0.03)	-0.03 (0.03)	-0.03 (0.03)	-0.00*** (0.00)	-0.00** (0.00)	-0.00*** (0.00)	-0.00** (0.00)	-0.00** (0.00)	-0.00 (0.00)	-0.00** (0.00)	-0.00* (0.00)	-0.00* (0.00)	-0.00* (0.00)
Sibship				-0.33 (0.28)	-0.33 (0.28)				-0.00 (0.00)	-0.00 (0.00)				0.01 (0.01)	0.01 (0.01)
Birth order (1st ref.)															
2nd				-0.63 (0.58)	-0.63 (0.58)				-0.01 (0.01)	-0.01 (0.01)				-0.01 (0.01)	-0.00 (0.01)
3rd				-2.29* (0.97)	-2.31* (0.97)				-0.04* (0.02)	-0.04* (0.02)				0.01 (0.02)	0.01 (0.02)
4th or +				-3.98* (1.57)	-4.00* (1.57)				-0.06* (0.02)	-0.06* (0.02)				0.00 (0.02)	0.00 (0.02)
SES background (H. white-collar ref.)															
Lower white-collar				-7.37*** (0.71)	-7.37*** (0.71)				-0.14*** (0.01)	-0.14*** (0.01)				0.02*** (0.01)	0.02*** (0.01)
Medium-skilled				-12.13*** (0.71)	-12.12*** (0.71)				-0.22*** (0.01)	-0.22*** (0.01)				0.06*** (0.01)	0.06*** (0.01)
Farmer				-8.07 (6.03)	-7.89 (6.03)				-0.15 (0.10)	-0.15 (0.10)				-0.06 (0.10)	-0.06 (0.10)
Low-skilled				-13.91*** (0.78)	-13.90*** (0.78)				-0.24*** (0.01)	-0.24*** (0.01)				0.07*** (0.01)	0.07*** (0.01)
Unskilled				-14.51*** (1.26)	-14.52*** (1.26)				-0.24*** (0.02)	-0.24*** (0.02)				0.09*** (0.02)	0.09*** (0.02)
NA				-10.99*** (1.47)	-11.02*** (1.47)				-0.17*** (0.02)	-0.17*** (0.02)				0.06*** (0.02)	0.06*** (0.02)
N of observations	-0.00 (0.05)	0.11* (0.05)	0.05 (0.05)	0.05 (0.05)	0.05 (0.05)	-0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00** (0.00)	0.00** (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
N	15375	15375	15375	15375	15375	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381
adj. R-sq	0.006	0.004	0.008	0.036	0.036	0.004	0.003	0.005	0.038	0.038	0.004	0.004	0.006	0.010	0.010

*p-values:* \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ . Source: Same as figure 1.

Table A2: Regression estimates (OLS) on the percentile rank and attaining the upper and bottom quartile (LPS) of adult income (ages 40-49) according to childhood exposure at ages 0-5

	Percentile Rank				P(Upper Income Quartile)				P(Bottom Income Quartile)			
	M1	M2	M3	M4	M1	M2	M3	M4	M1	M2	M3	M4
Family-Ever poor (ref. Never)	-4.52*** (0.65)		-3.94*** (0.66)	-3.58*** (0.66)	-0.05*** (0.01)		-0.04*** (0.01)	-0.04*** (0.01)	0.06*** (0.01)		0.06*** (0.01)	0.05*** (0.01)
NB-Ever poor (ref. Never)		-3.92*** (0.67)	-3.14*** (0.69)	-2.31*** (0.68)		-0.05*** (0.01)	-0.04*** (0.01)	-0.03* (0.01)		0.05*** (0.01)	0.04*** (0.01)	0.04*** (0.01)
Women (ref. Men)	-0.87 (0.64)	-0.97 (0.64)	-0.91 (0.64)	-0.86 (0.63)	-0.02 (0.01)	-0.02 (0.01)	-0.02 (0.01)	-0.02 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)
Birth year	-0.05 (0.05)	-0.01 (0.05)	-0.02 (0.05)	0.02 (0.05)	-0.00* (0.00)	-0.00 (0.00)	-0.00* (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
Sibship				-0.71 (0.49)				-0.01 (0.01)				0.01 (0.01)
Birth order (1st ref.)												
2nd				-0.17 (0.81)				-0.02 (0.01)				-0.01 (0.01)
3rd				-2.61 (1.35)				-0.05* (0.02)				0.00 (0.02)
4th or +				-1.87 (2.18)				-0.03 (0.03)				-0.01 (0.03)
SES background (H. white-collar ref.)												
Lower white-collar				-6.88*** (0.98)				-0.13*** (0.02)				0.02 (0.01)
Medium-skilled				-11.77*** (0.97)				-0.21*** (0.02)				0.06*** (0.01)
Farmer				-10.17 (9.36)				-0.34* (0.15)				0.06 (0.14)
Low-skilled				-13.72*** (1.06)				-0.22*** (0.02)				0.06*** (0.02)
Unskilled				-13.06*** (1.80)				-0.20*** (0.03)				0.06* (0.03)
NA				-9.89*** (2.17)				-0.13*** (0.03)				0.07* (0.03)
N of observations	0.25 (0.18)	0.47** (0.18)	0.32 (0.18)	0.42* (0.18)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.01 (0.00)	-0.01 (0.00)	-0.01** (0.00)	-0.01* (0.00)	-0.01** (0.00)
N	7885	7885	7885	7885	7889	7889	7889	7889	7889	7889	7889	7889
adj. R-sq	0.007	0.005	0.009	0.038	0.004	0.004	0.006	0.035	0.006	0.005	0.009	0.013

