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Long-term outcomes of multi-context childhood poverty: Evidence from long panel data from Indonesia

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LONG-TERM OUTCOMES OF MULTI-CONTEXT CHILDHOOD POVERTY

EVIDENCE FROM LONG PANEL DATA FROM INDONESIA

Jiaying Chen, Rhea Molato-Gayares, Albert F. Park, and Donnie-Paul Tan

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ABSTRACT

Which poverty context matters for long-term outcomes—family or community, economic or social? We construct a measure of poverty along these dimensions and analyze individual-level longitudinal data spanning 21 years in Indonesia to examine the long-term outcomes associated with different types of deprivation experienced in childhood. We find that adverse outcomes in adulthood are associated not only with growing up in a poor family but also in a poor community. Family poverty generally has a stronger influence than community poverty, except for health and life satisfaction, which are shaped more by the community. We also find that both economic and social domains matter, with the economic domain's influence being stronger. Girls' education suffers more from exposure to early deprivations, whereas boys' health is hit harder. Our findings highlight the importance of accounting for different dimensions of childhood deprivation, and they have strong policy implications for addressing inequality of opportunity.

Keywords: poverty, inequality, neighborhood effects, childhood, gender

JEL codes: I32, R23, J11

I. INTRODUCTION

Early childhood experiences are crucial to understanding the origins of disparity and intergenerational mobility. Substantial evidence finds that deprivations in early childhood can have long-lasting and profound impacts on adult outcomes, including but not restricted to lifetime income, occupation choice, educational attainment, cognitive skills, preferences, and life satisfaction (Almond and Currie 2011; Gertler et al. 2014; Millán et al. 2020; Attanasio, Cattan, and Meghir 2022; Victora et al. 2022). However, few studies systematically examine how different types of deprivation predict adult outcomes using panel datasets spanning long periods of time, especially in developing country settings. An important exception is Hannum, Hu, and Park (2019), who look at long-term outcomes of rural children in a poor province in the People's Republic of China. Thus, this study fills several gaps in the existing literature.

First, which dimensions of childhood experience matter most remains relatively unknown. It is well established that family economic status matters for children's performance in the long run (Maccini and Yang 2009, Paxson and Schady 2010) but the other aspects of childhood experience are underrepresented in the economics literature. There is a strand of literature suggesting that the social dimensions of a household, such as parents' education and physical presence, play non-negligible roles in children's development (Guryan, Hurst, and Kearney 2008; Deopke, Sorrenti, and Zilibotti 2019). It is important to build a multidimensional indicator system that accounts for both economic and social dimensions of childhood experiences.

Second, the importance of community environment in deciding children's outcomes is poorly captured in the existing development literature. Recent research by Chetty and coauthors, as well as some earlier studies, highlight the importance of neighborhood effects (Katz, Kling, and Liebman 2001; Kling, Liebman, and Katz 2007; Clampet-Lundquist and Massey 2008; Ludwig et al. 2013; Chetty and Katz 2016, Chetty and Hendren 2018a, 2018b). However, studies on neighborhood effects in developing countries are sparse (Hannum, Hu, and Park 2019). Community deprivation could be of greater significance in developing countries, where infrastructure and public services are less adequate and more people live in remote rural locations.

To study how family and community deprivations predict adult outcomes, we construct a measure of multi-context deprivation experienced in childhood (Hannum, Hu, and Park 2019). We analyze longitudinal data from the Indonesia Family Life Survey (IFLS). Indonesia provides an excellent research context for studying these relationships in developing countries, as it has experienced dramatic economic structural transformation over the past few decades, and the IFLS is a high-quality longitudinal dataset spanning 21 years.

Our multi-context measures of deprivation follow the spirit of multidimensional poverty measures (Alkire and Foster 2011, Alkire and Santos 2014) but focus on the environment in which children grow up and not on the health or education outcomes of children themselves (Hannum, Hu, and Park 2019). Our multi-context deprivation measure comprises subindices of deprivation in the family economic, family social, community economic, and community social domains. Each domain includes three to four factors.

Compared to the traditional money-metric poverty criteria, the multi-context deprivation measure reflects childhood experiences in a more comprehensive way.

We find that multi-context deprivation is significantly negatively correlated with adults' consumption, education, cognitive skills, physical health, mental health, and life satisfaction, and is positively associated with smoking. Adverse outcomes in adulthood can be attributed not only to family poverty but also to community poverty. For most outcomes, growing up in a poor family has stronger implications than growing up in a poor community. However, the community domain has a stronger influence than the family domain when it comes to health outcomes and life satisfaction.

Both the economic and the social domains are significantly associated with worse long-term outcomes, although the economic domain plays a larger role. These findings are robust when accounting for potential measurement errors from the possibility of attenuation bias and life cycle bias.

Endogeneity is a less severe concern in our study as the measurement of childhood deprivation is 21 years ahead of outcomes, and the richness of our data enables us to control for most key environmental factors affecting children. We further address the reverse causality concern by considering restricted samples of individuals who are under age 10 at baseline, as young children have little influence on family decisions such as location choice, consumption, investment, and others. We also test for robustness by restricting the sample to households that did not migrate between 1993 and 2014, since migrants may have unobserved characteristics that affect adult outcomes and the characteristics of locations to which they move. Both of these robustness checks support the findings using the whole sample.

Early exposure to deprivation shows heterogeneous outcomes by gender. Girls suffer more than boys in terms of educational attainment and cognitive skills, possibly driven by community factors that favor investments in boys' education. On the other hand, boys' health and smoking behavior are more affected by deprivation than girls'. This outcome is driven by economic rather than social domains, suggesting boys' health is more sensitive to times of economic hardship.

The findings of this study have policy implications for addressing inequality of opportunity. The importance of factors other than income in determining future outcomes of children suggest income transfer programs alone may be insufficient to support children's development. The results also suggest that, in developing country settings, community-level projects can play an important role in addressing inequality of opportunity even though evidence on the impact of some community-targeted programs, like the Millennium Villages Project (MVP) launched by the United Nations on reducing poverty and promoting development, is inconclusive (Mitchell et al., 2018). Our study provides an example of how policymakers can make more informed decisions when considering what types of interventions are likely to influence specific types of outcomes.

The rest of this paper is organized as follows. Section II describes the data and method involved in constructing multi-context deprivation measures. Section III presents findings on the relationship between childhood deprivation and adults' outcomes, and discusses

identification issues and robustness checks. Section IV examines gender heterogeneity. Section V concludes.

II. CONSTRUCTION OF MULTI-CONTEXT DEPRIVATION MEASURES

We construct a multi-context deprivation measure; this section provides a detailed introduction to the data, methodology, and descriptive statistics.

A. Data and Sample Selection

We use several waves of IFLS to construct deprivation measures in various domains. IFLS started in 1993 with 7,224 households and tracked their split-off families through follow-up waves in 1997, 2000, 2007, and 2014. The survey's sampling frame covers 13 of Indonesia's 27 provinces, representing approximately 83% of the national population. In the 2014 wave, more than 90% of the original households and their split-off families were successfully recontacted. Each wave of IFLS collects comprehensive data at the individual, household, and community levels. The individual and household questionnaires cover a broad range of topics, including—but not limited to—demographics, income and consumption, economic activities, and health.

IFLS also provides detailed information on communities. The community module covers aspects of the physical and social environment, infrastructure, employment opportunities, food prices, access to health and educational facilities, and the quality and prices of services available at those facilities. However, IFLS only follows the original 312 communities at baseline. If individuals move across communities, IFLS does not collect the community information of the new destinations. The 312 communities referenced in the 1993 IFLS correspond to enumeration areas (EAs). These EAs are statistical sampling units, not administrative villages, although some may overlap with village boundaries. These EAs were selected to be representative of about 83% of the Indonesian population.

Because IFLS is not updated every year, it is not likely to measure all individuals' childhood deprivation and adulthood outcome at the same age. We restrict samples to cohorts aged 0–16 years old in the baseline year (1993), who are exactly 21 to 37 years old in the endline year (2014). Cohorts younger than this are not old enough to observe their labor market performance or permanent educational attainments by 2014. There are 13,052 individuals aged 0–16 in the baseline survey. We further restrict to those who have complete measures of family deprivation and community deprivation, accounting for 68% of the population. Over 8,000 individuals were successfully followed in 2014 and they constitute our final sample.

Table 1 reports summary statistics on the sample. Our sample is on average 8.2 years old in 1993. Approximately 51% of them are males. In terms of household baseline characteristics, 31% of them live below the poverty line. Around 9% and 16% of our samples live away from their mother or father, respectively. Within communities in our sample, about two-thirds of the households have access to electricity (63%) and less than one-third have access to phone or mail services in 1993 (29%). There is an average of

three primary schools per community. Each community is about 9 kilometers away from the subdistrict office.

Outcomes in adulthood are described in panel C. Average years of schooling is slightly longer than 10 years by 2014, with about 14% of our sample having completed college and 57% having completed high school. In terms of work status, 64% of our sample had worked during the previous year.

Table 1. Summary Statistics

	Obs	Mean	Std. Dev.	Min	Max
Households' baseline characteristics					
Consumption per capita lower than poverty line	8,658	0.31	0.46	0	1
Proportion of mother being away	8,818	0.09	0.28	0	1
Proportion of father being away	8,819	0.16	0.37	0	1
Communities' baseline characteristics					
% of households with electricity access	7,714	63.05	31.11	0.1	100
% of households with access to phone/mail services	8,822	29.00	0.45	0	100
Distance to subdistrict office	8,744	9.33	46.63	0.2	999.6
Number of primary schools	8,822	3.35	1.81	0	11
Individual baseline characteristics					
% of males	8,821	0.51	0.50	0	1
Age in 1993	8,822	8.20	4.84	0	16
2014 adult outcomes					
Real per capita consumption expenditure, log	8,822	16.21	0.73	13.65	19.51
High school graduate	6,392	0.57	0.50	0	1
Years of schooling	6,392	10.36	3.78	0	21
College graduate	6,400	0.14	0.35	0	1
Numeracy skills scores	6,077	0.06	0.97	-2.01	2.44
Abstract reasoning scores	5,815	-0.19	0.68	-2.27	1.06
Worked last year	6,400	0.64	0.48	0	1
Height	6,142	1.58	0.08	0.65	1.86
Body mass index	6,134	23.23	4.46	12.00	56.01
Reported health status	6,377	1.98	0.63	1	4
Mental health	6,094	1.93	0.50	1	4
Life satisfaction	6,122	3.35	0.79	1	5
Currently smoking	6,377	0.35	0.48	0	1
Smoked at least once	6,377	0.38	0.48	0	1

Source: Authors' calculations.

B. Method of Constructing the Multi-Context Deprivation

Following Alkire and Santos (2014) and Hannum, Wu, and Park(2019) and based on the availability of data, we construct a multi-context deprivation measure consisting of four domains—namely, household economic domain, household social domain, community economic domain, and community social domain. Each domain consists of multiple factors. The selection of factors relies on the following criteria: (i) relevance—the factor is a relevant measure of deprivation; (ii) availability—the variable is consistently available across waves; and (iii) comparability—the factor is widely adopted in other literatures that our project can be compared with. Based on the above criteria, we have chosen three to four factors in each domain.

1. Household Domain

Table 2 is based on 9,258 individuals in 1993. Panel A shows that the family economic domain consists of four factors—namely, consumption per capita, assets per capita, distance to get water, and home construction material. We choose official district-level poverty lines as the threshold for defining consumption deprivation, applying the distinction between urban and rural poverty.¹ Less than one-third (29.60%) of our sample are deprived in consumption. Following Hannum, Wu, and Park (2019), we set the 25th percentile as threshold when defining deprivation in terms of asset per capita and water access. About half (50.29%) of the sample population live in houses made of materials other than cement or brick, a signal of housing deprivation. We further define the family economic deprivation if individuals are deprived in at least two of the four factors. Based on our estimation, 45.32% of the sample are deprived in the family economic domain.

