

POVERTY AND ENGAGEMENT WITH CHILDREN*

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Latest version can be found [here](#).

Abstract

Why do poorer parents engage less with their young children—reading, singing, and talking to them less often than richer parents do? Leading explanations point to parents themselves: poorer caregivers may lack information about the returns to engagement, or value it less. I provide evidence for an alternative: engagement is constrained by income itself. Using nationally representative data from South Africa, I show that children in the poorest households experience nearly two standard deviations less engagement than children in the richest—a gap that survives extensive controls and is unlikely to reflect unobserved selection. Using an unconditional old-age grant with a sharp eligibility cutoff, I find that children in households with a member just above the threshold have roughly 20% higher income per capita and 0.37 standard deviations more engagement. Because the grant carries no information, resource constraints appear to drive a meaningful share of the engagement gap.

Keywords: Cash Transfers, Children, Early Childhood Development, Parental Investment, Education, South Africa

JEL Codes: J13, J24, I25, O15

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1 Introduction

Stimulating interactions with young children such as infant-directed speech and reading vary widely by socioeconomic status both within and across countries (Hoff, 2003; Huttenlocher et al., 2010; Farran et al., 2016; Cuartas et al., 2020). These early-life interactions are thought to have lasting impacts on children’s cognitive and language development (Weisleder and Fernald, 2013; Fox, Levitt and Nelson III, 2010; Gertler et al., 2021). Together, these two findings suggest a mechanism through which poverty can perpetuate itself across generations: lower engagement in early childhood among poorer households may lead to weaker cognitive and non-cognitive skills and reduced educational attainment-outcomes that in turn shape future labor market performance and socioeconomic status (Dupas et al., 2025; Heckman and Masterov, 2007).

Why this gradient exists, however, remains an open question. Leading explanations in the literature point to differences between parents themselves: poorer caregivers are often thought to lack information about the returns to engagement or how to engage productively with their children (Boneva and Rauh, 2018; Carneiro et al., 2019; List, Pernaudet and Suskind, 2021), or to have weaker skills that make them perceive their own engagement as less productive (Mayer et al., 2019). An alternative explanation is more basic: poorer households may engage less not because they know less or value it less, but because engagement itself, like any other good, is constrained by a binding household budget (Dahl and Lochner, 2012). These two accounts are observationally similar in a cross-section—both predict that engagement will rise with wealth—but they carry very different policy implications. If the gap is about information, the policy response is to provide information. If the gap is about resources, the fix is to relax the constraint. This paper provides evidence for the second explanation: I show that a plausibly exogenous increase in household income, carrying no informational content, increases engagement with young children in South Africa—closing a meaningful share of the same socioeconomic gap.

I first document large, meaningful socioeconomic disparities in parental engagement with young children in South Africa. Using data on eight different types of engagement with children aged six and under such as being read to, conversed with, or sung to, I find that children in the poorest economic well-being deciles experience nearly two standard deviations (SD) lower levels of engagement than children in the richest decile. These gaps persist after controlling for a wide range

of household and child characteristics: a one SD decrease in economic well-being is associated with 0.4 SD lower engagement with young children. Using the methods proposed by [Oster \(2019\)](#), I show that selection on unobservables is unlikely to explain away the sign of this estimated relationship. On their own, however, these descriptive results cannot distinguish between an information-based explanation and a resource-constraint explanation, since both predict exactly this pattern.

To support the resource-constraint explanation, I turn to a setting in which income moves for reasons that have nothing to do with what parents know or believe. Observed differences in engagement across socioeconomic groups are often attributed to differences in preferences—perhaps due to variation in information on the returns to engagement. However, in a standard model of parental investment, caregivers with stable preferences allocate time and resources across labor, leisure, consumption, and child engagement subject to a binding budget constraint ([Becker and Tomes, 1986](#); [Becker, 1991](#)). Equilibrium engagement therefore reflects both the tightness of that constraint and caregiver preferences. In this paper, I provide evidence that economic well-being itself causally affects engagement, independent of any informational channel. I use the sharp age-eligibility threshold of South Africa’s Older Person’s Grant—an unconditional cash transfer to the elderly that discontinuously increases household income per capita by over 20% as a quasi-experimental relaxation of the budget constraint with no informational value. I find that children living in households where the oldest member is just above the eligibility threshold experience approximately 0.37 SD higher reported engagement than children whose oldest household member is just below it. Because the grant conveys nothing about the value of engaging with children, this effect cannot be attributed to a shift in parental information or beliefs. While other work outside of the US has documented the impact of cash transfers on child cognition while suggesting engagement as a potential mechanism ([Paxson and Schady, 2010](#)), and recent US-based experiments test this directly,¹ this paper is the first to directly estimate the impact of an unconditional cash transfer through an established large-scale social protection program on engagement with young children.

Finally, I explore potential mechanisms through which this grant may act: I find that the grant increases several measures of economic well-being sharply including food security while reducing the labor supply of the elderly. I apply methods proposed by [Kwon and Roth \(2026\)](#) and rule out changes in the elderly’s labor supply

¹[Magnuson et al. \(2025\)](#) show small effects of a cash transfer program in the United States on reporting enriching child activities. [Krause et al. \(2025\)](#) show that a large monthly transfer to parents led to better parenting behaviors while finding null effects on other child-related outcomes.

as the only driver of this effect. This grant is large, monthly, and targets the elderly and thus the specific mechanisms at play in this sample of inter-generational households may limit the generalizability of these results to other income increases or cash transfer programs. However, the results point to an additional benefit of the Older Person's Grant, which indirectly reaches nearly 30% of South African children. In inter-generational households, grants to the elderly may meaningfully improve the quality of early-life interactions, a channel through which cash transfers may help break the cycle of poverty across generations.

The literature suggests a number of potential explanations for the stark differences in engagement with children across socioeconomic status.² A commonly suggested reason is that poorer parents and caregivers lack information about the importance of parental engagement or about how to engage with them (Boneva and Rauh, 2018; Carneiro et al., 2019; Cunha, Elo and Culhane, 2022; List, Pernaudet and Suskind, 2021).³ Another explanation for the differences in engagement across socioeconomic status is that parents from poorer backgrounds have fewer skills making them perceive that their engagement with the children is less productive (Mayer et al., 2019). As a stark example, literacy rates among the poor in developing countries are lower and thus reading to children specifically may be mechanically lower but can perhaps be substituted with storytelling.

The two explanations above emphasize ways in which poorer parents and caregivers are intrinsically different from wealthier ones. Other explanations focus on poverty itself being the source of—or an important contributor to—the difference. I present these explanations as mechanisms, per se, through which poverty may lead to less stimulating environments for children that include lower levels of engagement by parents and caregivers. First, poorer parents and caregivers may engage less with their children because they have fewer financial resources to buy the materials and experiences such as books and games that contribute to a more stimulating environment (Mayer et al., 2019; Dahl and Lochner, 2012).⁴ Yet another explanation relates to time—poor parents may potentially work longer hours with more physically demanding jobs (Guryan, Hurst and Kearney, 2008; Sayer, Gau-

²For a detailed review of these mechanisms, see Kalil and Ryan (2020).

³The findings on this are mixed as most parents understand the importance of enriching engagement but there is some evidence that poorer caregivers underestimate the benefits on average (Kalil and Ryan, 2020).

⁴For example, specifically related to reading to children, poor households have fewer books (Bradley et al., 2001). The difference in spending between rich and poor parents on children is increasing (Kornrich and Furstenberg, 2013). However, while access to books requires financial resources and may be limited in some rural contexts in South Africa, story telling does not have such restrictions.

thier and Furstenberg Jr, 2004). However, research shows that high-income parents (especially mothers who are typically the primary caregivers) tend to work more hours yet still spend more time with their children (Kendig and Bianchi, 2008); still, parents in poorer households work more unpredictable and odd hours that may conflict directly with children's time at home such as evenings and weekends.

Furthermore, this type of engaged parenting requires effort—poverty itself is mentally taxing (Schilbach, Schofield and Mullainathan, 2016), and parents experiencing economic hardship living paycheck to paycheck (or even meal to meal) may have limited bandwidth to engage with their young children especially when the returns to this engagement are not salient. Related research considers present bias and discounting differences among parents suggesting that poor parents tend to be more present biased and have higher discount rates perhaps because they are more taxed (Lawrance, 1991; Spears, 2011; Shah, Mullainathan and Shafir, 2012). In this paper, I show that an increase in household income through a monthly cash transfer leads to an increase, on average, in engagement with children.