*p-values:* \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ . Source: Same as figure 1.

Table A3: Regression estimates (OLS) on the percentile rank and attaining the upper and bottom quartile (LPS) of adult income (ages 40-49) according to childhood exposure at ages 6-11

	Percentile Rank				P(Upper Income Quartile)				P(Bottom Income Quartile)			
	M1	M2	M3	M4	M1	M2	M3	M4	M1	M2	M3	M4
Family-Ever poor (ref. Never)	-4.95*** (0.95)		-4.55*** (0.97)	-4.34*** (0.98)	-0.06*** (0.02)		-0.06*** (0.02)	-0.05*** (0.02)	0.04** (0.01)		0.03* (0.01)	0.03* (0.01)
NB-Ever poor (ref. Never)		-2.90** (0.97)	-1.87 (0.99)	-1.70 (0.98)		-0.02 (0.02)	-0.01 (0.02)	-0.01 (0.02)		0.04** (0.01)	0.04* (0.01)	0.03* (0.01)
Women (ref. Men)	-1.59 (0.91)	-1.58 (0.91)	-1.60 (0.91)	-1.63 (0.90)	-0.02 (0.01)	-0.02 (0.01)	-0.02 (0.01)	-0.02 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Birth year	0.15* (0.07)	0.16* (0.07)	0.17* (0.07)	0.14 (0.07)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00** (0.00)	-0.00** (0.00)	-0.00** (0.00)	-0.00** (0.00)
Sibship				0.43 (0.51)				-0.00 (0.01)				-0.01 (0.01)
Birth order (1st ref.)												
2nd				-0.33 (1.09)				0.00 (0.02)				0.00 (0.02)
3rd				0.17 (1.84)				0.02 (0.03)				0.02 (0.03)
4th or +				-8.04** (3.11)				-0.09 (0.05)				-0.00 (0.04)
SES background (H. white-collar ref.)												
Lower white-collar				-6.22*** (1.34)				-0.13*** (0.02)				0.01 (0.02)
Medium-skilled				-10.04*** (1.35)				-0.20*** (0.02)				0.03 (0.02)
Farmer				15.43 (11.65)				0.39* (0.18)				-0.04 (0.17)
Low-skilled				-10.78*** (1.53)				-0.21*** (0.02)				0.04 (0.02)
Unskilled				-12.60*** (2.50)				-0.22*** (0.04)				0.09* (0.04)
NA				-11.82** (3.72)				-0.15* (0.06)				0.11* (0.05)
N of observations	-0.30 (0.27)	0.04 (0.26)	-0.27 (0.27)	-0.19 (0.27)	-0.01** (0.00)	-0.01* (0.00)	-0.01** (0.00)	-0.01* (0.00)	-0.01 (0.00)	-0.01* (0.00)	-0.01 (0.00)	-0.01 (0.00)
N	3975	3975	3975	3975	3976	3976	3976	3976	3976	3976	3976	3976
adj. R-sq	0.007	0.003	0.008	0.028	0.005	0.001	0.005	0.034	0.004	0.004	0.006	0.007

*p-values:* \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ . Source: Same as figure 1.