Panel B of Table 2 shows the family social domain consists of four factors—namely, household head’s literacy, household head’s self-reported physical health, mother’s absence from the household, and father’s absence from the household. Around 22% of individuals are deprived in terms of household head’s literacy—that is, they cannot read or write in the Indonesian language. When it comes to household head’s self-reported physical health, 10.93% are deprived, reporting themselves as either “unhealthy” or “somewhat unhealthy.” It is notable to see that 8.79% of the children in our sample are not living with their mothers—that is, their mothers are either dead or living away from home. The proportion of children living apart from their father is even higher, at 15.95%. This could owe to the high migration rate in Indonesia at that time. Similarly, we define deprivation in the family social domain if the individual is deprived in at least two factors. The deprivation rate in the family social domain is 15.37%.

Table 2: Definition and Descriptive Statistics of Family Economic Domain and Family Social Domain at Baseline (1993)

Factor	Definition of Deprivation	Deprivation Rate	
Panel A: Family Economic Domain			
Consumption per capita	If lower than district-level poverty lines.	29.60%	45.32%
Assets per capita	If lower than 25th percentile in 1993, which is IDR 242,041.66. This threshold is adjusted for price differences across geographies and years.	27.89%	
Distance to get water	If distance to water source is higher than 75th percentile in 1993, which is 20 meters away from house.	27.14%	
Home construction material	If house’s outer wall is not made of cement or brick.	50.29%	
Panel B: Family Social Domain			
Household head’s literacy	If household head cannot read or write in Indonesian.	22.40%	15.37%

Continued on the next page

¹ Badan Pusat Statistik (Statistics Indonesia) has released yearly poverty lines on the district (*kabupaten/kota*) level since 2004. To estimate earlier district-level poverty lines, we first obtain the ratios of the district-level poverty lines to the national poverty line in 2004. The ratios are then multiplied to the 1993–2003 national poverty lines to determine the earlier district-level poverty lines used as thresholds for consumption deprivation measures.

Factor	Definition of Deprivation	Deprivation Rate	
Household head's physical health	Household head deprived in terms of (self-reported) health status: "unhealthy" or "somewhat unhealthy."	10.93%	
Mother is away	Mother is deceased or living outside household.	8.79%	
Father is away	Father is deceased or living outside household.	15.95%	

Source: Authors' calculations.

2. Community Domain

Table 3 is based on 312 communities in 1993. Panel A shows that the community economic domain consists of four factors—namely, main road construction material, access to electricity, access to phone and mail service, and distance to subdistrict capital. Approximately one-third (32.68%) of communities are deprived as they do not have a main road made of asphalt or concrete. Consistent with the threshold for assets per capita in the family economic domain, we set the 25th percentile of all IFLS communities as a threshold in defining deprivation in electricity access and distance. It is notable to see that 59% of communities have no phone or mail service in 1993. Together, we define community economic deprivation if communities are deprived in at least two of the four factors. About 50% of our sample are deprived in the community economic domain.

Panel B of Table 3 shows that the community social domain consists of three factors—namely, number of primary schools, community average literacy rate of household heads, and presence of social organizations. Approximately 11% of communities have less than two primary schools, the 25th percentile of all communities in the sample, and are thus defined as deprived. We use the absolute number rather than the number of primary schools per capita because the per capita number is largely determined by the population size. We take the 75th percentile as the threshold when defining deprivation in terms of community-level illiteracy rate. To maintain comparability across IFLS rounds, we define presence of social organizations in terms of the two organizations listed in all rounds, Dasa Wisma and Dana Sehat.² In 1993, 13.54% of our sample live in communities without any of these social organizations. The community social deprivation rate is 7.48% on average, defined as such if a community is deprived in at least two of the three factors.

Table 3: Definition and Descriptive Statistics of Community Economic Domain and Community Social Domain at Baseline (1993)

Factor	Definition of Deprivation	Deprivation Rate	
Panel A: Community Economic Domain			
Main road	If main road is not made of asphalt/concrete.	32.68%	50.22%
Electricity	If share of households with electricity access is below 25th percentile of all IFLS communities, which is 50%.	25.63%	
Phone and mail service	If community has no phone or mail service.	59.09%	

Continued on the next page

² The two social organizations are the only organizations found to be common in all five IFLS rounds. Dasa Wisma ("Ten Houses") refers to a social organization consisting of 10 neighboring households aiming to increase community participation in public health development. Dana Sehat ("Health Fund") is a community-based health initiative originating in Surakarta, Indonesia, involved in improving health standards through credit cooperatives and other community improvement projects.

Factor	Definition of Deprivation	Deprivation Rate	
Distance to subdistrict (kecamatan) capital	If distance to subdistrict capital is above the 75th percentile of all IFLS communities, which is 7 kilometers away from community leader's office.	23.25%	
Panel B: COMMUNITY SOCIAL DOMAIN			
Number of primary schools	If number of primary schools is below 75th percentile of all IFLS communities, which is 2 schools.	11.30%	7.48%
Community average literacy of household heads	If share of illiterate household heads is above 75th percentile of all IFLS communities, which is 34.67%.	25.48%	
Existence of social organization	If a community does not have any of the two social organizations found in all IFLS rounds (Dasa Wisma and Dana Sehat).	13.54%	

Source: Authors' calculations.

3. Multi-Context Deprivation

We merge the household data with the community data to construct the multi-context deprivation measures for each individual. Following Hannum, Wu, and Park (2019), an individual is defined as multi-context deprived if he or she is deprived in at least half of these domains—in this case, two. As is seen in Table 4, about a quarter (27.03%) of our sample are not deprived in any domain, while 32.93% are deprived in one domain and another 30% are deprived in two domains. We define people who are deprived in at least two domains as multi-context deprived. Given this definition, 40% of our sample are multi-context deprived.

Table 4: Multi-Context Deprivation Rates at Baseline (1993)

	Deprived (%)	Multi-Context Deprived (%)
Not deprived at all	27.03	Not deprived = 59.96
Deprived in one domain	32.93	
Deprived in two domains	30.00	Deprived = 40.04
Deprived in three domains	8.77	
Deprived in four domains	1.27	

Source: Authors' calculations.

C. Validation of the Multi-Context Deprivation

Compared to the traditional consumption-based deprivation measure, what does our multi-context measure look like? Table 4 describes the cross-correlations between the traditional consumption measure, our multi-context measure, and each of its four domains. The consumption measure is highly correlated with the family economic domain, but shows weak correlations with other domains. The family economic domain shows moderate correlation with the community economic domain but weak correlation with the family social and community social domains. In contrast, multi-context deprivation is closely linked with all the domains. The comparison implies that relying on money-metric measure such as consumption may miss other important aspects. If social domains and

community domains play important roles in adulthood outcomes, then using the traditional consumption measure captures only limited information.

Table 5: Correlation Between Different Deprivation

	Consumption deprived	Family economic deprived	Family social deprived	Community economic deprived	Community social deprived	Multi-context deprived
Consumption deprived	1					
Family economic deprived	0.46	1				
Family social deprived	0.05	0.08	1			
Community economic deprived	0.09	0.25	0.04	1		
Community social deprived	0.02	0.07	0.07	0.21	1	
Multi-context deprived	0.28	0.65	0.32	0.61	0.34	1

Source: Authors' calculations.

III. THE LONG-TERM OUTCOMES OF EARLY CHILDHOOD MULTI-CONTEXT DEPRIVATION

To test the academic disputes discussed in Section I, we examine the associations between early childhood deprivation and a variety of adults' outcomes measured 21 years later. Even though the coefficients should be interpreted with caution, their direction and magnitude have valuable implications, and can provide guidance to causal analysis.

A. Identification

The regression model is as follows

$$y_{ijc} = \beta_0 + \beta_1 Dep_{ijc} + X_{ijc}\beta_2 + \mu_{ijc} \quad (1)$$

where y_{ijc} is the 2014 outcome of adult i in household j living in community c in 1993; Dep_{ijc} is a dummy variable equal to 1 if the individual is multi-context deprived in 1993; X_{ijc} represents individual-level characteristics, including gender and age; and μ_{ijc} is the error term. The outcome y_{ijc} includes four sets of variables: (i) Consumption, which is measured as household consumption per capita; (ii) Education, including years of schooling, high school attendance, college attendance, numeracy skills, and abstract reasoning skills; (iii) Employment, measured by work status last year; (iv) Health indicators, including height, body mass index (BMI), self-reported physical health status, self-reported mental health status, life satisfaction, and smoking.

To test and compare the long-term outcomes of deprivation in different aspects, we further break down Dep_{ijc} into deprivation dummies in four domains—the family economic domain, the family social domain, the community economic domain, and the

community social domain. When these are placed together in the same regression equation, the coefficient of each domain represents its relative importance in deciding the long-term outcomes.

To test for heterogeneity between males and females, we multiply the gender dummy with the deprivation measures, as further discussed in Section IV.

The endogeneity concern arises if $E(\mu_{ijc}|X_{ijc}) \neq 0$ —that is, if deprivation is correlated with individuals' unobserved characteristics. The possibility of reverse causality is not a severe threat because childhood deprivation is measured 21 years earlier than adulthood outcomes. It is unlikely for children to affect their parents' economic decision. Yet our study also confronts the endogeneity concerns with community deprivation especially because we know little about why individuals are sorted into different locations. If sorting is endogenous, for example risk-loving parents are located in hazardous areas, then their implicit risk preference can be the confounding variable that determines community characteristics and children's outcomes at the same time. We employ the following strategies to deal with the endogeneity concerns. First, we control for parents' baseline characteristics to reduce the self-selection concern. Second, we further restrict to samples whose parents have not migrated. In fact, the cross-community migration rate before 2000 is low at 2.96%. Third, we replicate the analysis across age windows and check if the coefficients are robust when restricted to the younger age groups. The rationale is that younger children are only takers of family decisions so they are less likely to affect their family and community deprivation status.

B. Main Results

The analysis begins with the relationship between a child's multi-context deprivation status in 1993 and his/her adulthood outcomes measured 21 years later. This relationship represents the long-term outcome of growing up in an overall poor environment (see Table 6 panel A). Then we split the multi-context measure into the four domains—household economic, household social, community economic, and community social—and put them all together in the same regression equation to test and compare how deprivation in these domains is correlated with adulthood outcomes (Table 6 panel B).

Not surprisingly, multi-context deprivation is negatively correlated with most outcome variables. Individuals who experienced multi-context deprivation in childhood consume 28.1% less in consumption per capita measured 21 years later. Childhood deprivation is associated with adverse outcomes on human capital. Deprived individuals are less likely to enter high school and college by 30.5% and 11.6%, respectively, which is further translated into a loss of 2.5 years in total schooling. As a direct result, deprived individuals perform worse in cognitive tests, with a significant drop in numeracy skills and abstract reasoning skills. Deprived individuals are significantly shorter, have a lower BMI, suffer from mental health problems, and show less satisfaction with life. In terms of risky behavior, multi-context deprivation is positively associated with smoking. Two outcome variables show minimal and insignificant associations with multi-context deprivation—work status last year and self-reported physical health.