This study contributes to several strands of literature across different fields. I add to the literature showing strong differences across wealth in child engagement and I investigate the predictors of engagement in a large middle-income country. For example, several studies show that infant-directed speech, time with children, and other stimulating interaction with children increase with socioeconomic status (Hoff, 2003; Guryan, Hurst and Kearney, 2008; Farran et al., 2016; Kalil, Ryan and Corey, 2012; Cuartas et al., 2020). Another line of research highlight the importance of early childhood conditions and parental investments (Heckman and Masterov, 2007; Gertler et al., 2021). I show suggestive evidence on the long-term effects of higher levels of childhood engagement contributing to an important literature documenting, for example, a clear association between reading to young children and numeracy and literacy later in life (Kloosterman et al., 2011; Mol and Bus, 2011; Hale et al., 2011; Raikes et al., 2006; Barnes and Puccioni, 2017). However, estimating the causal long-run impact of engagement during early childhood is difficult—most existing experimental work is limited in scope and based on small samples (Kalil and Ryan, 2020). Two studies attempt to estimate this effect with large-scale representative datasets using birth order as an instrument for child engagement which show that childhood engagement increases test scores and reading achievement later in life (Kalb and Van Ours, 2014; Price and Kalil, 2019).

I also add to the increasingly broad evidence on the multi-dimensional effects of cash transfer programs. Cash transfers and similar social protection programs are

shown to have effects on variables such as health, mortality, education, labor supply, household composition, and intra-household violence, among others (Cahyadi et al., 2020; Hidrobo et al., 2014; Edmonds, Mammen and Miller, 2005; Abel, 2019; Richterman et al., 2023).⁵ In related work, we show that a conditional cash transfer program in Peru led to a reduction in the physical punishment of children (Alloush, Conover and Godlonton, 2026). In this paper, I directly show the effect of a large monthly cash transfer on engagement with young children within their household. This suggests additional mechanisms through which cash transfers to families with children can help break the cycle of inter-generational poverty.

Finally, I contribute to a literature in economics and other social sciences that attempts to increase the quantity and quality of parental engagement with their children. Most of the recent existing work including List, Pernaudet and Suskind (2021), Leech et al. (2018), and Dupas et al. (2025) seeks to change the level of engagement by directly informing parents about its importance—while emphasizing a lack of knowledge about the returns to this engagement as an important constraint. I add to this literature by showing that a stable cash transfer program that reduces poverty increases engagement with children. This suggests that there are other mechanisms at work through which economic well-being leads to less engagement with children. A natural policy implication would be to pair cash transfer programs aimed at children with information or even encouragement designs to alleviate multiple constraints on engagement with children.

The rest of this paper is structured as follows: Section 2 discusses the data and setting highlighting some descriptive statistics of my main measures of engagement with children in South Africa. In Section 3, I outline the main empirical approaches I use in the paper. In Section 4, I show the main results of the paper showing how that income plays an important role in determining levels of engagement with children. In Section 5, I show suggestive evidence on the long-run importance of engagement. Finally, Section 6 concludes.

2 Data and Study Setting

In this section, I first discuss the data I use in this analysis and the main measures of engagement with children in the household available in the data. Then, I dis-

⁵The literature on large scale cash transfer programs is large and growing and it would take a review paper on each outcome I list above to give proper credence to all the excellent research on this important topic. To sum, large scale cash transfer programs are shown to improve many outcomes and can be very effective in improving long-term outcomes of children.

cuss the local context and provide some descriptive results on child engagement in South Africa.

2.1 Data

In this study, I use three waves of South Africa's General Household Survey (GHS). The GHS is one of South Africa's longest running surveys—it is a repeated cross-sectional survey conducted yearly since 2002. Several broad areas are covered in the GHS which include health and social development, education, and food security among others. The survey aims to be nationally representative of non-institutionalized and non-military persons in South Africa and collects information on all usual residents of households. Household-level data is collected that includes information on the dwelling and access to different services. In addition, questionnaires are designed to collect individual-level data on demographics, education, employment, health, and other measures of well-being.⁶

2.2 Measures of Engagement with Children

While some of the specifics of the questionnaires change over time, a lot of information is consistent across survey waves. In this study, I focus on the survey rounds from 2017-2018 which have a specific module for children age six and under where the household respondent is asked how often the child was engaged with in specific ways. For example, one question asks "How often does someone in the household *read books* with [*name of the child*]?" The possible responses include never, sometimes, or often/every day. I create indicator variables for these child engagement variables identifying children who are engaged with in a specific way often or every day.⁷

Figure 1 shows that in the GHS data between 2017 and 2018, engagement with young children peaks at age six, the oldest age captured by these questions in the survey. Among six-year-olds in our sample, approximately 70% are reported to have someone who regularly sings to or with them, and a similar share have someone who regularly talks or converses with them, counts and names things with

⁶More on GHS here: <https://www.datafirst.uct.ac.za/dataportal/index.php/catalog/905>

⁷I will refer to this as *reading to* in the rest of this paper. The other seven questions ask how often does someone: (1) tell stories to, (2) sing songs to or with, (3) talk about things they had done, (4) count different things, (5) name different things, (6) play with toys/objects involving shapes/puzzles/building blocks, and (7) draw or colour. For clarity, in Figure 1, I combined pairs of these variables to illustrate how they change across age and wealth. In the main analysis, I use the full information from all eight questions to construct a child engagement index using factor analysis.

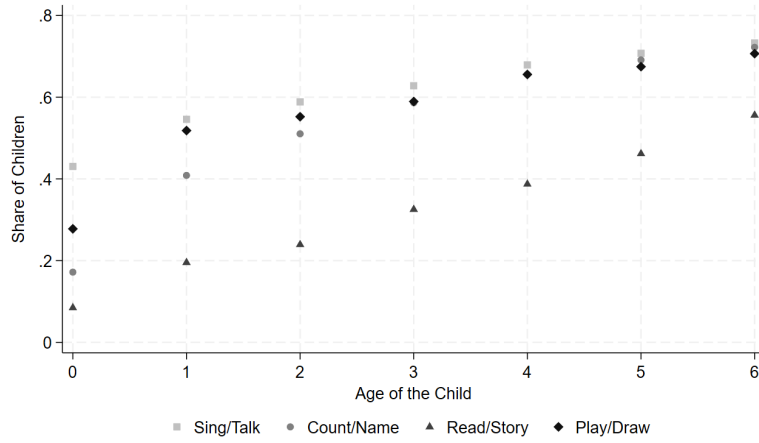


FIGURE 1: Engagement by Age of the Child shows that engagement as measured in our data peaks at age six.

them, or plays and draws with them. Reading or telling stories, however, shows a consistently lower level overall, peaking at 55% at age six. This contrasts with [Price and Kalil \(2019\)](#), who find that in the US, reading to children daily peaks earlier, at age two.

The pattern in Figure 1 does not differ by the gender of the child; in Figure A.1(A) in the Appendix, I show an engagement index (a standardized aggregate of the eight types of engagement I observe in 2017-2018 waves) by age differentiated by the sex of the child. There is no significant difference across sex in how engagement evolves for the age of the child. On the other hand, when I differentiate by urban or rural settings, I find that urban areas have significantly higher levels of reported engagement for all ages—while this maybe a cultural difference, income and wealth vastly differ between urban and rural areas in South Africa. However, I show in the regression results that this difference across urban and rural areas remains even after controlling for a host of household characteristics including wealth, education of the adults, and other measures of socioeconomic status.

3 Estimation Approach

In this section, I discuss the several econometric approaches I use to estimate the links between economic well-being and child engagement.

3.1 Descriptive Regressions

To start, I show descriptive figures showing the clear connection between economic well-being and engagement with children within a household. I then estimate the

following simple linear model using Ordinary Least Squares (OLS) estimators:

$$y_{ihrt} = \beta w_{ihrt} + \Theta X_{ihrt} + \delta_r + \gamma_t + e_{ihrt} \quad (1)$$

where y_{ihrt} is an index of engagement at the child level and w_{ihrt} is an index measure of economic well-being that includes wealth, household income per capita, and expenditure per capita for child i , in household h , in region r , and year t .⁸ X_{ihrt} is a vector of child and household-level observable characteristics, and δ_r and γ_t are region and year indicators to control for region and time fixed effects.

The estimated coefficient $\hat{\beta}$ from equation (1) will give us the associated changes in child engagement when economic well-being increases controlling for time and region fixed effects and the observable factors in X_{ihrt} . This estimator for this coefficient is likely biased and unlikely to capture the causal effect of economic well-being on engagement as this simple model is fraught with endogeneity and measurement error. On the one hand, measurement error in the measure of economic well-being will attenuate our results while unobservable confounding factors that lead to omitted variable bias may inflate our estimates: for example, high ability parents will have higher levels of economic well-being and will likely know more about the returns to early childhood interactions and thus engage more with their children. This is the type of endogeneity issue that makes it difficult to attribute the differences across socioeconomic status to income or information alone.

I test the robustness of the result to unobservable selection following the insights of [Altonji, Elder and Taber \(2005\)](#) and the methods proposed by [Oster \(2019\)](#). This approach considers selection on observable variables as an indication of the extent of selection on unobservable household and child characteristics. This method effectively generates bounds on the causal effect by first estimating a regression without control variables and then estimating a regression with controls: if the coefficient of interest—in my case the β linking economic well-being and engagement with children—remains relatively stable relative to the change in R^2 when controls are added to the regression, then this suggests that unobservable variables are unlikely to explain away or reverse the observed direction of the result.⁹

These results rely on an assumption about R_{Max} —the maximum possible R^2 of

⁸Using each of these measures on their own leads to qualitatively similar results, but I choose to use a combined index as each measure captures a different aspect of economic well-being. The combined measure predicts food insecurity with the highest precision.