Table A4: Regression estimates (OLS) on the percentile rank and attaining the upper and bottom quartile (LPS) of adult income (ages 40-49) according to childhood exposure at ages 12-17

	Percentile Rank				P(Upper Income Quartile)				P(Bottom Income Quartile)			
	M1	M2	M3	M4	M1	M2	M3	M4	M1	M2	M3	M4
Family-Ever poor (ref. Never)	-2.88** (1.06)		-2.55* (1.08)	-2.39* (1.08)	-0.03* (0.02)		-0.03 (0.02)	-0.02 (0.02)	0.03* (0.02)		0.03 (0.02)	0.03 (0.02)
NB-Ever poor (ref. Never)		-2.14* (1.03)	-1.66 (1.04)	-1.11 (1.02)		-0.04* (0.02)	-0.03 (0.02)	-0.02 (0.02)		0.01 (0.01)	0.01 (0.01)	0.00 (0.01)
Women (ref. Men)	-1.37 (0.98)	-1.33 (0.98)	-1.37 (0.98)	-1.53 (0.96)	-0.01 (0.02)	-0.01 (0.02)	-0.01 (0.02)	-0.01 (0.02)	0.02 (0.01)	0.01 (0.01)	0.02 (0.01)	0.01 (0.01)
Birth year	-0.18* (0.08)	-0.16* (0.08)	-0.17* (0.08)	-0.26** (0.08)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00** (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Sibship				-1.00* (0.49)				-0.01 (0.01)				0.02* (0.01)
Birth order (1st ref.)												
2nd				-1.62 (1.39)				-0.01 (0.02)				0.00 (0.02)
3rd				-3.97 (2.94)				-0.09 (0.05)				0.01 (0.04)
4th or +				-6.28 (4.94)				-0.14 (0.08)				0.03 (0.07)
SES background (H. white-collar ref.)												
Lower white-collar				-11.58*** (1.64)				-0.20*** (0.03)				0.06* (0.02)
Medium-skilled				-16.88*** (1.63)				-0.29*** (0.03)				0.09*** (0.02)
Farmer				-27.76* (10.78)				-0.41* (0.17)				0.16 (0.16)
Low-skilled				-18.92*** (1.77)				-0.34*** (0.03)				0.11*** (0.03)
Unskilled				-20.59*** (2.56)				-0.34*** (0.04)				0.14*** (0.04)
NA				-13.79*** (2.60)				-0.25*** (0.04)				0.06 (0.04)
N of observations	0.50 (0.28)	0.80** (0.26)	0.53 (0.28)	0.64* (0.29)	0.01* (0.00)	0.01** (0.00)	0.01* (0.00)	0.01* (0.00)	-0.00 (0.00)	-0.01 (0.00)	-0.00 (0.00)	-0.01 (0.00)
N	3515	3515	3515	3515	3516	3516	3516	3516	3516	3516	3516	3516
adj. R-sq	0.006	0.005	0.006	0.049	0.004	0.004	0.004	0.053	0.001	0.001	0.001	0.009

*p-values:* \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ . Source: Same as figure 1.

Table A5: Regression estimates (OLS) on the percentile rank and attaining the upper and bottom quartile (LPS) of adult income (ages 40-49) according to childhood exposure at ages 0-17 by measuring family absolute poverty.