Table 6: Correlation Between Multi-Context Deprivation and Adults' Outcomes

	(1) Real PCE (log)	(2) High School or Above	(3) Years of Schooling	(4) College Graduate	(5) Numeracy Skills	(6) Abstract Reasoning	(7) Worked Last Year
Panel A: Multi-context deprivation							
Multi-context deprived	-0.281*** (0.015)	-0.305*** (0.012)	-2.500*** (0.089)	-0.116*** (0.008)	-0.387*** (0.024)	-0.273*** (0.018)	0.00245 (0.011)
Gender (male = 1; female = 0)	0.0487*** (0.015)	0.0385*** (0.011)	-0.0127 (0.087)	-0.0389*** (0.008)	-0.0651*** (0.024)	0.123*** (0.017)	0.408*** (0.010)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES	YES	YES
<i>Observations</i>	9,267	6,692	6,692	6,701	6,359	6,067	6,701
<i>F-statistic</i>	22.12	54.43	57.90	16.96	19.86	24.11	95.23
<i>R</i> ²	0.0408	0.117	0.130	0.0385	0.0516	0.0673	0.192
Panel B: Family and community deprivation							
Family economic deprived	-0.274*** (0.016)	-0.230*** (0.012)	-2.006*** (0.091)	-0.106*** (0.008)	-0.307*** (0.025)	-0.190*** (0.018)	0.00679 (0.011)
Family social deprived	-0.0523** (0.021)	-0.151*** (0.018)	-1.308*** (0.143)	-0.0455*** (0.011)	-0.112*** (0.035)	-0.108*** (0.029)	-0.0159 (0.017)
Community economic deprived	-0.167*** (0.016)	-0.154*** (0.012)	-1.031*** (0.091)	-0.0604*** (0.009)	-0.181*** (0.026)	-0.174*** (0.018)	-0.0114 (0.011)
Community social deprived	0.00242 (0.026)	-0.122*** (0.022)	-1.260*** (0.187)	-0.0195 (0.014)	-0.224*** (0.043)	-0.0796** (0.036)	-0.0314 (0.021)
Gender (male = 1; female = 0)	0.0438*** (0.015)	0.0336*** (0.011)	-0.0644 (0.086)	-0.0416*** (0.008)	-0.0804*** (0.024)	0.115*** (0.017)	0.403*** (0.011)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES	YES	YES
<i>Observations</i>	8,821	6,391	6,391	6,399	6,076	5,814	6,399
<i>F-statistic</i>	28.60	64.19	62.29	17.09	20.22	23.83	77.47
<i>R</i> ²	0.0648	0.147	0.166	0.0515	0.0632	0.0794	0.190

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	(8) Height	(9) Body Mass Index	(10) Health Status	(11) Mental Health	(12) Life Satisfaction	(13) Currently Smoking	(14) Smoked at Least Once
Panel A: Multi-context deprivation							
Multi-context deprived	-0.0166*** (0.001)	-0.688*** (0.107)	0.00627 (0.016)	-0.0544*** (0.013)	-0.0682*** (0.020)	0.0422*** (0.008)	0.0402*** (0.008)
Gender (Male = 1; female = 0)	0.119*** (0.001)	-2.002*** (0.106)	-0.0622*** (0.015)	0.0189 (0.013)	-0.134*** (0.020)	0.683*** (0.008)	0.733*** (0.008)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES	YES	YES
<i>Observations</i>	6,428	6,418	6,676	6,379	6,409	6,676	6,676
<i>F-statistic</i>	370.4	35.91	1.906	7.576	4.595	397.0	514.3
<i>R</i> ²	0.508	0.0882	0.00507	0.0207	0.0125	0.517	0.574
Panel B: Family and community deprivation							
Family economic deprived	-0.0109*** (0.002)	-0.428*** (0.113)	0.0210 (0.016)	-0.0337** (0.013)	-0.0520** (0.021)	0.0259*** (0.009)	0.0249*** (0.008)
Family social deprived	-0.00138 (0.002)	-0.234 (0.170)	-0.0233 (0.025)	-0.0130 (0.020)	-0.0498 (0.032)	0.00453 (0.012)	0.00352 (0.012)
Community economic deprived	-0.0152*** (0.002)	-0.723*** (0.115)	-0.0117 (0.017)	-0.0585*** (0.013)	-0.0803*** (0.021)	0.0186** (0.009)	0.0168** (0.008)
Community social deprived	0.00276 (0.003)	-0.190 (0.197)	0.0122 (0.032)	0.0282 (0.027)	0.0326 (0.039)	0.0268 (0.017)	0.0267 (0.016)
Gender (male = 1; female = 0)	0.118*** (0.002)	-1.998*** (0.108)	-0.0611*** (0.016)	0.0200 (0.013)	-0.128*** (0.020)	0.682*** (0.009)	0.731*** (0.008)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES	YES	YES
<i>Observations</i>	6,141	6,133	6,376	6,093	6,121	6,376	6,376
<i>F-statistic</i>	307.3	30.95	1.763	7.462	4.371	321.2	415.0
<i>R</i> ²	0.512	0.0922	0.00571	0.0247	0.0145	0.515	0.570

PCE = per capita expenditure.

Note: Deprivation measures used as regressors are 1993 deprivation indicators. Regressions also include a constant term, but they are omitted here for brevity. Robust standard errors are in parentheses. Asterisks ***, **, * represent statistical significance at 1%, 5%, and 10% level, respectively.

Source: Authors' calculations.

There is one question to be further answered—that is, which domain matters more? Regression results of the four sub-domains are displayed in panel B of Table 6. First, we find that both family economic and community economic domains play significant roles in the same set of outcome variables that are significantly correlated with multi-context deprivation. This means that adverse outcomes in adulthood can be attributed not only to a poor family but also to a poor community.

The family social domain, which is mostly decided by parents' human capital and physical presence, is significantly related with children's future consumption, educational attainment, and cognitive skills. The community social domain, representing availability of public infrastructure and services, primarily affects high school attainment, years of schooling, and cognitive skills. These significant correlations show that the social domain matters along with the economic domain.

Second, the magnitude of family economic domain estimators is larger than that of the community economic domain in most regressions, and the magnitude of coefficients from family social domain is slightly larger than those from the community social domain. This means that growing up in a poor family has stronger repercussions than growing up in a poor community.

There are a few fields where community domains seem to play a more important role. The community economic domain is stronger than the family economic domain when it comes to height, BMI, mental health, and life satisfaction. These findings imply that, while both family and community environment matter, a child's community has a stronger influence than his or her own family when it comes to health and life satisfaction.

The community economic and social domains may not fully capture all the dimensions of community characteristics. Therefore we control for community fixed effects in Table 7. Findings with family deprivations are consistent with Table 6. Both the family economic and the family social domains are negatively associated with consumption, educational attainment, and cognitive skills in adulthood. Additionally, the family economic domain has significant correlations with height, mental health, and smoking behavior. Compared with Table 6, all the coefficients become smaller in magnitude, indicating that some unobserved community characteristics are associated with family deprivation and adults' outcomes in the same direction.

Table 7: Correlation Between Family Deprivation and Adults' Outcomes, with Community Fixed Effects

	(1) Real PCE (log)	(2) High School or Above	(3) Years of Schooling	(4) College Graduate	(5) Numeracy Skills	(6) Abstract Reasoning	(7) Worked Last Year
Family economic deprived	-0.230*** (0.024)	-0.185*** (0.016)	-1.642*** (0.125)	-0.103*** (0.011)	-0.194*** (0.029)	-0.103*** (0.021)	-0.00481 (0.014)
Family social deprived	-0.0541** (0.025)	-0.127*** (0.019)	-1.084*** (0.143)	-0.0437*** (0.013)	-0.102*** (0.036)	-0.0839*** (0.025)	-0.00814 (0.016)
Gender (male = 1; female = 0)	0.0306** (0.015)	0.0238* (0.012)	-0.105 (0.085)	-0.0415*** (0.008)	-0.0798*** (0.023)	0.111*** (0.018)	0.400*** (0.014)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES	YES	YES
Community fixed effects	YES	YES	YES	YES	YES	YES	YES
<i>Observations</i>	10,061	7,311	7,311	7,320	6,944	6,652	7,320
<i>F-statistic</i>	9.526	20.10	22.10	9.573	9.103	14.29	58.58
<i>R</i> ²	0.0259	0.0795	0.0977	0.0327	0.0288	0.0448	0.190
	(8) Height	(9) Body Mass Index	(10) Health Status	(11) Mental Health	(12) Life Satisfaction	(13) Currently Smoking	(14) Smoked At Least Once
Family economic deprived	-0.00618*** (0.002)	-0.205 (0.150)	0.00172 (0.017)	-0.0318** (0.015)	-0.0286 (0.022)	0.0173* (0.010)	0.0209** (0.010)
Family social deprived	0.000147 (0.003)	-0.170 (0.154)	0.00643 (0.026)	-0.0208 (0.020)	-0.0545 (0.034)	0.0138 (0.012)	0.0105 (0.011)
Gender (male = 1; female = 0)	0.119*** (0.001)	-2.016*** (0.116)	-0.0630*** (0.015)	0.0134 (0.012)	-0.136*** (0.019)	0.680*** (0.009)	0.730*** (0.009)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES	YES	YES
Community fixed effects	YES	YES	YES	YES	YES	YES	YES
<i>Observations</i>	7,014	7,005	7,292	6,956	6,990	7,292	7,292
<i>F-statistic</i>	377.5	27.90	1.971	7.920	5.490	318.5	420.0
<i>R</i> ²	0.525	0.0864	0.00494	0.0209	0.0124	0.517	0.573

PCE = per capita expenditure.

Note: Deprivation measures used as regressors are 1993 deprivation indicators. Regressions also include a constant term, but they are omitted here for brevity. Robust standard errors are in parentheses. Asterisks ***, **, * represent statistical significance at 1%, 5%, and 10% level, respectively.

Source: Authors' calculations.

C. Further Analysis

1. Measurement Error

Measurement error may confound our findings via attenuation bias and life cycle bias, which are common when using cross-sectional data.

Attenuation bias arises from the fact that expenditures and incomes are difficult to measure precisely. Measurement using one wave only may capture transient poverty but long-run poverty plays a more important role in determining children's future outcomes. Measurement error represents probably the single biggest issue in the study of poverty dynamics using panel data. For example, using panels with at least three waves, the share of households in chronic poverty is significantly different from the share in short-term poverty in Ethiopia, South Africa and Viet Nam (Baulch 2011).

Aligned with Chetty et al. (2014), we take the average of two IFLS waves, 1993 and 1997, to proxy for permanent poverty status. The sample size drops by 31% since some samples were not followed successfully in the follow-up study. As Table 8 shows, 41% of individuals are family economic deprived if using the two-wave average, which is lower than the deprivation rate using the 1993 wave alone (45%). Similarly, the deprivation rate in the community economic domain is lower in the average measure than in the single wave measure. But the 1993–1997 average family social deprivation is higher than in the 1993 wave measure. The community social deprivation rate is similar using both measures, at around 8%. Finally, the multi-context deprivation rate is slightly higher in the average measure (45%) but close to the single wave measure (43%). Table 9 reports the same set of regression results following equation (1), this time using the 1993 and 1997 average measure of deprivation status. The average deprivation measure shows consistent estimators with the single 1993 measure, proving its robustness.

Table 8: Summary Statistics of 1993–1997 Average Deprivation Measures

	Obs.	Mean	SD	Min	Max
Average 1993–1997 family economic deprivation	11,931	0.41	0.44	0	1
Average 1993–1997 family social deprivation	12,718	0.24	0.34	0	1
Average 1993–1997 community economic deprivation	12,019	0.36	0.40	0	1
Average 1993–1997 community social deprivation	13,037	0.08	0.27	0	1
Average 1993–1997 multi-context deprivation	9,931	0.45	0.49	0	1

Source: Authors' calculations.