⁹In recent work, [Masten and Poirier \(2026\)](#) and [Diegert, Masten and Poirier \(2022\)](#) point out shortcomings of the method and suggest additional sensitivity tests. I apply these tests and discuss their qualitative implications.

the specification. The smallest possible value of R_{Max} is the R^2 from the regression with controls and the largest value is one. In this setting where I use household survey data to measure child engagement, it is likely that these variables are measured with considerable error (McKenzie, 2012) and so assuming R_{Max} to have a value of one is very conservative. I use the approach suggested by Oster (2019), which sets R_{Max} equal to $1.3 \times$ the R^2 from the regression with controls. However, I show sensitivity to the choice of R_{Max} in the Appendix as is suggested by Masten and Poirier (2026).

Short and long-term associations of early childhood engagement—I also estimate, using OLS, a simple linear model to explore the potential long-term implications of early childhood engagement. For a subset of children (5 and 6 year olds), I have information on both engagement levels and literacy levels. For these children, I estimate the following equation:

$$lt_{ihrt} = \alpha y_{ihrt} + \Delta X_{ihrt} + \theta_r + \lambda_t + u_{ihrt} \quad (2)$$

where lt_{ihrt} is a measure of literacy adjusted for age and y_{ihrt} is the measure of engagement at the child level. The coefficient α shows the concurrent correlation between engagement and literacy of children.

In order to consider the potential long-term effects of early childhood engagement, for older children in the GHS data who have younger siblings who are six and under, I use the current engagement levels of the younger siblings as a proxy explanatory variable and show the associations with educational and literacy outcomes of the older children and estimate the following equation:

$$lt_{ihrt} = \alpha^* y_{hrt}^* + \Delta^* X_{ihrt} + \theta_r^* + \lambda_t^* + \epsilon_{ihrt} \quad (3)$$

where y_{hrt}^* is a household-level measure of average engagement of young children in the household. This regression estimates the association between the engagement level of young children and the literacy and schooling outcomes of older children in the household. I discuss the weaknesses of this additional analysis when presenting the results in Section 4.

3.2 Income Shock: Cash Transfer to the Household

Income and other measures of economic well-being are clearly endogenous to the above model (equation 1). If economic well-being has a causal impact on engage-

ment, it means that the level of engagement with children is partially determined by a binding household budget constraint. A transfer that relaxes this budget constraint should itself affect engagement—all else equal. I use a large sustained income shock to the household from the Older Person’s Grant to look at the effect of this monthly cash transfer on the engagement with children in the household.¹⁰ This is relevant for children in South Africa as nearly half of the 4.1 million elderly receiving the grant live with children and in the GHS 2016-2018 sample, 25% of all children live with someone who is receiving the grant—a number that is higher among lower-income households. To study the impact of the grant, I restrict my sample to children in households where the oldest member is near the age-eligibility threshold (60 years) of the grant. Several studies capture the effect of this unconditional cash transfer by restricting the analysis to samples with individuals or households with individuals in age ranges around the age-eligibility threshold (Duflo, 2003; Edmonds, 2006; Ambler, 2016).¹¹ The identifying assumption is that households with an individual within a small age range above or below 60 are similar except for grant receipt. In my case, I assume the preferences are stable right across the age-eligibility threshold while household income jumps leading to a discontinuous relaxation of the household budget constraint.

I use a local randomization approach in the regression discontinuity vein. This estimation strategy is appropriate (versus a normal RDD) in cases where the running variable is not continuous or only takes a few values—such as age in years in this context (Cattaneo and Titiunik, 2022).¹² The running variable is the age of the oldest person in the household where I restrict the sample to young children living with elderly around the threshold grant-eligibility age of 60. Children in households where the oldest person is currently 60 years old or above are in households likely benefiting from the grant. Figure A.11(A) in the Appendix shows the discon-

¹⁰The Older Person’s Grant, a means-tested large monthly cash transfer program to the elderly, is South Africa’s flagship social protection program. South African citizens and residents become eligible at age 60 and they now receive over 2,000 South Africa Rands. Nearly 80% pass the means test and over 90% take it up (Abel, 2019).

¹¹Early seminal work shows this grant is an effective tool at redistribution and has important inter-generational consequences as it reaches a lot of poor children who live in households with elderly persons (Case and Deaton, 1998; Duflo, 2000, 2003). More recent work uses narrow age ranges (as small as 1 year on each side) and a local randomization regression discontinuity approach to show that the grant has large effects on household income, food consumption, and hunger, and it helps households deal with large shocks (Alloush, Bloem and Malacarne, 2024).

¹²Local randomization relies on the assumption that there is a neighborhood around the cutoff where treatment status is assumed to be as-if randomly assigned such that two conditions hold for all units in that window: (1) all units in the window have the same probability of receiving all running variable values, and (2) potential outcomes are unaffected by the running variable except through the treatment in that given window—i.e. the exclusion restriction (Cattaneo and Titiunik, 2022).

tinuity in receipt in the relevant households with children six and under between 2017 and 2018.

While nearly a quarter of children in South Africa live in households with an Older Person’s Grant beneficiary, the sample of children I use is not representative of all children in South Africa. These children living in inter-generational households with elderly near 60 are in general living in households that are poorer, larger, and more rural than average.

Threats to identification—In this empirical setup estimating the effect of the Older Person’s Grant on the engagement with children, there are several threats to the identification of the causal effect of the grant. Importantly, if there is systematic unobservable differences across the children in households with elderly below versus above the grant age-eligibility threshold, then children with an elderly below the threshold are not a suitable counterfactual for children with elderly above. For example, strategic mothers may move in with an elderly after they start receiving the grant to benefit their children. This makes the children in the control group unobservably different from those in the treated group. While recent studies show balance in narrow windows around the threshold where households are quite similar (Alloush, Bloem and Malacarne, 2024), other works have documented changes in household composition, labor supply, and bargaining power due to the grant.¹³ While I am unable to disentangle the monetary effect of the grant from other changes within the household, I try to control for observable household composition and treat employment outcomes as potential mechanisms in Section 5. Finally, given the specifics of the Older Person’s Grant such as its intended recipients (the elderly) and its documented effects, the impact on engagement I document is a reduced-form estimate of the effect of this particular grant and may not easily be generalizable to other cash transfer programs.

4 Main Results

I present descriptive graphical and regression results in Section 4.1 showing a strong link between economic well-being and engagement with young children. In Section 4.2, I show graphical and regression results suggesting short- and long-term implications on literacy and schooling outcomes of early childhood engagement.

¹³A series of studies document behavioral changes in response to this grant. For example there are documented household composition changes (Edmonds, Mammen and Miller, 2004; Hamoudi and Thomas, 2014); changes in employment patterns (Ranchhod, 2006; Abel, 2019; Jensen, 2004); and changes in bargaining power with the household (Ambler, 2016).

4.1 Economic Well-being and Engagement

I first start with descriptive results on the clear determinants of child engagement in the sample of children between 0 and 6 years old in South Africa. First, Figure 2 shows the share of children six and under who experience one of the paired types of engagement either often or every day by wealth decile. It is clear that reported engagement levels with young children increases with wealth of the household—a pattern that fits well with observations in other contexts around the world. For example, in the lowest wealth decile, just over 40% of children are sang to or conversed with regularly whereas this share goes up to over 70% for children in households in the top wealth decile. When it comes to reading or storytelling, only 20% of children in the bottom wealth deciles are read to or have a story told to them regularly while that share is nearly three times higher for children in the top wealth decile.¹⁴ In Figure A.3 in the Appendix, I show a similar figure for an index of engagement with children differentiating by the sex of the child or by urban/rural region—I find no discernible differences in the pattern across these groups. However, the size of the difference in the index is large: children in the poorest decile experience nearly two standard deviations lower levels of engagement compared to children in the wealthiest households.

These difference does not merely reflect differences in education levels of adults in the households as we expect more educated adults to invest more in children as is shown, for example, in Guryan, Hurst and Kearney (2008). In Figure A.4 in the Appendix, I show differences in engagement by the years of education of the household head differentiating by low and high wealth. From the figure, across all years of education, there are differences in engagement levels by wealth.¹⁵

Next, I explore the association between measures of economic well-being and engagement with children while controlling for observable potential confounding factors. Table 1 shows regression results of equation (1) using OLS estimators. I start with the most parsimonious specification in column (1) with no controls again showing the strong correlation between the measure of economic well-being and engagement with children in the household. A one standard deviation increase in economic well-being is associated with a 0.64 standard deviation increase in the engagement index. In column (2), I add child-level controls and the coefficient drops to about 0.49—statistically significant at the 1% level.

¹⁴The results are similar when using income per capita deciles instead of a wealth index.

¹⁵This difference likely confounds other factors such as education quality which I am unable to control for.