	Percentile Rank				P(Upper Income Quartile)				P(Bottom Income Quartile)			
	M1	M2	M3	M4	M1	M2	M3	M4	M1	M2	M3	M4
Family-Ever poor (ref. Never)	-2.29*** (0.47)		-2.01*** (0.48)	-2.76*** (0.48)	-0.01 (0.01)		-0.01 (0.01)	-0.02** (0.01)	0.04*** (0.01)		0.04*** (0.01)	0.04*** (0.01)
NB-Ever poor (ref. Never)		-1.89*** (0.48)	-1.51** (0.49)	-1.58** (0.49)		-0.02* (0.01)	-0.02* (0.01)	-0.02* (0.01)		0.04*** (0.01)	0.03*** (0.01)	0.03*** (0.01)
Women (ref. Men)	-1.14* (0.46)	-1.18* (0.46)	-1.16* (0.46)	-1.16* (0.46)	-0.02* (0.01)	-0.02* (0.01)	-0.02* (0.01)	-0.02* (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Birth year	-0.05 (0.03)	-0.04 (0.03)	-0.05 (0.03)	-0.04 (0.03)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00 (0.00)	-0.00* (0.00)	-0.00 (0.00)	-0.00 (0.00)
Sibship				-0.49 (0.28)				-0.01 (0.00)				0.01* (0.00)
Birth order (1st ref.)												
2nd				-0.50 (0.58)				-0.01 (0.01)				-0.00 (0.01)
3rd				-2.14* (0.97)				-0.04* (0.02)				0.01 (0.01)
4th or +				-3.93* (1.58)				-0.05* (0.02)				0.00 (0.02)
SES background (H. white-collar ref.)												
Lower white-collar				-7.76*** (0.71)				-0.15*** (0.01)				0.03** (0.01)
Medium-skilled				-12.62*** (0.71)				-0.22*** (0.01)				0.06*** (0.01)
Farmer				-7.95 (6.04)				-0.15 (0.10)				0.06 (0.09)
Low-skilled				-14.53*** (0.78)				-0.25*** (0.01)				0.08*** (0.01)
Unskilled				-15.15*** (1.26)				-0.24*** (0.02)				0.09*** (0.02)
NA				-11.70*** (1.47)				-0.18*** (0.02)				0.07** (0.02)
N of observations	0.00 (0.05)	0.07 (0.05)	0.03 (0.05)	0.03 (0.05)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00** (0.00)
N	15375	15375	15375	15375	15381	15381	15381	15381	15381	15381	15381	15381
adj. R-sq	0.002	0.001	0.003	0.033	0.001	0.001	0.001	0.036	0.003	0.003	0.004	0.010

*p-values:* \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ . Source: Same as figure 1.



Table A6: Regression estimates (OLS) on the percentile rank of adult income (ages 40-49). Interaction model between the familial, occupational, and income background with the exposure to neighborhood poverty at ages 0-17

Percentile Rank	M1	Percentile Rank	M2
NB-Ever poor (ref. Never)	-2.80* (1.16)	NB-Ever poor (ref. Never)	-4.37*** (0.85)
SES background (H. white-collar ref.)		Parental Income Quintile - Q1 (bottom) (ref.)	
Lower white-collar	-7.72*** (0.93)	Q2	0.75 (0.95)
Medium-skilled	-11.58*** (0.94)	Q3	3.45*** (0.97)
Low-skilled	-14.26*** (1.04)	Q4	4.16*** (0.98)
Unskilled	-15.40*** (1.71)	Q5 (top)	11.41*** (0.96)
Ever poor NB X Lower white-collar	0.50 (1.45)	Ever poor NB X Q2	3.08* (1.34)
Ever poor NB X Medium-skilled	-1.01 (1.43)	Ever poor NB X Q3	1.00 (1.39)
Ever poor NB X Low-skilled	0.65 (1.57)	Ever poor NB X Q4	4.45** (1.41)
Ever poor NB X Unskilled	1.86 (2.53)	Ever poor NB X Q5	2.66 (1.42)
N	15375	N	15375
adj. R-sq	0.036	adj. R-sq	0.026

Note: The model controls for sex, birth year, sibship, birth order, and the number of observations at ages 0-17. Model 1 also included SES information on farmers and occupations coded as NA, which are not displayed in the table due to their small sample size. *p-values*: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ . Source: Same as figure 1.

Table A7: Regression estimates (LPM) on the probability of residing extra regionally between ages 30-39, and having a university degree at ages 40-49.