Table 9: Test for Attenuation Bias Using 1993 and 1997 Average Deprivation Measures

	(1) Real PCE (log)	(2) High School or Above	(3) Years of Schooling	(4) College Graduate	(5) Numeracy Skills	(6) Abstract Reasoning	(7) Worked Last Year
Panel A: Multi-context deprivation							
1993–1997 multi-context deprived	-0.288*** (0.015)	-0.306*** (0.012)	-2.543*** (0.089)	-0.120*** (0.008)	-0.400*** (0.024)	-0.277*** (0.018)	0.00185 (0.011)
Gender (male = 1; female = 0)	0.0487*** (0.015)	0.0397*** (0.011)	-0.00195 (0.086)	-0.0379*** (0.008)	-0.0609*** (0.024)	0.127*** (0.017)	0.408*** (0.010)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES	YES	YES
<i>Observations</i>	9,445	6,811	6,811	6,821	6,471	6,168	6,821
<i>F-statistic</i>	23.36	54.71	60.06	17.63	20.91	25.00	97.56
<i>R</i> ²	0.0423	0.116	0.132	0.0400	0.0535	0.0681	0.192
Panel B: Family and community deprivation							
1993–1997 family economic deprived	-0.320*** (0.022)	-0.219*** (0.018)	-1.962*** (0.135)	-0.120*** (0.012)	-0.318*** (0.036)	-0.177*** (0.027)	0.00956 (0.016)
1993–1997 family social deprived	-0.0637** (0.027)	-0.105*** (0.024)	-1.032*** (0.181)	-0.0152 (0.015)	-0.0793* (0.046)	-0.0960*** (0.035)	-0.0377* (0.021)
1993–1997 community economic deprived	-0.177*** (0.018)	-0.189*** (0.015)	-1.336*** (0.106)	-0.0601*** (0.010)	-0.250*** (0.029)	-0.216*** (0.022)	-0.0185 (0.013)
1993–1997 community social deprived	0.00893 (0.024)	-0.0789*** (0.021)	-0.875*** (0.169)	-0.00967 (0.013)	-0.194*** (0.040)	-0.0525 (0.033)	-0.0260 (0.019)
Gender (male = 1; female = 0)	0.0376*** (0.014)	0.0320*** (0.011)	-0.0739 (0.080)	-0.0412*** (0.008)	-0.0752*** (0.022)	0.120*** (0.016)	0.411*** (0.010)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES	YES	YES
<i>Observations</i>	10,303	7,432	7,432	7,441	7,057	6,733	7,441
<i>F-statistic</i>	36.62	66.03	71.14	19.98	24.24	25.16	93.87
<i>R</i> ²	0.0698	0.133	0.164	0.0491	0.0647	0.0743	0.196

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	(8) Height	(9) Body Mass Index	(10) Health Status	(11) Mental Health	(12) Life Satisfaction	(13) Currently Smoking	(14) Smoked at Least Once
Panel A: Multi-context deprivation							
1993-97 Multi-context deprived	-0.0176*** (0.001)	-0.727*** (0.107)	0.0111 (0.016)	-0.0569*** (0.013)	-0.0629*** (0.020)	0.0402*** (0.008)	0.0395*** (0.008)
Gender (male = 1; female = 0)	0.118*** (0.001)	-2.008*** (0.104)	-0.0629*** (0.015)	0.0195 (0.012)	-0.132*** (0.019)	0.683*** (0.008)	0.733*** (0.008)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES	YES	YES
<i>Observations</i>	6,543	6,533	6,795	6,491	6,522	6,795	6,795
<i>F-statistic</i>	376.0	36.70	2.034	7.634	4.419	401.1	521.4
<i>R</i> ²	0.507	0.0890	0.00533	0.0204	0.0118	0.517	0.574
Panel B: Family and community deprivation							
1993-97 Family economic deprived	-0.0121*** (0.002)	-0.410** (0.169)	0.0184 (0.024)	-0.0326* (0.019)	-0.0392 (0.030)	0.0266** (0.012)	0.0272** (0.012)
1993-97 Family social deprived	-0.00379 (0.003)	-0.433** (0.215)	0.0228 (0.032)	-0.00751 (0.026)	-0.0603 (0.040)	0.00279 (0.016)	-0.00350 (0.015)
1993-97 Community economic deprived	-0.0167*** (0.002)	-0.710*** (0.131)	-0.00457 (0.020)	-0.0738*** (0.016)	-0.0905*** (0.024)	0.0290*** (0.010)	0.0282*** (0.010)
1993-97 Community social deprived	-0.0000816 (0.003)	-0.132 (0.177)	0.0136 (0.029)	0.0101 (0.024)	0.0231 (0.035)	0.0224 (0.015)	0.0242* (0.015)
Gender (male = 1; female = 0)	0.119*** (0.001)	-2.030*** (0.100)	-0.0678*** (0.015)	0.0217* (0.012)	-0.129*** (0.019)	0.683*** (0.008)	0.733*** (0.008)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES	YES	YES
<i>Observations</i>	7,130	7,122	7,410	7,073	7,109	7,410	7,410
<i>F-statistic</i>	363.5	37.14	2.259	8.188	5.165	378.3	492.3
<i>R</i> ²	0.518	0.0938	0.00638	0.0233	0.0146	0.518	0.576

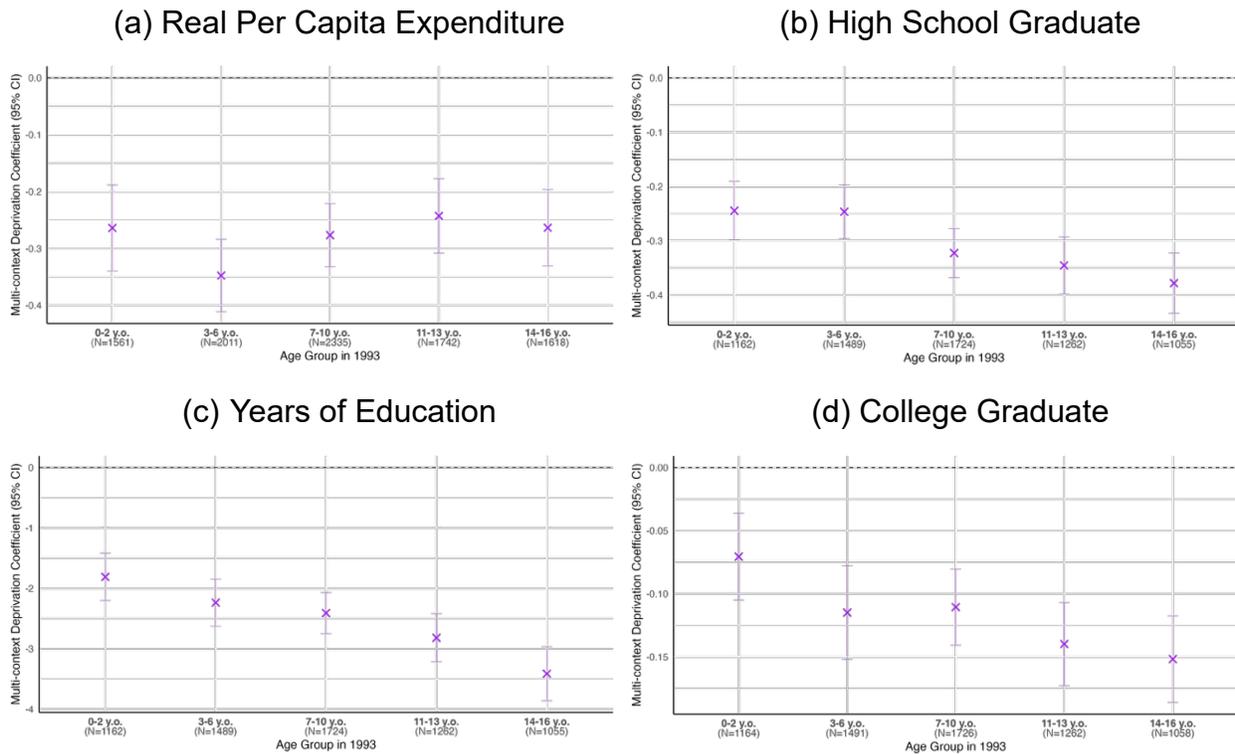
PCE = per capita expenditure.

Note: Deprivation measures used as regressors are the average between 1993 and 1997 deprivation indicators. Regressions also include a constant term, but they are omitted here for brevity. Robust standard errors are in parentheses. Asterisks ***, **, * represent statistical significance at 1%, 5%, and 10% level, respectively.

Source: Authors' calculations.

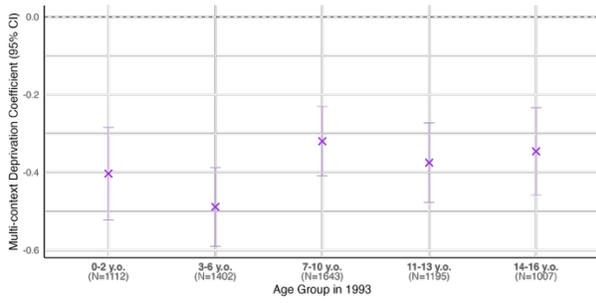
Life cycle bias arises from the fact that the ages at which individuals' outcomes were measured are different across birth cohorts. Even if we restrict the birth cohort of samples to the 0–16 age window and controlled for age fixed effects, the regressions may suffer from cohort-specific measurement error. To reduce the potential confounding effects of life cycle bias, we split the sample into five age groups and repeat the regression by each age group. Figure 1 plots the cohort-specific estimators of multi-context deprivation on 16 outcome variables. First, multi-context deprivation shows the same direction of correlation across age groups, except for work status and physical health, which are not significantly correlated with deprivation even in the whole sample. Second, the magnitude of coefficients is bounded within a considerable narrow range. For example, the magnitude of coefficients of multi-context deprivation on expenditure per capita is between -0.25 and -0.35. Third, multi-context deprivation shows ascending magnitudes on high school completion, college completion, and years of schooling as exposure age increases.

Figure 1: Coefficient Estimates of Multi-Context Deprivation on 2014 Outcomes by Age Group

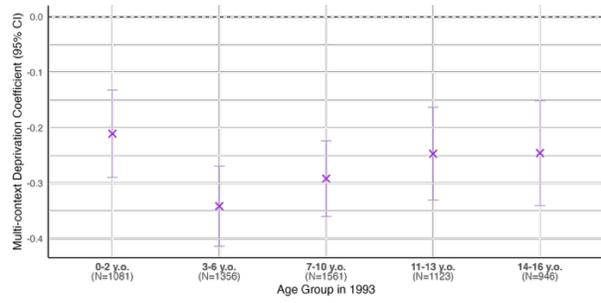


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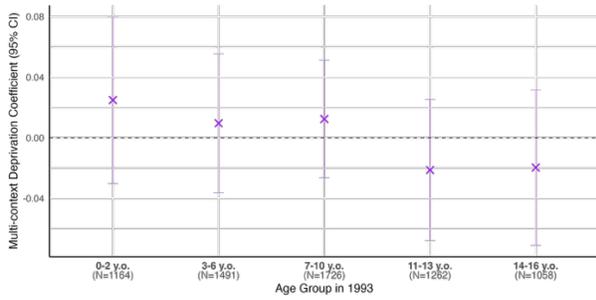
(e) Numeracy Skills