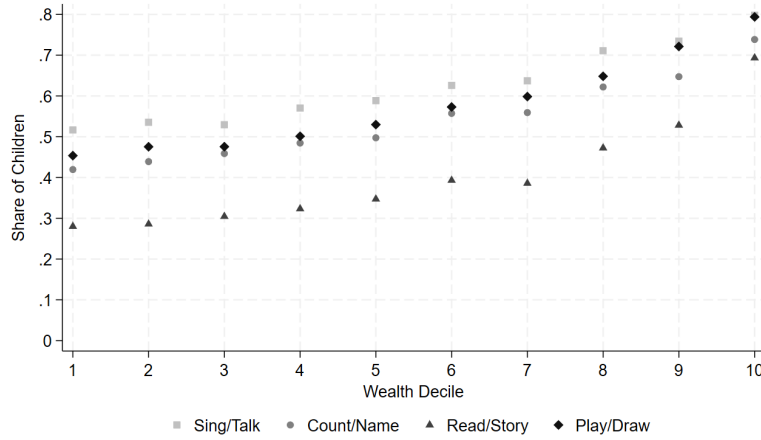


FIGURE 2: Child engagement varies by wealth. The figure shows the share of children within each wealth decile that experience a paired type of engagement either often or every day.

The results in column (2) highlight other predictors of child engagement. Children from other racial groups in South Africa (Coloured and White) have higher levels of engagement within their household relative to black children. Compared to children who are the child of the household head, children who are grandchildren or other (such as other indirect relations or unrelated) are less likely to be engaged with within the household.

In column (3), I add household-level characteristics and in column (4) I add province $\times$ urban $\times$ year fixed effects. Across these different specifications, the coefficient on the wealth index remains statistically significant and about 0.4. This pattern holds when using household income per capita or the wealth index only instead of the combined economic well-being index. Table A.1 in the Appendix shows that 20% higher household income per capita is associated with a 0.037 SD increase in engagement with children conditional on observable child and household characteristics.

Several interesting patterns emerge from the results: conditional on the controls, households with more children under 12 report lower engagement with each individual child. Conversely, households with more women, particularly those aged 18 to 39, show higher levels of engagement. This suggests that traditional gender norms around childcare responsibilities persist in this context. Finally, the education level of the household head is a strong predictor of engagement, consistent with the existing literature.

I explore whether there is non-linearity in the observed correlation. Again using the specification with controls in column (4) of Table 1, I instead use indicator

TABLE 1: Association between Wealth and Engagement with Children

	(1)	(2)	(3)	(4)
Economic Well-being Index	0.641*** (0.062)	0.485*** (0.044)	0.417*** (0.045)	0.368*** (0.038)
Female		0.052 (0.050)	0.054 (0.049)	0.044 (0.046)
Coloured		0.967*** (0.330)	0.928** (0.340)	0.722* (0.400)
Indian/ Asian		0.039 (0.358)	-0.039 (0.376)	0.204 (0.201)
White		1.819*** (0.291)	1.774*** (0.285)	1.662*** (0.247)
Relation to HH Head: Grandchild		-0.249*** (0.061)	-0.007 (0.076)	0.020 (0.083)
Relation to HH Head: Other		-0.226 (0.169)	-0.178 (0.160)	-0.119 (0.147)
Poor Health		-0.360* (0.199)	-0.395* (0.189)	-0.537** (0.222)
Mother Alive		-0.170 (0.294)	-0.283 (0.283)	-0.233 (0.298)
Father Alive		0.019 (0.137)	0.008 (0.125)	0.062 (0.126)
HH: # of Children Under 6			-0.135*** (0.042)	-0.093* (0.045)
HH: # of Children between 7 and 12			-0.099*** (0.029)	-0.071*** (0.023)
HH: # of Children between 13 and 17			0.011 (0.028)	0.020 (0.027)
HH: # of Female Adults between 18 and 39			0.111*** (0.037)	0.094*** (0.032)
HH: # of Female Adults between 40 and 59			0.044 (0.059)	0.038 (0.057)
HH: # of Female Adults 60 and above			0.150 (0.159)	0.114 (0.151)
HH: # of Male Adults between 18 and 39			0.012 (0.039)	0.029 (0.029)
HH: # of Male Adults between 40 and 59			-0.054 (0.061)	-0.047 (0.056)
HH: # of Male Adults 60 and above			-0.052 (0.099)	-0.003 (0.088)
HH Head: Age			-0.002 (0.004)	0.001 (0.003)
HH Head: Female			-0.026 (0.094)	0.069 (0.079)
HH Head: Years of Education			0.054*** (0.013)	0.056*** (0.013)
Constant	0.058 (0.163)	-2.419*** (0.349)	-2.627*** (0.370)	-2.990*** (0.403)
Observations	14673	14673	14673	14673

Notes: Cluster robust standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

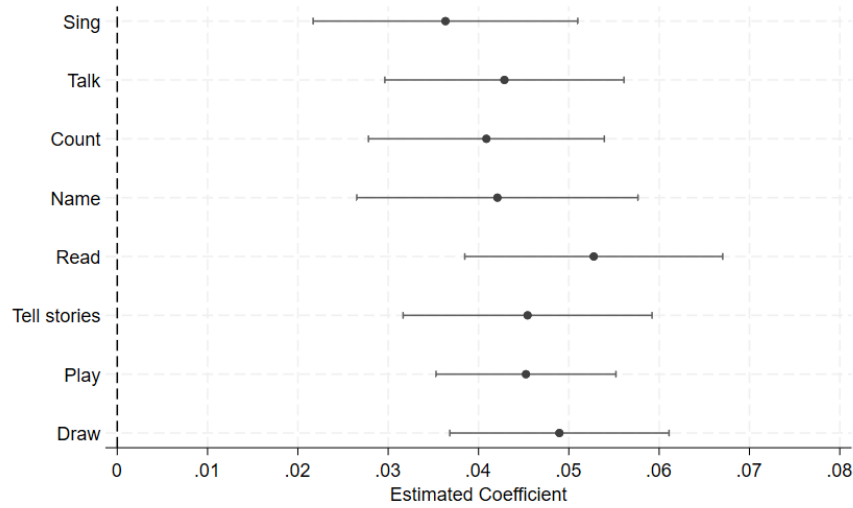


FIGURE 3: Economic well-being is highly correlated with all components of the index.

variables for economic well-being deciles as my explanatory variables. Figure A.5 in the Appendix shows that conditional on the controls in the specification, compared to households in the lowest economic well-being decile, engagement with children gradually increases with deciles perhaps with a slightly increasing rate at the top end of the distribution.

In Figure 3, I show results on each of the measures of engagement available in the data. I use the same specification with controls as in column (4) of Table 1. The coefficients on economic well-being are statistically significant for all types of engagement, and is largest for reading. A one standard deviation increase in economic well-being is associated with a 5.3 percentage point increase in the likelihood that the child is read to regularly.

Selection on unobservables—The results in this section suggest strong associations between economic well-being and engagement with children even when controlling for a host of observable household and child characteristics. In this model, there are many unobservable household, parent, and child characteristics that are correlated with wealth and determine engagement with children—for example, knowledge about the returns to reading to young children is likely correlated with wealth and determines engagement levels and is thus likely a source of omitted variable bias. Since my goal is to investigate if economic well-being has a causal effect on engagement with children, it is key to consider what would happen to my coefficient of interest if I were able to control for unobservable omitted variables. The method proposed by Oster (2019) does just this in a formal way—it

tracks the stability of coefficient when observable controls are taken into account and reports the proportional selection coefficient or "Oster's δ ." The proportional selection coefficient is a measure indicating how much more important selection on unobservable variables would need to be, relative to selection on observable controls, to break down the estimated coefficient to be indistinguishable from zero.

As discussed in the Section 3.1, typically one must make a choice on the maximum R^2 and generally most use $1.3 \times R^2_{long}$ as is suggested in [Oster \(2019\)](#).¹⁶ Instead of choosing this maximum, I show values δ that would breakdown the coefficient for a range of maximum R^2 values as is recommended by [Masten and Poirier \(2026\)](#). Figure A.6 in the Appendix shows these results. I find that for most lower levels of the maximum R^2 , Oster's δ is relatively large. For example, for 1.3 times R^2_{long} , the selection on unobservables would need to be nearly two times as important as selection on observable variables to breakdown the wealth result. The δ remains above 1 (the value suggested in [Oster \(2019\)](#) to consider for robustness) for all values of the maximum R^2 up to 0.35.¹⁷ This analysis suggests that the positive link between wealth and engagement with children is relatively robust to unobservable selection.

These observed differences in engagement with children are large and could potentially have an impact on future outcomes of these children. These differences fit with other work in many other contexts around the world on the strong correlation between socioeconomic status and stimulating environments for young children in many different forms ([Kalil, 2014](#); [Huttenlocher et al., 2010](#); [Ronfani et al., 2015](#); [Hoff, 2003](#); [Wacharasin, Barnard and Spieker, 2003](#); [Farran et al., 2016](#); [Cuartas et al., 2020](#)). Parental investments and early childhood engagement are thought to have important impacts on cognitive and language development early on while they are associated with long-run educational and socio-emotional outcomes ([Attanasio et al., 2020](#); [Monnot, 1999](#); [Weisleder and Fernald, 2013](#); [Mistry et al., 2008](#); [Fernald et al., 2012](#)). Given these differences across socioeconomic status and the highlighted benefits, these gaps could increase the disadvantages poor children already have. Next, I show some suggestive evidence on the link between engagement and literacy levels of children.