	Migration 30-39	University
Family-Ever poor (ref. Never)	0.06*** (0.01)	-0.05*** (0.01)
NB-Ever poor (ref. Never)	0.01 (0.01)	-0.02 (0.01)
Family-Ever poor X NB-Ever poor	-0.05** (0.02)	-0.02 (0.02)
Women (ref. Men)	0.05*** (0.01)	-0.00 (0.01)
N	15326	13893
adj. R-sq	0.141	0.085

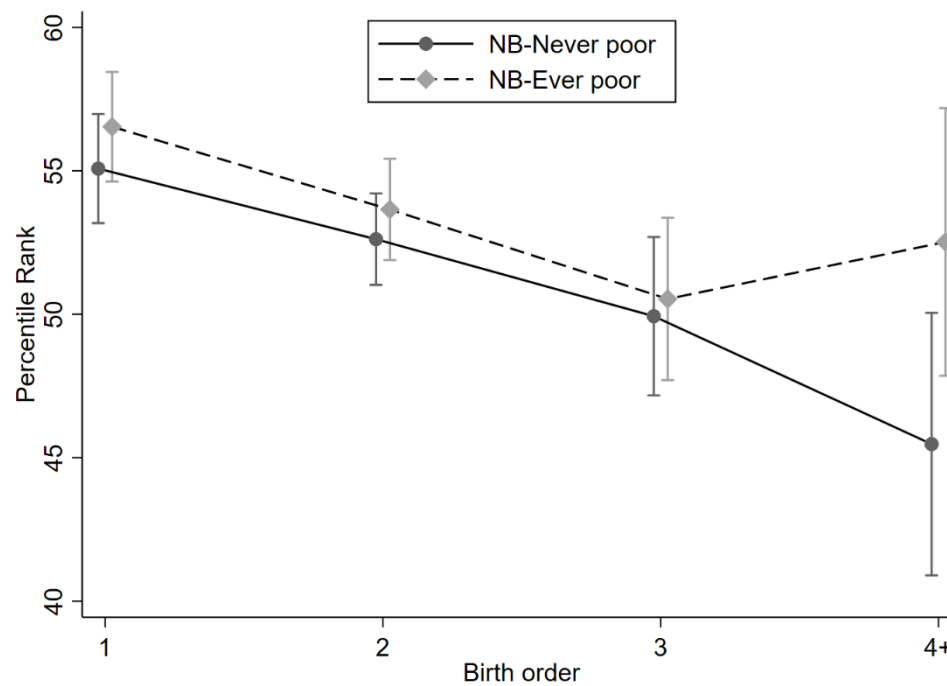
Note: Models control for sex, birth year, birth order, sibship size, SES background and number of observations at ages 0-17. *p-values*: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ . Source: Same as figure 1.

Table A8: Regression estimates (OLS) on the percentile rank by the interaction between sex and neighborhood poverty (M1) and sibling's fixed effects (M2+M3)

	M1	M2 FE	M3 FE
Family-Ever poor (ref. Never)	-3.68*** (0.48)	-1.52 (1.22)	-1.60 (1.22)
NB-Ever poor (ref. Never)	-2.82*** (0.65)	1.63 (1.39)	1.46 (1.55)
Women (ref. Men)	-1.86** (0.61)	-1.71** (0.61)	-1.70** (0.60)
Birth order (1st ref.)			
2nd		-2.59** (0.83)	-2.46* (1.03)
3rd		-5.41*** (1.47)	-5.15** (1.77)
4th or +		-6.58** (2.28)	-9.60*** (2.76)
NB-poverty X Sex			
NB-poverty X Women	1.52* (0.71)		
NB-poverty X Birth Order			
NB-Ever poor X 2nd			-0.42 (1.19)
NB-Ever poor X 3rd			-0.86 (1.87)
NB-Ever poor X 4th or +			5.59 (2.94)
N	15375	9958	9958
Sibling groups		4155	4155
adj. R-sq		0.216	0.217