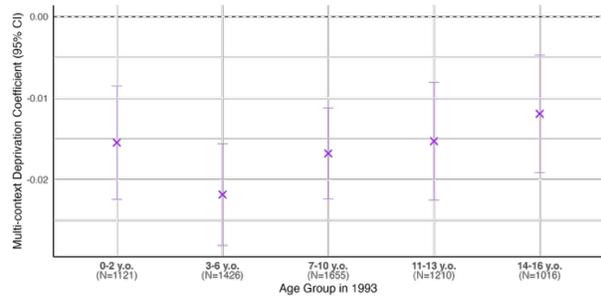
(f) Abstract Reasoning



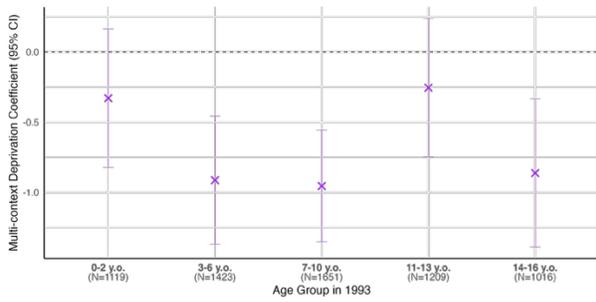
(g) Worked Last Year



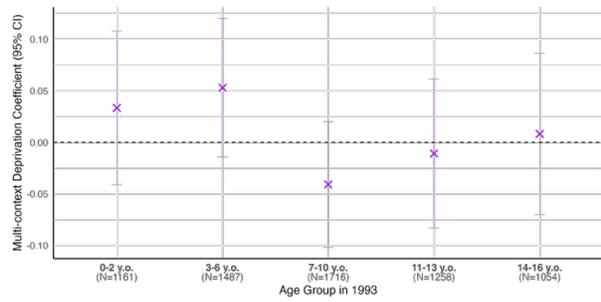
(h) Height



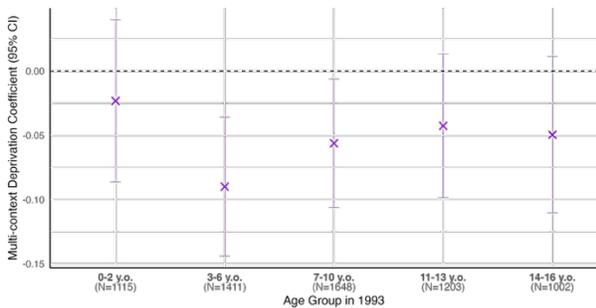
(i) Body Mass Index



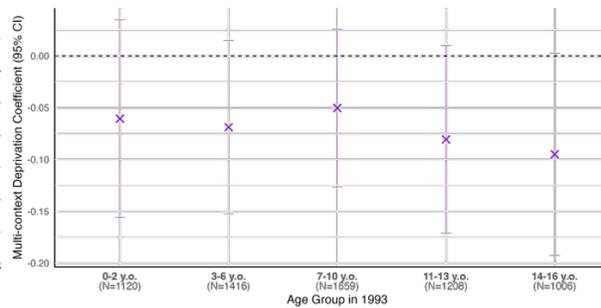
(j) Health Status



(k) Mental Health

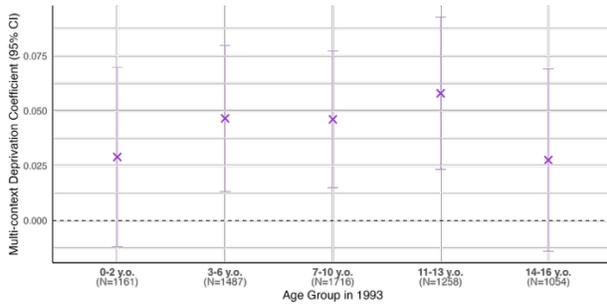


(l) Life Satisfaction

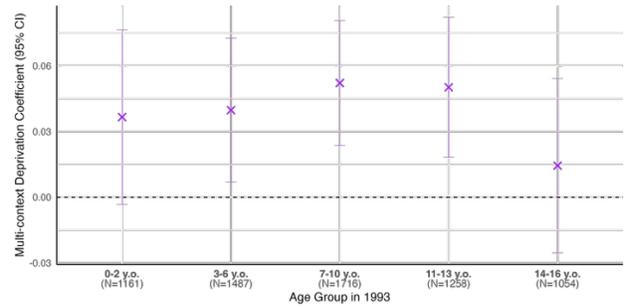


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(m) Currently Smoking



(n) Smoked at Least Once



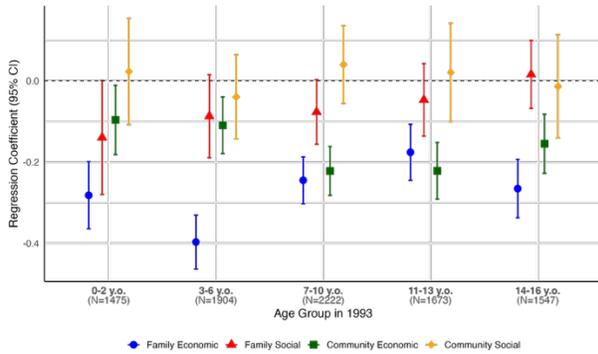
Note: Regressors also include the individual's sex and age in 1993. Points represent the estimates and the lines correspond to the estimates' 95% confidence interval.

Source: Authors' calculations.

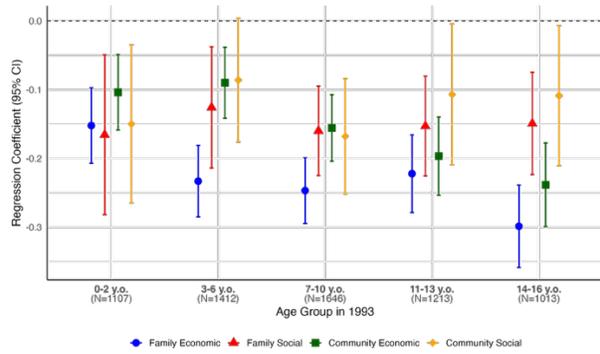
Figure 2 further shows the age-specific coefficients on 16 outcome variables. Similarly, the magnitudes of age-specific estimators are comparable among five age groups, showing strong robustness after accounting for life cycle bias.

Figure 2: Coefficient Estimates of 1993 Deprivation Measures on 2014 Outcomes by Age Group

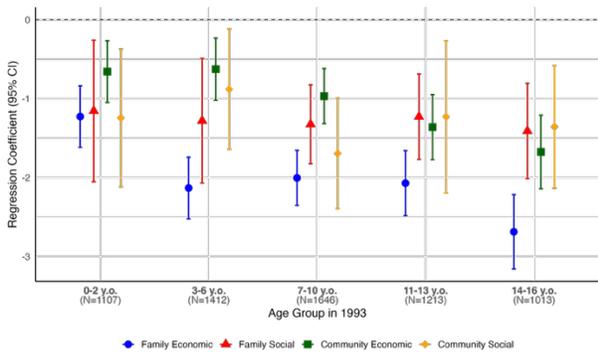
(a) Real Per Capita Expenditure



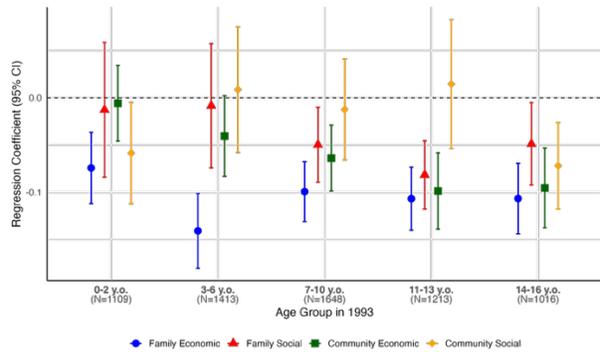
(b) High School Graduate



(c) Years of Education

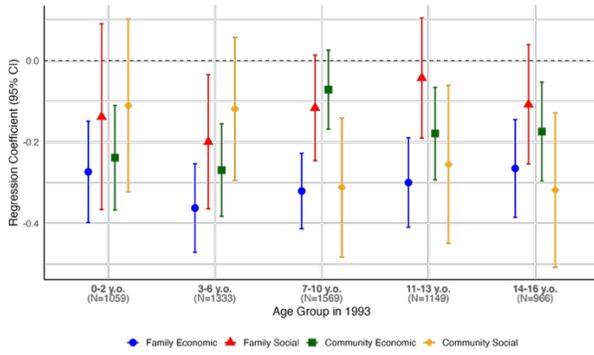


(d) College Graduate

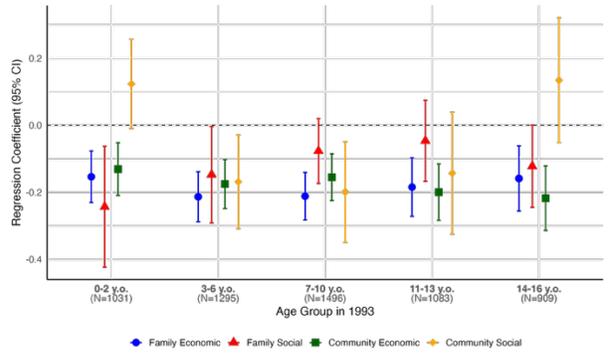


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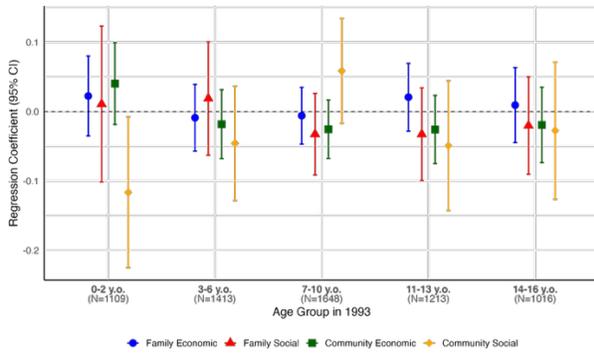
(e) Numeracy Skills



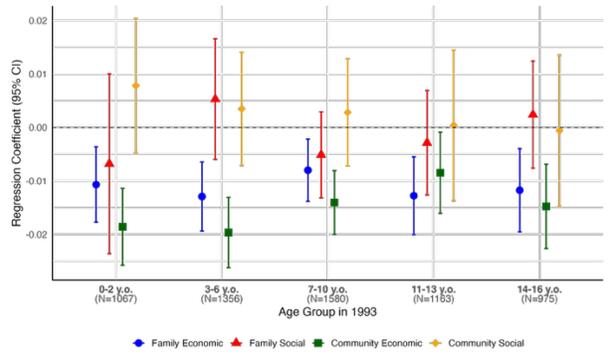
(f) Abstract Reasoning



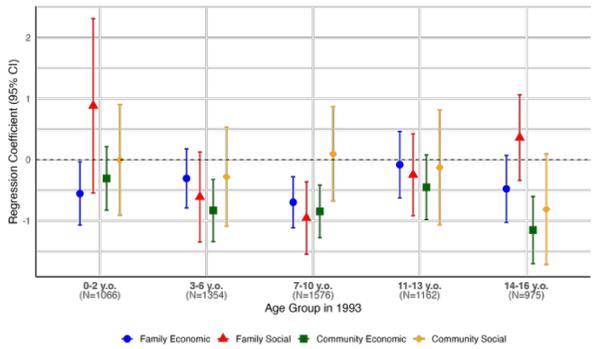
(g) Worked Last Year



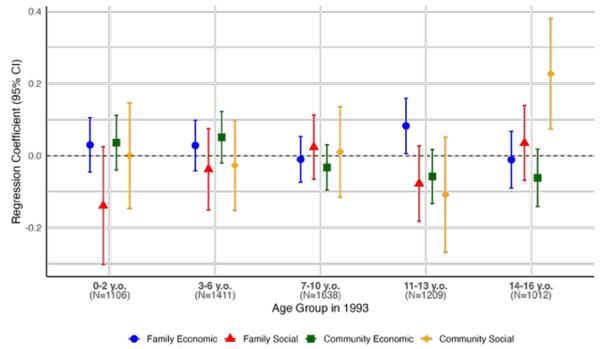
(h) Height



(i) Body Mass Index

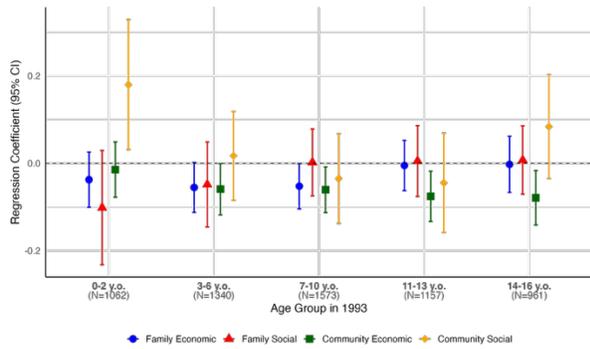


(j) Health Status

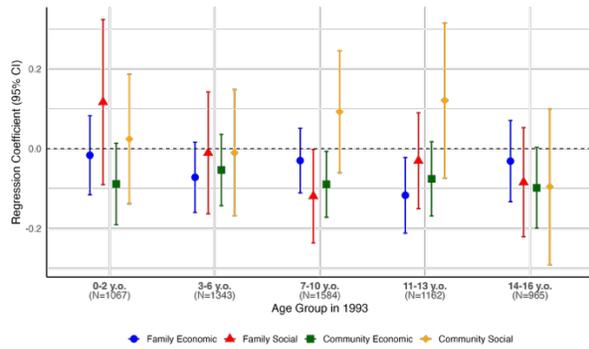


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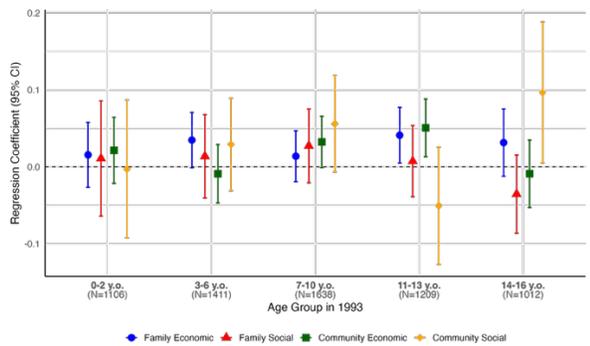
(k) Mental Health