¹⁶ R^2_{long} is the R^2 from the regression with controls.

¹⁷See discussion in [Oster \(2019\)](#) on what is a reasonable expected maximum R^2 in micro-level models using survey data such as this one.

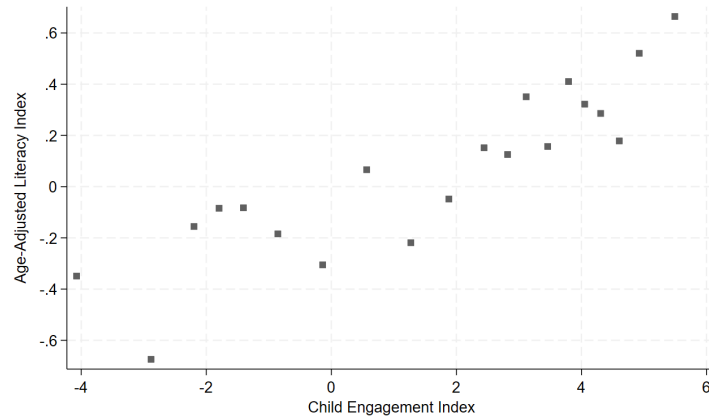
4.2 Short- and Long-term Outcomes

A direct consequence of engagement with children in early childhood that is posited in the literature is cognitive and language development. The evidence is mostly observational, although some experimental and quasi-experimental work supports this link (Price and Kalil, 2019; Kalil and Ryan, 2020). In this section, I will provide suggestive evidence that in the South African context, stimulating engagement with children in early life is highly correlated with short- and long-term literacy and educational outcomes.

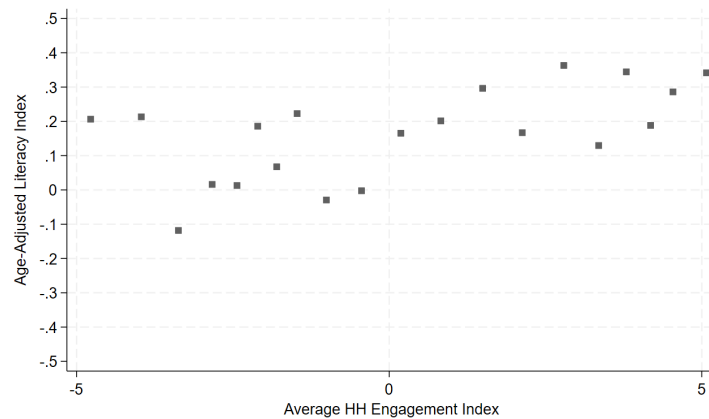
As with engagement with young children in the household, in South Africa, there are clear differences in literacy and educational outcomes of children across wealth. In the GHS data, a series of questions on literacy are asked for children and adults. These include ease of reading, writing, numeracy, ability to fill out forms, and ability to read road signs. I construct a literacy index using factor analysis of responses to these questions for the children in the sample. Most of the variation in this index occurs across age. In Figure A.7(A) in the Appendix, the average of the literacy index increases clearly with age reaching a plateau of nearly 1 at age 13. However, even in this figure, it is clear that there is a difference across wealth where children in lower wealth households have lower literacy levels on average across ages. In Figure A.7(B), I show the average of an age-adjusted literacy index by wealth deciles and I find a clear increase in literacy with wealth.¹⁸

The literacy index is available for children ages five and over. So, for a subset of young children, those five and six years old, I have information both on engagement levels and literacy. In Figure 4(A), I show that even after controlling for economic well-being, there is a strong correlation between reported engagement levels and the literacy level of five and six year old children. I motivate this work by emphasizing that the differences in early childhood engagement across wealth could play a role in perpetuating poverty. For this to hold, child engagement needs to influence long-term outcomes, not just short term. Does engagement during early childhood predict literacy and educational outcomes later on? Does it help explain some of the educational attainment differences I highlight in this sample of older children?

¹⁸While literacy, as measured by these somewhat crude survey measurements, converges across wealth for older children, cognitive skills gained in early life may have lasting effects on schooling outcomes as well. In Figure A.8(A) in the Appendix, I show that in the sample of children aged 14 to 17 in the GHS from 2017-2018, children in poorer households are less likely to still be in school. Among those still in enrolled, children from poorer households are almost three times as likely to have repeated a grade as is shown in Appendix Figure A.8(B).



(A) Current child-level reported engagement for 5 and 6 year-old children is highly correlated with their age-adjusted literacy index controlling for economic well-being.



(B) Household-level average engagement among younger children is weakly correlated with the age-adjusted literacy index among older children 10-13 years old.

FIGURE 4: School outcome improve with wealth.

The GHS data is cross-sectional, so for older children in the data, I do not observe their level of engagement during early childhood. However, for a subset of these older children who have younger co-residents aged six and under (most of whom are siblings), I have information on the engagement those younger children are currently experiencing. I think of this as a rough proxy for the level of engagement the older child may have received when they were young. This approach is admittedly imperfect for several reasons. First, unobserved household characteristics—such as parental enthusiasm for education or inherent ability—are likely correlated with both current engagement levels and the literacy and schooling outcomes of older children, biasing estimates upward. Second, since the GHS does not ask who within the household is engaging with the child, it is possible

that more educated older siblings are themselves interacting with younger children, introducing reverse causality.¹⁹ I present these results as suggestive evidence of a link between early engagement and later outcomes, while acknowledging that the endogeneity concerns are significant and varied. Figure 4(B) shows a weaker correlation between engagement with younger children in the household and age-adjusted literacy levels of older children.

In regression analysis, I add in controls and test the robustness of the sign of the coefficients to unobserved selection while noting that unobservable confounding factors are not the only source of endogeneity. Table 2 shows the estimated coefficient on current engagement on the literacy of 5 and 6 year-old children in Panel A, and the estimated coefficient on the engagement proxy on the literacy of older children in Panel B. In column (1) of Panel A, I show a simple specification with no controls estimated using OLS: a 1 standard deviation increase in reported engagement levels is associated with a 0.156 SD increase in age-adjusted literacy of 5 and 6 year old children. The coefficient is highly statistically significant and decreases slightly in magnitude with the inclusion of a battery of controls such as economic well-being measures, child and household characteristics that include years of education of adults, and region and time controls.

In Panel B, I again observe strong correlations between the engagement proxy and age-adjusted literacy among children aged 10 to 13 in the household. At minimum, these results show that current engagement of young children is highly correlated with the literacy rates of older children in the household. With caution, these results suggest that, in as much as current levels of engagement with young children are a proxy for the level experienced by older children when they were younger, engagement in childhood likely has implications on literacy later in life.

Again applying the methods proposed by Oster (2019), I find that unobservable selection would have to be more than nearly 8-10 times as important as observable selection to nullify these results (see Appendix Figure A.10). The size of this δ is not entirely surprising as the coefficients in Table 2 are very stable in both Panels A and B when I add controls.

¹⁹Moreover, household economic circumstances have also likely changed since the older children were infants or toddlers, making current engagement a noisy proxy for past engagement. If improved economic well-being leads to more engagement, income growth over a decade would mean current engagement levels overstate what older children experienced. Conversely, using younger siblings as a proxy may understate engagement, since firstborn children tend to receive more parental attention than later-born children (Price, 2008). Finally, parents of teenagers with lower cognitive ability may either compensate by investing more in younger children, or reduce investment if they perceive lower returns, introducing additional bias in either direction.

TABLE 2: Long-term associations of early childhood engagement

Dep var: <i>Literacy Index</i>	(1)	(2)	(3)	(4)
Panel A: Current engagement and literacy among 5 and 6 year olds				
Child Engagement Index	0.063*** (0.008)	0.057*** (0.008)	0.057*** (0.008)	0.058*** (0.008)
Observations	2,935	2,935	2,935	2,935
Panel B: Engagement proxy and literacy among 10-13 year olds				
Max current engagement in household	0.030*** (0.005)	0.025*** (0.005)	0.029*** (0.005)	0.027*** (0.005)
Observations	5,456	5,456	5,456	5,456
<i>Income & Wealth Controls</i>		✓	✓	✓
<i>Child & Household Controls</i>			✓	✓
<i>Region & Year Fixed Effects</i>				✓

Notes: Cluster robust standard errors in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. I use maximum engagement level among younger children in the household to proxy for early childhood engagement levels of older children.

Finally, I also explore the association with the educational outcomes of older children. In Table A.3 in the Appendix, I find that current engagement with younger children is associated with a higher likelihood of still being in school for children between ages 14 and 17 and, if still in school, a lower likelihood of ever repeating a grade. This suggests a potential connection to long-term educational outcomes beyond the literacy measure.