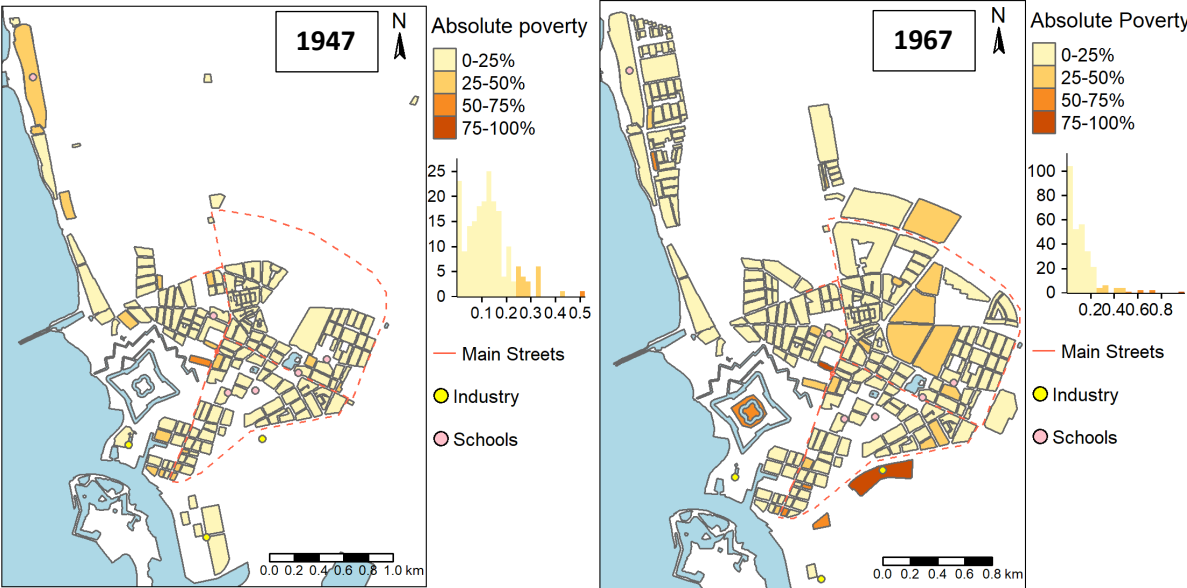
*p-values:* \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ . Source: Same as figure 1.

Figure A1: Predicted average percentile rank of adult income by neighborhood poverty status in childhood and birth order estimated with family fixed effect models



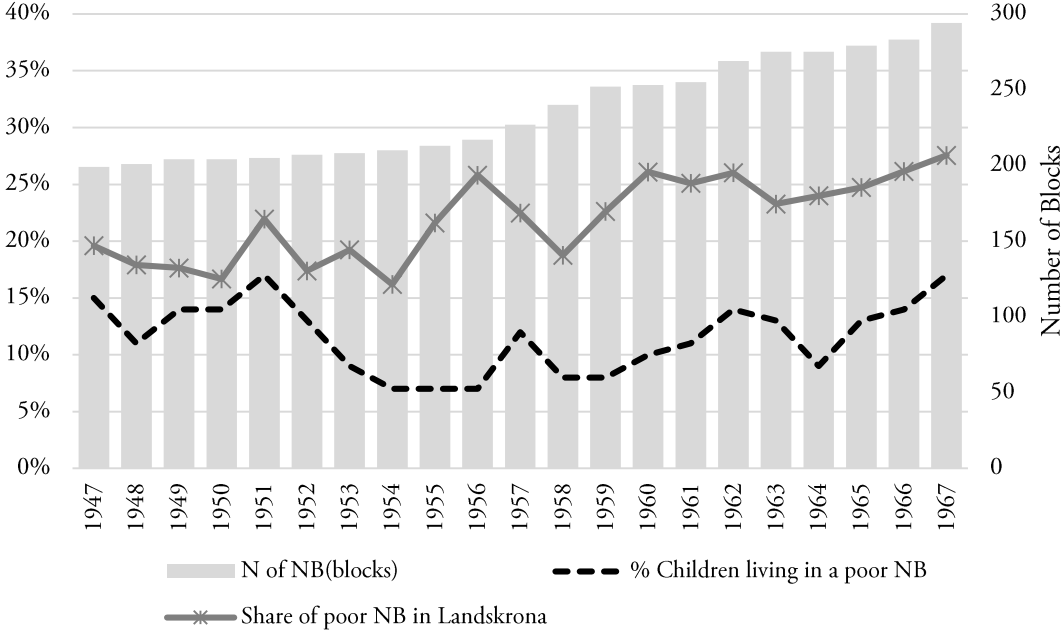
Note: Predicted average percentile rank estimated from the interaction between family and neighborhood poverty. Source: Same as figure 1.

Figure A2: Share of individuals living in poverty (in absolute terms) by neighborhood in Landskrona, 1947 and 1967



Note: There were 200 blocks in 1947 and 299 in 1967. Source: Same as figure 1.

Figure A3: Annual share of children living in a neighborhood considered poor, the share of poor neighborhoods in absolute terms, and the total number of blocks in Landskrona, 1947-1967



Note: In absolute terms, a neighborhood was defined as poor if more than 30% of its residents belonged to a poor family. Source: Same as figure 1