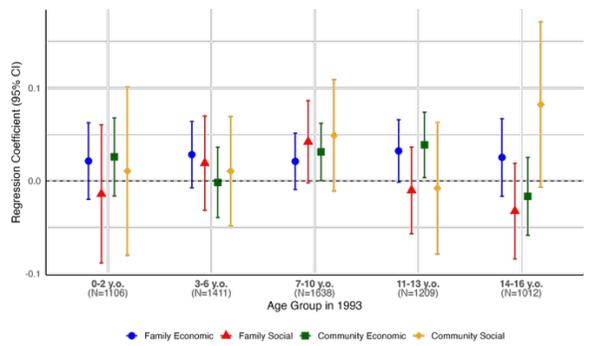
(l) Life Satisfaction



(m) Currently Smoking



(n) Smoked at Least Once



Note: Regressors used here are the four deprivation measures in 1993—family economic, family social, community economic, and community social domains—and the individual’s sex and age in 1993. Points represent the estimates and the lines correspond to the estimates’ 95% confidence interval. Source: Authors’ calculations.

2. Endogeneity Concern

Potential endogeneity in our identification strategy may arise from reverse causality and endogenous location choice. We employ the following strategies to deal with the threat of endogeneity.

Reverse causality is a weaker challenge here because multi-context deprivation is measured 21 years earlier than the outcomes. But reverse causality may exist among older samples. Our samples are aged 0–16 at baseline. Approximately 4.34% of youth below 16 years old were working in 1993, which means their employment and income could be the cause of family deprivation and the consequence of deprivation as well. Compared with older youth, young children are pure decision takers in a family, and they typically have minimal influence on family economic decisions and community characteristics. A simple way to further reduce the potential confounding effects of reverse causality is restricting samples to younger group. We have shown in Figure 1 that the findings are robust if we focus on below-10 age groups only.

Young children have little influence on location choice but how their parents are sorted into the baseline locations is unknown. If parents' geographical distributions are determined by traits that can be transmitted to their children, this would bias our estimators of community deprivation. For example, risk-loving parents have a higher propensity to live in coastal areas, and are more likely to raise risk-loving children as well. One strategy to deal with the omitted variable bias is to control for baseline variables of parents. Our family economic and social domain measures already include parental demographic features such as consumption, asset, education, physical health, parents' physical presence, and others. There are still unobserved characteristics that may confound the results, such as risk preference, but there is little that we can do on that.

Another strategy we employ is restricting to samples whose parents did not migrate between 1993 and 2014. Actually, the cross-community migration rate before 2000 is low at 2.96%, suggesting little endogenous sorting. Regression results using the stayer sample are reported in Table 10. Multi-context deprivation consistently demonstrates significant correlations on all outcomes except work status and physical health, just like the main regressions in Table 6. The magnitudes of coefficients are highly similar between Tables 6 and 10, indicating that potential endogeneity from migration is not a serious threat.

Table 10: Correlation Between Multi-Context Deprivation and Adults' Outcomes (stayers only)

	(1) Real PCE (log)	(2) High School or above	(3) Years of Schooling	(4) College Graduate	(5) Numeracy Skills	(6) Abstract Reasoning	(7) Worked Last Year
Panel A: Multi-context deprivation							
1993 multi-context deprived	-0.263*** (0.018)	-0.331*** (0.015)	-2.682*** (0.113)	-0.115*** (0.009)	-0.405*** (0.030)	-0.272*** (0.022)	-0.0105 (0.014)
Gender (male = 1; female = 0)	0.0300 (0.018)	0.0431*** (0.015)	-0.0288 (0.110)	-0.0380*** (0.010)	-0.0839*** (0.030)	0.126*** (0.021)	0.412*** (0.013)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES	YES	YES
<i>Observations</i>	5,739	4,121	4,121	4,127	3,913	3,758	4,127
<i>F-statistic</i>	12.89	40.89	40.54	11.53	13.65	15.90	59.27
<i>R</i> ²	0.0384	0.135	0.144	0.0402	0.0573	0.0694	0.193
Panel B: Family and community deprivation							
1993 family economic deprived	-0.263*** (0.020)	-0.254*** (0.016)	-2.229*** (0.115)	-0.106*** (0.010)	-0.299*** (0.032)	-0.153*** (0.023)	-0.00450 (0.014)
1993 family social deprived	-0.0608** (0.027)	-0.133*** (0.023)	-1.152*** (0.172)	-0.0536*** (0.013)	-0.0675 (0.046)	-0.0537 (0.035)	-0.0150 (0.021)
1993 community economic deprived	-0.151*** (0.020)	-0.184*** (0.016)	-1.198*** (0.115)	-0.0616*** (0.011)	-0.254*** (0.033)	-0.213*** (0.022)	-0.0216 (0.015)
1993 community social deprived	0.0252 (0.033)	-0.120*** (0.027)	-1.216*** (0.233)	-0.00766 (0.018)	-0.167*** (0.055)	-0.111** (0.048)	-0.0167 (0.028)
Gender (male = 1; female = 0)	0.0235 (0.019)	0.0365** (0.015)	-0.117 (0.109)	-0.0418*** (0.010)	-0.107*** (0.031)	0.117*** (0.022)	0.408*** (0.014)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES	YES	YES
<i>Observations</i>	5,442	3,919	3,919	3,924	3,721	3,588	3,924
<i>F-statistic</i>	16.95	50.96	47.35	11.73	14.06	16.22	48.09
<i>R</i> ²	0.0612	0.170	0.187	0.0556	0.0712	0.0837	0.192

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	(8) Height	(9) Body Mass Index	(10) Health Status	(11) Mental Health	(12) Life Satisfaction	(13) Currently Smoking	(14) Smoked at Least Once
Panel A: Multi-context deprivation							
1993 multi-context deprived	-0.0153*** (0.002)	-0.569*** (0.135)	0.0218 (0.020)	-0.0539*** (0.016)	-0.0610** (0.026)	0.0434*** (0.010)	0.0369*** (0.010)
Gender (male = 1; female = 0)	0.118*** (0.002)	-2.116*** (0.134)	-0.0732*** (0.020)	0.0320** (0.016)	-0.126*** (0.025)	0.690*** (0.011)	0.739*** (0.010)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES	YES	YES
<i>Observations</i>	3,945	3,936	4,105	3,918	3,944	4,105	4,105
<i>F-statistic</i>	226.1	23.51	1.545	5.173	3.334	250.9	328.0
<i>R</i> ²	0.501	0.0924	0.00669	0.0224	0.0149	0.528	0.583
Panel B: Family and community deprivation							
1993 Family economic deprived	-0.0109*** (0.002)	-0.307** (0.142)	0.0171 (0.021)	-0.0389** (0.017)	-0.0454* (0.027)	0.0162 (0.011)	0.0172 (0.010)
1993 Family social deprived	-0.00224 (0.003)	-0.376* (0.209)	-0.0317 (0.031)	-0.0274 (0.024)	-0.0357 (0.040)	0.00896 (0.015)	0.00489 (0.015)
1993 Community economic deprived	-0.0154*** (0.002)	-0.715*** (0.146)	0.0167 (0.021)	-0.0474*** (0.017)	-0.0661** (0.027)	0.0376*** (0.011)	0.0238** (0.011)
1993 Community social deprived	0.00633* (0.004)	0.224 (0.273)	0.0107 (0.044)	0.00538 (0.034)	0.0512 (0.052)	0.0193 (0.022)	0.0158 (0.022)
Gender (male = 1; female = 0)	0.117*** (0.002)	-2.109*** (0.138)	-0.0694*** (0.020)	0.0320* (0.016)	-0.116*** (0.026)	0.687*** (0.011)	0.735*** (0.010)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES	YES	YES
<i>Observations</i>	3,751	3,744	3,904	3,726	3,750	3,904	3,904
<i>F-statistic</i>	186.3	20.11	1.338	4.918	2.744	202.8	261.7
<i>R</i> ²	0.505	0.0962	0.00710	0.0257	0.0154	0.523	0.577

PCE = per capita expenditure.

Note: Regressions also include a constant term, but they are omitted here for brevity. Robust standard errors are in parentheses. Asterisks ***, **, * represent statistical significance at 1%, 5% and 10% level, respectively.

Source: Authors' calculations.

IV. GENDER DIFFERENCE

Does poverty in childhood affect girls more than boys? If girls receive fewer resources than boys in times of hardship, this can perpetuate a cycle of gender inequality. For instance, girls may receive less food, nutrition, or investment in health or education when their family or community is exposed to poverty. Gender heterogeneity is of great significance in developing countries like Indonesia, where childhood deprivation may have greater impacts on girls since they are at a disadvantage in resource sharing (Thomas et al. 1999). We conduct the following analysis to test for gender heterogeneity.

We replicate regressions in Table 6 by adding interaction terms between deprivation measures and the gender dummy. Gender difference in estimators could owe to unobserved family or community characteristics. For example, families with girls may be systematically different from families with boys. Therefore, we further control for household fixed effects and present the within-household difference in Table 11. There are 1,173 households in our sample with at least one boy and at least one girl. Coefficients of the interaction term in a household fixed effects model represent how family deprivation affects girls compared to boys living in the same household.

In general, girls' education suffers more from exposure to early deprivations, whereas boys' health is hurt more. The link between multi-context deprivation and lower years of schooling, college graduation, and abstract reasoning is found to be stronger for girls than for boys. On the other hand, boys are hit harder than girls in terms of height, BMI, and smoking behavior.

The larger damage on girls' educational attainment arises from community social deprivation and the bigger harm on abstract reasoning comes from community economic deprivation. These findings indicate that community factors favor investments in boys' over girls' education in times of hardship.

The greater injury to boys' height comes from community economic deprivation, whereas family economic deprivation explains the bigger setback to boys' BMI and smoking behavior. These findings suggest boys' nutritional intake and other forms of healthcare may have declined more than girls' when families and communities scramble for material resources.

It should be noted that there are within-household variations in family social deprivation since parents' physical presence could be different for individuals in the same household who do not belong to the same parents.

Scholars have raised further concerns that the gender difference in educational attainment may be closely linked with birth order (Oliveira 2019). Half of firstborns in our sample are males. We test for influence of birth order by further adding the firstborn dummy on the interaction between gender and deprivation status. We find that birth order does not confound our earlier findings on gender heterogeneity from multi-context deprivation because the triple difference term is not statistically significant for nearly all outcomes, except for smoking (Appendix Table 1). Birth order does not influence the estimators of any of the four domains, except in a few instances like family social domain on life satisfaction and smoking behavior (Appendix Table 2).