The results in this section suggest that lower levels of economic well-being are associated with less engagement with children in the household. This engagement in early childhood is strongly associated with current and long-term literacy and educational outcomes. If these correlations are indicative of causal impacts, this suggests a mechanism through which poverty can be reinforced across generations. In the next section, I explore whether a cash transfer program that clearly relaxes the income constraint at the household level changes engagement with children in the household.

5 Effect of a Cash Transfer

Programs aimed at increasing the level of parental and caregiver engagement with young children have focused on encouragement or providing caregivers with information on the importance of specific types of interaction with children. These studies have had some success in increasing measures of engagement with children, at least in the short run (List, Pernaudet and Suskind, 2021; Dupas et al.,

2025). The aim is to change preferences through information. In this section, I test the alternative, resource-constraint explanation.

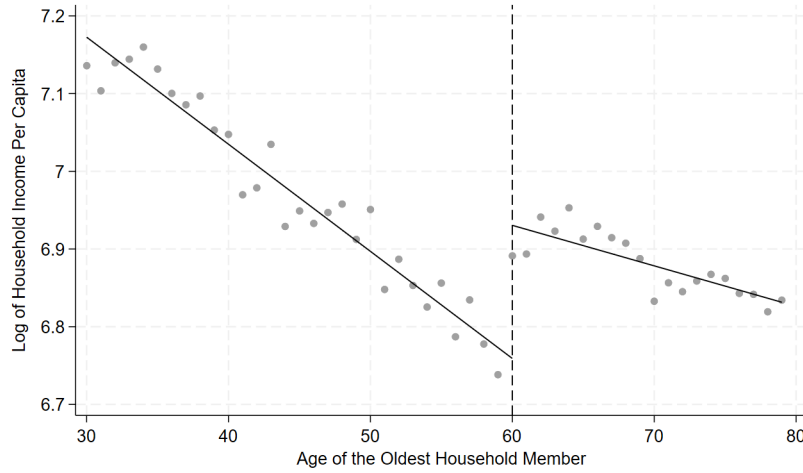
In a standard model of investment in children with a household, parents and caregivers with stable preferences allocate time and resources across labor, consumption, leisure, and child engagement subject to a binding budget constraint (Becker and Tomes, 1986; Becker, 1991). Equilibrium engagement levels therefore reflect both the tightness of that constraint and the preferences for engagement with children. A parent may value engagement highly but be unable to act on that preference when income is scarce. Studies in the literature have shown that income support programs increase parental investment in children, through mechanisms such as purchasing of learning materials, time reallocation, and reduced stress (Dahl and Lochner, 2012; Caucutt and Lochner, 2020). In this section, I ask whether a plausibly exogenous relaxation of the income constraint that carries no informational value affects the levels of engagement with children in the household. Specifically, I explore whether a monthly cash transfer (which clearly increases household income per capita) affects levels of engagement, where I can attribute observed changes in engagement as the effect of the transfer rather than a change in preferences. In doing so, I also show that increased child engagement represents a potentially important second-order benefit of cash transfers and other social protection programs, one that has received relatively little attention in the literature.

For this analysis, I use the South African Older Person's Grant and the age eligibility threshold to see if children in households benefiting from this grant are experiencing more engagement.²⁰ Using the age of the oldest household member and the discontinuity in grant receipt at age 60 shown in Appendix Figure A.11(A), I estimate that this program leads to a nearly 23% increase in household income per capita replicating results from other studies that use different data.²¹ In Figure 5(A), we can see a clear gradual decline in household income per capita as the age of the oldest member increases and a clear increase at age 60. This leads to well-being changes in the households as we also observe a large decline in a food insecurity measure as shown in Figure A.13(B).

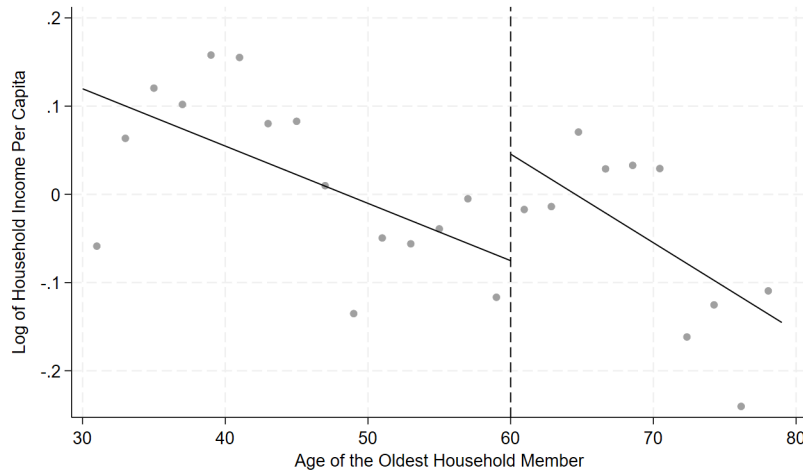
Figure 5(B) shows the change in engagement with children when the oldest

²⁰The specifics of the empirical approach are discussed in Section 3 and more thoroughly in Alloush, Bloem and Malacarne (2024).

²¹For example, Alloush and Wu (2023) show a 17% increase in household income per capita while Alloush, Bloem and Malacarne (2024) estimate a larger 30% increase using the NIDS sample. In Alloush and Riaz (2026), the Older Person's Grant leads to a nearly 50% reduction in hunger rates among inter-generational households with women who are pregnant.



(A) Household income per capita sees a sharp increase when the oldest person in the household turns 60 and becomes eligible for the Older Persons Grant. Using an RD approach with MSE-optimal bandwidth estimate a 23% increase. Figure A.13 in the Appendix suggests that this income increase leads to sizable reductions in food insecurity.



(B) In our sample, we see a discontinuity in reported engagement with children. Using an RD approach with MSE-optimal bandwidth estimate a 0.37 SD increase.

FIGURE 5: Discontinuities around the age of eligibility for the Older Person's Grant.

household member turns 60. Since grant take up is not 100%, these figures showed reduced form intention-to-treat-type estimates where I see the difference in engagement with children who live with an elderly just above 60 compared to children in households where the oldest person is just below 60.

Table 3 presents the equivalent regression results, showing the difference in

TABLE 3: The Older Person’s Grant and Engagement with children

	(1)	(2)	(3)	(4)	(5)
Oldest Member Age Eligible	0.254 (0.166)	0.242* (0.131)	0.435*** (0.111)	0.371*** (0.102)	0.528* (0.273)
Child controls		✓	✓	✓	✓
Household controls			✓	✓	✓
Region & time controls				✓	✓
Poorest 2/5					✓
Observations	3,162	3,162	3,162	3,162	1,336

Notes: Cluster robust standard errors in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Columns 1 through 5 show results for 55-64 window around the threshold eligibility age of 60. Figure A.12 in the Appendix shows the estimated coefficient for different window sizes showing stability and thus robustness to the choice of window.

engagement for children living in a household where the oldest member is age-eligible for the grant (60 and above) relative to children in households whose oldest member is just below the threshold. These estimates use a five-year window around the eligibility cutoff, and I add controls in each successive column. In my preferred specification in column (4), children living with a household member aged 60–64 experience 0.37 SD higher engagement than children living with a household member aged 55–59. This result is not sensitive to the choice of window: Appendix Figure A.12 shows that the estimated coefficient changes little across smaller and larger window sizes.²²

I also use information from the survey on receipt of the Older Person’s Grant and use having an age-eligible elderly as an instrument for actual receipt at the household level.²³ I present these results in Table A.2 in the Appendix. As expected, I find strong first stage results where age-eligibility is a very strong predictor of receipt of the grant; having a person above 60 in the five year window specification increases the likelihood of grant receipt by 67 percentage points with an F-stat of 3,139 for the excluded instrument. The results for receipt of the grant are expectedly scaled up compared to the ITT-type estimates. The estimated coefficient suggests that receipt of the grant increases the child engagement index by 0.5 SD—a result that is statistically significant at the 1% level.

In Figure 6, I use the same specification from column (4) to look at age eligibility

²²Applying RD methods yields an MSE-optimal bandwidth of 6, with a similar and statistically significant coefficient of 0.38.

²³This fuzzy local randomization approach is discussed thoroughly in Alloush, Bloem and Malacarne (2024) and requires assumptions discussed in Section 3.