Table 11: Gender Differences Between Multi-Context Deprivation and Adults' Outcomes

	(1) Real PCE (log)	(2) High School or Above	(3) Years of Schooling	(4) College Graduate	(5) Numeracy Skills	(6) Abstract Reasoning	(7) Worked Last Year
Gender (female = 1; male = 0)	-0.0181 (0.019)	-0.0448*** (0.016)	0.0807 (0.109)	0.0525*** (0.014)	0.0889** (0.044)	-0.0704** (0.028)	-0.374*** (0.020)
1993 multi-context deprived	0.0304 (0.080)	0.0374 (0.086)	0.160 (0.648)	0.0419 (0.074)	-0.0770 (0.183)	0.0113 (0.146)	0.174** (0.082)
Female X multi-context deprived	-0.0306 (0.029)	-0.0260 (0.026)	-0.331* (0.184)	-0.0378** (0.019)	-0.0866 (0.064)	-0.0937** (0.047)	-0.0471 (0.030)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES	YES	YES
<i>Observations</i>	9,267	6,692	6,692	6,701	6,359	6,067	6,701
<i>F-statistic</i>	1.523	10.57	10.57	3.581	2.131	6.689	41.30
<i>R</i> ²	0.00567	0.0667	0.0648	0.0217	0.0136	0.0459	0.189
	(8) Height	(9) Body Mass Index	(10) Health Status	(11) Mental Health	(12) Life Satisfaction	(13) Currently Smoking	(14) Smoked at Least Once
Gender (female = 1; male = 0)	-0.121*** (0.002)	1.588*** (0.187)	0.0841*** (0.027)	-0.0230 (0.023)	0.121*** (0.035)	-0.666*** (0.016)	-0.719*** (0.015)
1993 multi-context deprived	-0.0207** (0.009)	-0.706 (0.804)	0.0122 (0.116)	-0.171 (0.106)	-0.282 (0.184)	0.00519 (0.047)	0.0364 (0.049)
Female X multi-context deprived	0.00915*** (0.003)	0.706** (0.281)	-0.0524 (0.045)	0.00578 (0.037)	0.00229 (0.055)	-0.0674*** (0.024)	-0.0692*** (0.023)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES	YES	YES
<i>Observations</i>	6,428	6,418	6,676	6,379	6,409	6,676	6,676
<i>F-statistic</i>	282.5	17.85	0.959	4.031	1.961	189.6	248.4
<i>R</i> ²	0.605	0.109	0.00522	0.0250	0.0128	0.549	0.608

PCE = per capita expenditure.

Note: Regressions also include a constant term, but they are omitted here for brevity. Robust standard errors are in parentheses. Asterisks ***, **, * represent statistical significance at 1%, 5% and 10% level, respectively.

Source: Authors' calculations.

Table 12: Gender Differences Between Family and Community Deprivation and Adults' Outcomes

	(1) Real PCE (log)	(2) High School or Above	(3) Years of Schooling	(4) College Graduate	(5) Numeracy Skills	(6) Abstract Reasoning	(7) Worked Last Year
Female × family economic deprived	0.00151 (0.031)	-0.0160 (0.027)	-0.260 (0.181)	-0.0287 (0.020)	-0.158** (0.069)	-0.00470 (0.048)	-0.0869*** (0.032)
Female × family social deprived	-0.0110 (0.044)	-0.0102 (0.042)	0.192 (0.355)	-0.0208 (0.029)	-0.109 (0.102)	0.0404 (0.089)	0.0345 (0.050)
Female × community economic deprived	-0.0377 (0.032)	0.00705 (0.027)	-0.109 (0.184)	-0.0389* (0.022)	0.0878 (0.071)	-0.106** (0.048)	-0.0431 (0.033)
Female × community social deprived	0.0335 (0.048)	-0.167*** (0.057)	-1.164*** (0.373)	-0.0125 (0.035)	-0.131 (0.118)	-0.0489 (0.088)	0.0255 (0.055)
Gender (female = 1; male = 0)	-0.0104 (0.023)	-0.0403** (0.020)	0.192 (0.143)	0.0758*** (0.019)	0.102* (0.056)	-0.0450 (0.036)	-0.330*** (0.026)
1993 family social deprived	0.00373 (0.050)	-0.0909* (0.053)	-0.771* (0.414)	0.0152 (0.041)	-0.0140 (0.129)	-0.0694 (0.104)	0.0817 (0.055)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES	YES	YES
Household fixed effects	YES	YES	YES	YES	YES	YES	YES
Observations	8,821	6,391	6,391	6,399	6,076	5,814	6,399
F-statistic	1.226	9.501	8.912	3.082	1.948	5.814	33.48
R ²	0.00577	0.0722	0.0684	0.0235	0.0151	0.0469	0.187

Source: Authors' calculations.

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Table 12 (continued)

	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Height	Body Mass Index	Health Status	Mental Health	Life Satisfaction	Currently Smoking	Smoked at Least Once
Female × family economic deprived	-0.000369 (0.004)	0.634** (0.290)	-0.0459 (0.046)	-0.0476 (0.036)	-0.0349 (0.058)	-0.0572** (0.026)	-0.0597** (0.024)
Female × family social deprived	0.00538 (0.006)	0.368 (0.479)	-0.0557 (0.075)	0.0697 (0.064)	-0.0572 (0.094)	-0.0126 (0.040)	0.0145 (0.038)
Female × community economic deprived	0.0105*** (0.004)	0.176 (0.302)	0.0197 (0.046)	0.0215 (0.037)	0.0171 (0.059)	-0.0178 (0.027)	-0.0333 (0.025)
Female × community social deprived	0.00147 (0.007)	0.372 (0.458)	-0.0234 (0.103)	-0.0174 (0.077)	0.0138 (0.103)	0.0781 (0.050)	0.0661 (0.049)
Gender (female = 1; male = 0)	-0.124*** (0.003)	1.401*** (0.254)	0.0757** (0.035)	-0.0212 (0.031)	0.135*** (0.046)	-0.660*** (0.021)	-0.705*** (0.020)
1993 family social deprived	-0.00739 (0.007)	-1.235** (0.525)	0.112 (0.090)	-0.151** (0.075)	-0.106 (0.123)	-0.00169 (0.046)	-0.0178 (0.045)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES	YES	YES
Household fixed effects	YES	YES	YES	YES	YES	YES	YES
<i>Observations</i>	6,141	6,133	6,376	6,093	6,121	6,376	6,376
<i>F-statistic</i>	230.6	15.51	0.936	3.606	1.616	154.0	202.8
<i>R</i> ²	0.602	0.107	0.00619	0.0281	0.0123	0.546	0.603

PCE = per capita expenditure.

Note: Deprivation measures used as regressors are 1993 deprivation indicators. Regressions also include a constant term, but they are omitted here for brevity. Robust standard errors are in parentheses. Asterisks ***, **, * represent statistical significance at 1%, 5% and 10% level, respectively.

Source: Authors' calculations.

V. CONCLUSION

Understanding the long-term consequences of early exposure to deprivation is crucial in understanding intergenerational mobility and origins of disparity. By employing a longitudinal dataset that spans 21 years and represents 83% of the population in Indonesia, our paper constructs a multi-context deprivation measure in childhood and tests the long-term implications of multi-context deprivation on a set of outcomes in adulthood. We have the following findings.

First, multi-context deprivation that consists of family economic, family social, community economic, and community social domains is a more comprehensive measure of early childhood experience than the traditional consumption-based measure of poverty. It not only shows high correlation with the traditional pecuniary measure but also captures aspects not covered by the traditional, unidimensional measure.

Second, exposure to multi-context deprivation is significantly associated with worse outcomes in adulthood, in terms of consumption, education, cognitive skills, physical health, mental health, life satisfaction, and smoking behavior. The prominence of community-level deprivations validates the importance of the community environment in which a child grows up. Nevertheless, the long-term influence of a poor family is generally stronger than that of a poor community, except in a few instances. An adult's health status and satisfaction in life are shaped more by the community than by the family. These findings are robust even when accounting for potential measurement errors induced by attenuation bias and life cycle bias.

These findings underscore the value of community development programs. Over the past several decades, the Government of Indonesia has undertaken community-driven poverty initiatives such as the National Program for Community Empowerment (Program Nasional Pemberdayaan Masyarakat, or PNPM) and Community-Based Economic Development (CBED). PNPM delivers financial and technical assistance to disadvantaged communities for the purpose of improving basic infrastructure and social services. Both programs seek to empower communities by equipping them with tools and opportunities for development and enabling them to make their own investment decisions.

Third, early deprivation is more detrimental to the education of girls than that of boys because community factors favor investments in boys' over girls' education in times of distress. On the other hand, economic deprivation is more harmful to boys' health than to girls' health, suggesting boys have lower access to nutrition and healthcare when families and communities are forced to tighten their belts.

The findings above have both academic enlightenment and policy implications. Considering the dominant influence of growing up in a poor family, policies aimed at uplifting the welfare of families remain of utmost importance. This is especially true when seeking improvements in consumption, education, cognitive skills, and smoking behavior. Our findings also highlight the value of improving communities because they are also significantly associated with these long-term outcomes. Since poor communities play a bigger role in shaping health outcomes and life satisfaction, policies aimed at improving communities can have stronger impacts on these aspects.

Our findings also underscore the social context, especially the family social domain. A holistic approach to improving family welfare would involve the social factors that can contribute to better consumption, educational attainment, and cognitive skills in the long run. Improving a community's social support system can also contribute to better education outcomes and numeracy skills.

Finally, different long-term outcomes for boys and girls point to gender disparities in early childhood investments. Findings in this paper draw attention to the need to close the gender gap in education, nutrition, and other health investments especially in times of crises.

Overall, this paper shows that considering the multiple contexts of poverty can give clearer guidance in designing and evaluating anti-poverty programs. It demonstrates which specific contexts are relevant in addressing specific long-term outcomes such as consumption, education, and health. The paper presents evidence that tackling deprivation on multiple fronts—family, community, economic, and social—can deliver greater benefits compared with addressing only a single dimension of poverty. The long-term impacts of improving multiple contexts can add up.

Appendix Table 1: Gender Differences and Birth Order Between Multi-Context Deprivation and Adult Outcomes

	(1) Real PCE (log)	(2) High School or Above	(3) Years of Schooling	(4) College Graduate	(5) Numeracy Skills	(6) Abstract Reasoning	(7) Worked Last Year
First-born × female × multi-context deprived	-0.0213 (0.061)	0.0151 (0.055)	0.101 (0.386)	0.0475 (0.039)	0.0339 (0.142)	-0.0667 (0.104)	0.0223 (0.064)
First-born × female	0.0147 (0.041)	-0.0181 (0.035)	-0.202 (0.233)	-0.0310 (0.028)	-0.0900 (0.095)	0.0148 (0.062)	-0.0483 (0.042)
Gender (female = 1; male = 0)	-0.0228 (0.023)	-0.0398** (0.020)	0.137 (0.131)	0.0617*** (0.017)	0.119** (0.054)	-0.0750** (0.035)	-0.359*** (0.025)
Female × multi-context deprived	-0.0240 (0.035)	-0.0320 (0.031)	-0.374* (0.219)	-0.0522** (0.023)	-0.100 (0.078)	-0.0763 (0.057)	-0.0538 (0.037)
First-born × multi-context deprived	0.0121 (0.040)	-0.00581 (0.037)	-0.119 (0.254)	-0.0446* (0.024)	0.0350 (0.096)	0.0780 (0.070)	-0.0337 (0.037)
1993 multi-context deprived	0.0277 (0.081)	0.0462 (0.086)	0.274 (0.654)	0.0592 (0.075)	-0.0841 (0.182)	-0.00669 (0.147)	0.187** (0.082)
First-born	-0.00237 (0.028)	0.0570** (0.024)	0.607*** (0.161)	0.0460** (0.019)	0.00594 (0.063)	0.00544 (0.043)	0.0247 (0.025)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES	YES	YES
Household fixed effects	YES	YES	YES	YES	YES	YES	YES
Observations	9,267	6,692	6,692	6,701	6,359	6,067	6,701
F-statistic	1.290	9.267	9.709	3.273	1.844	5.688	34.52
R ²	0.00573	0.0711	0.0732	0.0241	0.0144	0.0471	0.189