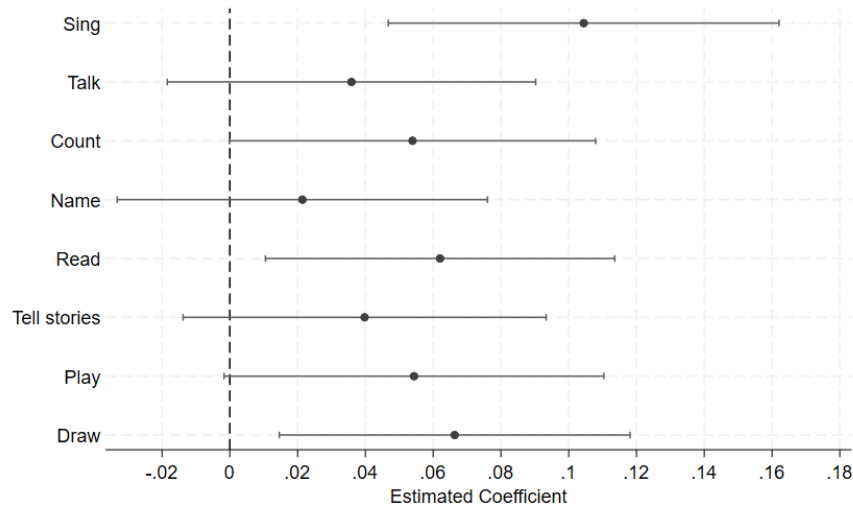


FIGURE 6: Grant leads to changes in all components of the index.

and the change in the different measures of engagement. The results suggest positive changes in all measures. For example, children in households where the oldest member is between 60 and 64 are approximately six percentage points more likely to be read to regularly compared to those in households where the oldest member is just under 60.

The results in this section provide suggestive evidence of a causal effect of household economic well-being on enriching engagement with infants and toddlers. The Older Person's Grant carries no informational value on the benefits of engaging with young children, yet leads to a discontinuous increase in household income per capita at the eligibility threshold. The transfer closes a meaningful share of the wealth-based engagement gap documented earlier. Under the assumption that preferences over engagement are stable, the observed increases in engagement are consistent with a relaxation of the budget constraint rather than any shift in preferences. This interpretation is supported by a literature documenting that the Older Person's Grant significantly improves several measures of household economic well-being, including income per capita, wealth, and food expenditure (Case and Deaton, 1998; Alloush, Bloem and Malacarne, 2024). This suggests that the budget constraint is an important driver of the engagement gap.

The findings also point to an additional and underappreciated benefit of cash transfer programs more broadly: an unconditional transfer not directed toward children can meaningfully improve the quality of engagement that infants and toddlers experience within the household. I interpret these results with some caution,

however, as the Older Person's Grant affects more than household economic well-being alone. I consider these as potential mechanisms in the next section.

5.1 Potential Mechanisms

Beyond increasing household economic well-being, there are two key mechanisms that are relevant for understanding how the Older Person's Grant may affect engagement with children. First, studies show that the grant alters labor supply within the household in different ways, most notably reducing the labor supply of women with children (Abel, 2019; Bertrand, Mullainathan and Miller, 2003). I view this as an important but not problematic mechanism: any exogenous permanent income increase to the household might plausibly reduce labor supply of household members and thereby free time for engagement. As an example, in a household where a mother works to supplement a low primary income, a permanent wage increase to the primary earner may lead her to reduce labor supply and reallocate time toward more traditional homemaking roles and child-directed activities.

Second, grant receipt by the elderly household member reduces their own labor supply on average, meaning the recipient themselves may have more time to engage with children as a consequence of grant-induced retirement.²⁴ When I restrict the comparison group to households with elderly members below the age-60 threshold who are not in the labor force—trying to hold elderly labor supply constant across the threshold, the results do not change meaningfully.²⁵

Beyond labor supply, the Older Person's Grant is shown to affect household composition, drawing elderly and younger family members together (Edmonds, Mammen and Miller, 2005; Hamoudi and Thomas, 2014), and to shift bargaining power toward elderly household members (Ambler, 2016). These changes are less typical of a simple income increase and may limit the generalizability of the reduced-form estimates to broader income changes or other cash transfer programs.

If a potential mediator plays a large role in explaining the observed effect of the grant on engagement, two things must be true: first, the grant should have a direct effect on the mediator, and second, the mediator itself should also have an

²⁴It is worth noting that labor activity (including wage work, work without pay, and any business activity) among elderly just below the threshold age of 60 is 43% for men and 25% for women in my sample. While the grant is means tested, it is not conditional on leaving the labor force.

²⁵An important limitation of this exercise using cross-sectional data is that I cannot observe the labor force status of elderly just above the threshold when they were younger as in Alloush and Wu (2023) when using panel data.

effect on engagement with children. The first step in this causal chain is straightforward to identify—I apply the same identification strategy I use in Section 5 on a set of potential observable mediators as outcomes. The second step is fraught with endogeneity and it is typically difficult to get causal estimates. Mediation analyses must assume that the mediators are independent of potential outcomes conditional on the treatment and observed covariates unaffected by treatment (Nguyen et al., 2022). That is to say that we need to assume that conditional on treatment and pre-treatment covariates, potential mediators are as if randomly assigned. Without actual randomization of the mediators, it is often difficult to justify this assumption which would allow me to estimate the effect of the mediator itself on engagement and then get an idea of how much of the overall effect is explained by this specific mechanism. Despite this, we can further investigate: for potential mediators that are affected by the grant, I use recent methods proposed by Kwon and Roth (2026) that require fewer assumptions to test if the mediators are the only mechanisms through which the treatment affects the outcome of interest.

In Figure 7, I present estimated effects of age-eligibility for the grant on a number of potential mediators. The results show that the grant improves several measures of household economic well-being, including income per capita and food expenditure, and leads to a significant reduction in food insecurity of nearly 40%. Beyond direct income effects, Dahl and Lochner (2012) suggest the ability to purchase academic materials as a mechanism through which income translates into improved academic outcomes for children. The Older Person’s Grant may similarly enable households to purchase books, toys, and other materials that facilitate engagement with young children. While the GHS does not include direct measures of such child-oriented household assets/materials, I use ownership of a television or computer as a proxy for the availability of such material goods in the household. The results show that the grant leads to a statistically significant increase in the likelihood of television ownership, while the coefficient on computer ownership is positive but not statistically significant.

The results suggest statistically insignificant effects on household composition in the five-year window around age 60 that I consider.²⁶ When it comes to labor force participation, the result in the figure shows a statistically significant increase

²⁶I use a window of 5 years: households with children 6 and under with a member between ages 55 and 64 for the results in this Table. The results are not sensitive to this choice and are similar for larger and smaller windows. I use this window to match Table 3—Figure A.12 shows that the estimated effect of the grant is not sensitive to this window choice. In previous work that suggests changes in household composition (Edmonds, Mammen and Miller, 2005), the considered age ranges of the elderly are wider and the sample not restricted to households with children six and under.

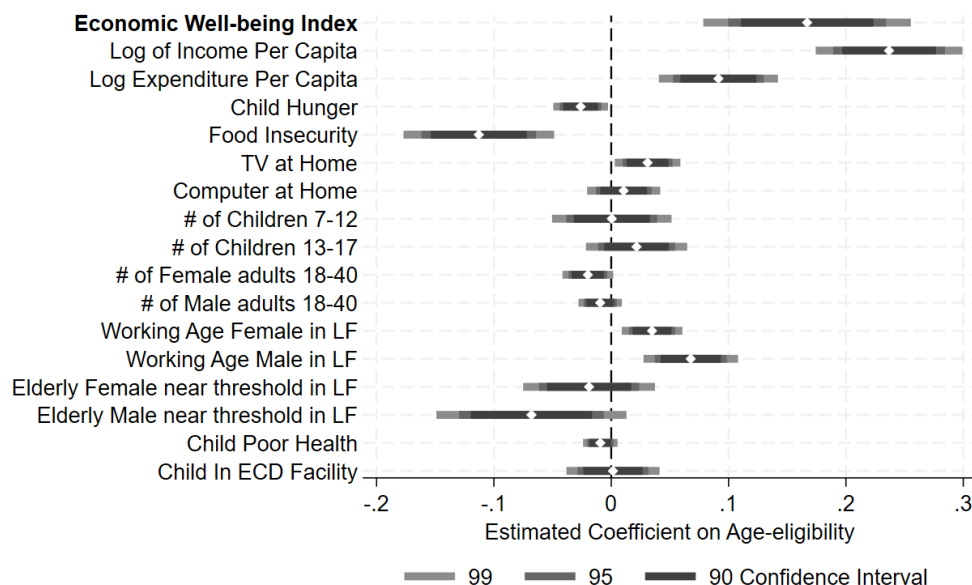


FIGURE 7: Potential mechanisms through which the grant acts.

in labor force participation among working-age adults between ages 18 and 50 similar to other studies on the Older Person's Grant (Ardington, Case and Hosegood, 2009; Posel, Fairburn and Lund, 2006).²⁷ I also find decreases in labor force participation among the elderly who are the direct beneficiaries of the grant. As is discussed in Ardington, Case and Hosegood (2009), this reduction in labor supply could lead to more childcare by the elderly which allows the working-age parents to more actively participate in the labor force.

Finally, I do not find a statistically significant change across the threshold in the probability that a child is unhealthy or that they are attending an early childhood development facility.