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	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Height	Body Mass Index	Health Status	Mental Health	Life Satisfaction	Currently Smoking	Smoked at Least Once
First-born × female × multi-context deprived	0.00755 (0.008)	-0.0118 (0.547)	0.0447 (0.096)	0.0712 (0.079)	0.102 (0.120)	0.128*** (0.048)	0.146*** (0.045)
First-born × female	-0.00156 (0.005)	-0.251 (0.365)	-0.0119 (0.058)	-0.0168 (0.048)	-0.0734 (0.076)	-0.0801*** (0.030)	-0.105*** (0.030)
Gender (female = 1; male = 0)	-0.121*** (0.003)	1.664*** (0.219)	0.0873*** (0.033)	-0.0178 (0.028)	0.142*** (0.043)	-0.641*** (0.019)	-0.687*** (0.018)
Female × multi-context deprived	0.00691 (0.004)	0.702** (0.327)	-0.0661 (0.054)	-0.0149 (0.045)	-0.0310 (0.065)	-0.106*** (0.027)	-0.113*** (0.026)
First-born × multi-context deprived	-0.00508 (0.005)	-0.0325 (0.348)	-0.0295 (0.065)	-0.0489 (0.054)	-0.0242 (0.082)	-0.0882** (0.040)	-0.113*** (0.037)
1993 multi-context deprived	-0.0192** (0.009)	-0.644 (0.811)	0.0235 (0.117)	-0.159 (0.108)	-0.264 (0.184)	0.0313 (0.048)	0.0732 (0.051)
First-born	0.00408 (0.004)	0.296 (0.240)	0.0376 (0.042)	0.00972 (0.034)	0.131** (0.055)	0.0466* (0.026)	0.0760*** (0.025)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES	YES	YES
Household fixed effects	YES	YES	YES	YES	YES	YES	YES
Observations	6,428	6,418	6,676	6,379	6,409	6,676	6,676
F-statistic	234.4	15.10	0.906	3.432	2.267	159.4	207.9
R ²	0.606	0.109	0.00581	0.0254	0.0177	0.550	0.610

PCE = per capita expenditure.

Note: Regressions also include a constant term, but they are omitted here for brevity. Robust standard errors are in parentheses. Asterisks ***, **, * represent statistical significance at 1%, 5% and 10% level, respectively.

Source: Authors' calculations.

Appendix Table 2: Gender Differences and Birth Order on Correlation Between Family and Community Deprivation and Adult Outcomes

	(1) Real PCE (log)	(2) High School or Above	(3) Years of Schooling	(4) College Graduate	(5) Numeracy Skills
First-born × female × family economic deprived	0.00595 (0.064)	0.0257 (0.058)	0.0292 (0.397)	0.0291 (0.042)	-0.174 (0.150)
First-born × female × family social deprived	-0.110 (0.093)	0.0192 (0.092)	0.822 (0.779)	0.0848 (0.068)	0.208 (0.241)
First-born × female × community economic deprived	-0.0528 (0.066)	-0.0225 (0.059)	-0.102 (0.402)	0.0195 (0.044)	0.0317 (0.154)
First-born × female × community social deprived	-0.0940 (0.112)	-0.0252 (0.100)	0.111 (0.761)	0.0507 (0.071)	0.149 (0.275)
First-born × female	0.0544 (0.051)	-0.00928 (0.044)	-0.185 (0.297)	-0.0477 (0.038)	-0.0536 (0.124)
Gender (female = 1; male = 0)	-0.0276 (0.028)	-0.0385 (0.025)	0.233 (0.168)	0.0897*** (0.022)	0.120* (0.069)
Female × family economic deprived	-0.000477 (0.037)	-0.0239 (0.032)	-0.266 (0.218)	-0.0372 (0.024)	-0.106 (0.084)
Female × family social deprived	0.0242 (0.052)	-0.0172 (0.053)	-0.116 (0.469)	-0.0527 (0.038)	-0.180 (0.124)
Female × community economic deprived	-0.0206 (0.038)	0.0144 (0.033)	-0.0709 (0.223)	-0.0437* (0.025)	0.0777 (0.087)
Female × community social deprived	0.0622 (0.057)	-0.157** (0.061)	-1.142*** (0.402)	-0.0283 (0.040)	-0.183 (0.146)
First-born × family economic deprived	0.0165 (0.042)	-0.0387 (0.039)	-0.254 (0.259)	-0.0345 (0.026)	0.142 (0.101)
First-born × family social deprived	0.0998 (0.064)	-0.0249 (0.057)	0.0147 (0.462)	-0.0314 (0.041)	-0.0245 (0.166)
First-born × community economic deprived	-0.0116 (0.043)	0.00108 (0.040)	-0.190 (0.263)	-0.0503* (0.028)	-0.0633 (0.103)
First-born × community social deprived	0.0911 (0.078)	0.0631 (0.065)	0.663 (0.486)	-0.00775 (0.048)	-0.149 (0.188)
1993 family social deprived	-0.0264 (0.052)	-0.0751 (0.057)	-0.708 (0.447)	0.0313 (0.042)	-0.0137 (0.135)
First-born	-0.0156 (0.034)	0.0657** (0.029)	0.714*** (0.199)	0.0751*** (0.026)	0.000973 (0.081)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES
Household fixed effects	YES	YES	YES	YES	YES
Observations	8,821	6,391	6,391	6,399	6,076
F-statistic	1.114	6.934	7.247	2.516	1.579
R ²	0.00727	0.0769	0.0808	0.0284	0.0174

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	(6)	(7)	(8)	(9)	(10)
	Abstract Reasoning	Worked Last Year	Height	Body Mass Index	Health Status
First-born × female × family economic deprived	-0.122 (0.106)	0.0298 (0.067)	-0.00233 (0.008)	-0.465 (0.582)	0.0290 (0.099)
First-born × female × family social deprived	-0.233 (0.193)	0.139 (0.108)	-0.0134 (0.012)	-0.410 (1.052)	0.182 (0.168)
First-born × female × community economic deprived	0.131 (0.105)	0.0122 (0.070)	0.0123 (0.008)	0.452 (0.599)	-0.0862 (0.098)
First-born × female × community social deprived	-0.0743 (0.201)	-0.141 (0.116)	0.00187 (0.014)	0.452 (0.985)	0.142 (0.201)
First-born × female	-0.000757 (0.080)	-0.0762 (0.054)	-0.00407 (0.007)	-0.255 (0.490)	0.0127 (0.077)
Gender (female = 1; male = 0)	-0.0438 (0.046)	-0.306*** (0.032)	-0.123*** (0.004)	1.483*** (0.289)	0.0711* (0.043)
Female × family economic deprived	0.0294 (0.059)	-0.0978** (0.038)	0.000279 (0.005)	0.771** (0.346)	-0.0547 (0.056)
Female × family social deprived	0.123 (0.109)	-0.00831 (0.061)	0.00987 (0.007)	0.505 (0.621)	-0.120 (0.092)
Female × community economic deprived	-0.146** (0.059)	-0.0449 (0.040)	0.00665 (0.005)	0.0265 (0.361)	0.0458 (0.055)
Female × community social deprived	-0.0242 (0.115)	0.0646 (0.065)	0.00122 (0.008)	0.229 (0.543)	-0.0590 (0.124)
First-born × family economic deprived	0.161** (0.071)	0.0206 (0.038)	0.00131 (0.005)	0.312 (0.361)	-0.0333 (0.065)
First-born × family social deprived	0.0712 (0.135)	-0.0453 (0.068)	0.00387 (0.008)	0.0296 (0.673)	-0.0221 (0.118)
First-born × community economic deprived	-0.138* (0.071)	-0.0556 (0.039)	-0.00655 (0.005)	-0.223 (0.375)	0.0551 (0.066)
First-born × community social deprived	0.122 (0.130)	0.118* (0.070)	0.00202 (0.010)	-0.468 (0.537)	-0.0142 (0.134)
1993 family social deprived	-0.0836 (0.105)	0.0927 (0.060)	-0.00794 (0.007)	-1.214** (0.570)	0.121 (0.097)
First-born	0.0233 (0.053)	0.0386 (0.031)	0.00489 (0.005)	0.281 (0.318)	0.0129 (0.054)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES	YES
Household fixed effects	YES	YES	YES	YES	YES
Observations	5,814	6,399	6,141	6,133	6,376
F-statistic	4.537	23.82	161.3	11.00	0.843
R ²	0.0516	0.190	0.603	0.108	0.00817

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	(11) Mental Health	(12) Life Satisfaction	(13) Currently Smoking	(14) Smoked at Least Once
First-born × female × family economic deprived	0.0160 (0.081)	0.0597 (0.121)	0.0831 (0.051)	0.0907* (0.048)
First-born × female × family social deprived	0.0746 (0.149)	0.423** (0.201)	0.142* (0.085)	0.0922 (0.077)
First-born × female × community economic deprived	0.0603 (0.083)	-0.00931 (0.125)	0.0403 (0.052)	0.0746 (0.050)
First-born × female × community social deprived	0.167 (0.154)	0.135 (0.243)	0.0383 (0.101)	0.0496 (0.095)
First-born × female	-0.0577 (0.063)	-0.115 (0.101)	-0.105*** (0.039)	-0.145*** (0.039)
Gender (female = 1; male = 0)	-0.00161 (0.037)	0.169*** (0.056)	-0.627*** (0.024)	-0.661*** (0.024)
Female × family economic deprived	-0.0554 (0.045)	-0.0569 (0.069)	-0.0833*** (0.030)	-0.0883*** (0.028)
Female × family social deprived	0.0494 (0.084)	-0.189 (0.117)	-0.0584 (0.047)	-0.0158 (0.044)
Female × community economic deprived	0.00291 (0.047)	0.0204 (0.070)	-0.0292 (0.031)	-0.0545* (0.030)
Female × community social deprived	-0.0745 (0.084)	-0.0122 (0.122)	0.0654 (0.057)	0.0512 (0.056)
First-born × family economic deprived	0.0203 (0.055)	-0.0647 (0.083)	-0.0739* (0.042)	-0.0879** (0.039)
First-born × family social deprived	-0.153 (0.108)	-0.281** (0.139)	-0.0927 (0.073)	-0.0453 (0.063)
First-born × community economic deprived	-0.0341 (0.056)	0.0336 (0.085)	-0.0279 (0.043)	-0.0661 (0.041)
First-born × community social deprived	-0.0793 (0.110)	0.128 (0.164)	0.0200 (0.085)	0.0357 (0.074)
1993 family social deprived	-0.101 (0.082)	-0.00950 (0.127)	0.0290 (0.051)	0.00152 (0.048)
First-born	0.0269 (0.045)	0.137* (0.071)	0.0654** (0.033)	0.109*** (0.032)
Age dummies in 1993 (base: age 0)	YES	YES	YES	YES
Household fixed effects	YES	YES	YES	YES
<i>Observations</i>	6,093	6,121	6,376	6,376
<i>F-statistic</i>	2.836	1.685	108.7	145.3
<i>R²</i>	0.0307	0.0191	0.548	0.606

PCE = per capita expenditure.

Note: Regressions also include a constant term, but they are omitted here for brevity. Robust standard errors are in parentheses. Asterisks ***, **, * represent statistical significance at 1%, 5% and 10% level, respectively.

Source: Authors' calculations.

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Long-Term Outcomes of Multi-Context Childhood Poverty

Evidence from Long Panel Data from Indonesia

This paper constructs a measure of poverty along that considers multiple contexts—family, community, economic, and social—and employs individual-level longitudinal data spanning 21 years in Indonesia to examine the long-term outcomes associated with childhood deprivation in different contexts. It finds that adverse outcomes in adulthood are robustly associated not only with a poor family but also with a poor community. It also finds that both economic and social domains matter, though the economic domain's influence is stronger.

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