Without credible estimates for the second step, the effect of the mediator on engagement, I cannot speak to the importance of each mediator in explaining the overall effect we see. Given the sizes of the first stage effects, it seems plausible that changes in economic well-being and labor force participation explain some of the observed effect. Increased household income through the grant allows parents to buy materials that allow for more engagement; it may also reduce stress among adults that could make room for more enriching engagement. While there is no data in the GHS that speaks to stress or other psychological variables, other work

²⁷The evidence on labor supply is mixed as Bertrand, Mullainathan and Miller (2003) and Abel (2019) find reductions in labor supply of working age adults in their samples. In the GHS, I only have information on labor force participation at the extensive margin.

shows that this grant reduces depression symptoms among direct and indirect recipients (Alloush and Riaz, 2026; Alloush, 2024). On the other hand, a reduction in the labor supply of the elderly could put them in a position to be more active in childcare in an inter-generational household.²⁸

In recent work, Kwon and Roth (2026) propose an alternative approach for testing mechanisms that does not require assuming conditional as-if-random assignment of the mediator. Their proposed approach relies on the intuition that if a potential mediator m is the *only* way a treatment T affects an outcome y , then T is a valid instrument for identifying the effect of m on y . This approach then builds on the work aiming to test the validity of LATE assumptions in settings with a binary instrument and treatment (Kitagawa, 2015; Huber and Mellace, 2015).

Under the sharp null hypothesis of full mediation, where m is the only mechanism, there should be a weakly negative relationship between the treatment T and a compound outcome $\tilde{y}$, defined for binary mediators and outcomes as $\tilde{y} = 1\{y = 1, m = 0\}$.²⁹ The intuition follows from the role of compliers, always-takers, and never-takers specifically pertaining to the effect of the treatment on the mediator. Under the sharp null, compliers (those whose mediator status is affected by treatment) are the only ones through whom treatment T affects the outcome y .³⁰ Under this sharp null, in which mediator compliers are the drivers of the overall effect of treatment on the outcome, the treatment effect of T on $\tilde{y}$ should be weakly negative since compliers have $m = 1$ and thus their $\tilde{y} = 0$. If this is not the case, it would indicate that mediator always-takers and/or never-takers are contributing to the overall effect between T and y , implying that the mediator of interest m is not the sole mechanism through which treatment affects the outcome.

I apply the methods to four potential mechanisms from Figure 7: food insecurity, TV at home, and labor supply of female elderly, and labor supply of male elderly. I reject the sharp null either of these mechanisms is the only relevant mediator. Using their approach, I calculate lower bounds for the fraction of mediator always-takers and never-takers of 17.8%, 22.7%, 21.2%, and 21.6%, respectively for each of the mechanisms. I also reject that they jointly are the only mediators.

²⁸The results on the labor supply of adults of working-age in the household are positive, which would reduce the time in the household for engagement. Restricting the sample to mothers and fathers of children under 6 years of age does not qualitatively change these results; they remain positive and statistically significant.

²⁹An additional assumption on monotonicity of the effect of T on m allows for simpler intuition.

³⁰For always-takers (for whom $m = 1$ regardless of treatment status) and never-takers (for whom $m = 0$ regardless of treatment status), under the sharp null that the mediator is the only way treatment affects the outcome, the treatment T does not affect the outcome y because the mediator does not change.

Overall, no single mechanism fully explains how the grant affects child engagement. The effect on household economic well-being is clear, large, and relatively immediate. Other changes are more subtle, but most can be plausibly linked to increased household income. One caveat on generalizability is worth noting: because this grant targets the elderly near retirement, it likely affects the labor supply of specific household members more than a typical cash transfer would, and this should be kept in mind when extrapolating the results to other programs. At the same time, the Older Person's Grant is South Africa's largest social protection program with more than four million direct beneficiaries. In the GHS data, nearly 40% of elderly recipients live in a household with a child six and under—rising to over 50% for children twelve and under. Thus, the effects I document here are directly relevant for a large and policy-relevant population. More broadly, the findings may shed light on the effects of other near-universal elderly cash transfer programs where inter-generational co-residence is common, such as those in Thailand, Bolivia, Nepal, and Georgia ([Pallarès-Miralles, Romero and Whitehouse, 2012](#)).

6 Conclusion

In this paper, I show that engagement with young children differs starkly by socioeconomic status in South Africa. Economic well-being is strongly predictive of engagement levels, and childhood engagement is in turn strongly associated with literacy and educational outcomes. This descriptive gradient is consistent with both an information-based explanation and a resource-constraint explanation. I provide evidence for the resource-constraint explanation using a large, sustained cash transfer to elderly household members that carries no informational content about parenting, and show that it nonetheless increases engagement with young children. Because this transfer relaxes the household budget constraint without changing what caregivers know or believe, the findings indicate that resource constraints are a driver of the socioeconomic gap in engagement.

The paper makes two contributions. First, it provides evidence that early childhood engagement may be one mechanism through which poverty is reinforced, and that the reasons poorer households engage less are not fully captured by explanations centered on parental information or preferences. Second, it documents another dimension of the broad, underappreciated benefits of cash transfer programs beyond their first-order effects on income and consumption. While other work has documented effects of cash transfers on child cognition and suggested

engagement as a potential mechanism (Paxson and Schady, 2010), this paper is the first to directly estimate the impact of an unconditional cash transfer on engagement with young children in a developing country context.

Two policy implications follow. First, because resource constraints appear to matter independently of information, interventions that only inform or encourage parents are unlikely to close the full engagement gap; cash transfer programs—especially those directed at children, such as South Africa’s Child Support Grant—could be paired with information about the importance of early childhood engagement to address both channels at once. Evaluating the long-term effects of such dual interventions may help identify more effective policy for breaking the cycle of intergenerational poverty. Second, to the extent that early childhood engagement has lasting effects on long-term outcomes, this paper adds to the case for cash transfer programs for households with young children. Exposure to social protection programs during early childhood appears to carry benefits that extend well into the future.

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Appendix

Tables

TABLE A.1: Association between Household Income and Engagement

	(1) Index	(2) Sing/Talk	(3) Read/Story	(4) Play/Draw	(5) Count/Name
Log Income Per Capita	0.186*** (0.039)	0.010* (0.006)	0.032*** (0.006)	0.020*** (0.005)	0.015** (0.007)
Observations	15091	15382	15381	15343	15393

Notes: Cluster robust standard errors in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. First column shows results for the index, columns 2 through 6 show results for each component.

TABLE A.2: Older Person's Grant and Engagement—IV

Window	(1) [59-60]	(2) [58-61]	(3) [57-62]	(4) [56-63]	(5) [55-64]	(5) [54-65]	(5) [53-66]
Panel A: ITT-type estimates							
Oldest Member Age Eligible	0.548* (0.261)	0.521** (0.208)	0.406** (0.171)	0.392*** (0.114)	0.371*** (0.102)	0.408*** (0.097)	0.372*** (0.110)
Panel B: Fuzzy local randomization estimates							
Household Receives OPG	0.870** (0.397)	0.763*** (0.269)	0.574*** (0.217)	0.538*** (0.188)	0.501*** (0.170)	0.550*** (0.159)	0.487*** (0.145)
First Stage F-stat	404.108	972.343	1619.121	2442.226	3138.790	3822.268	4864.387
Observations	650	1,267	1,888	2,549	3,162	3,770	4,331

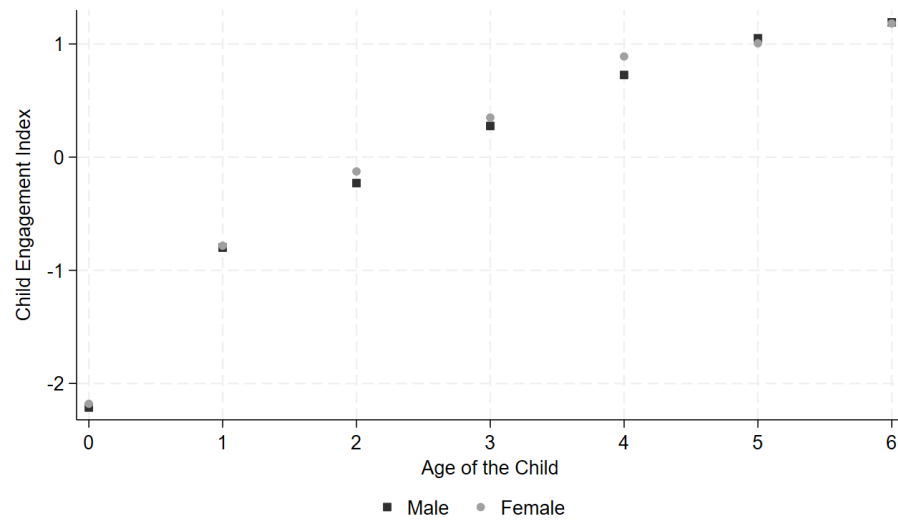
Notes: Cluster robust standard errors in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Receipt of the grant at the household level is instrumented with presence of an age-eligible elderly (oldest member) within the window indicated in each column. First-stage F-stats suggest very strong relevance of the instrument. Balance tables shown in related work such as [Alloush, Bloem and Malacarne \(2024\)](#) show that in narrow windows, households are quite similar supporting the exclusion restriction.

TABLE A.3: Engagement and Long-term Education Outcomes

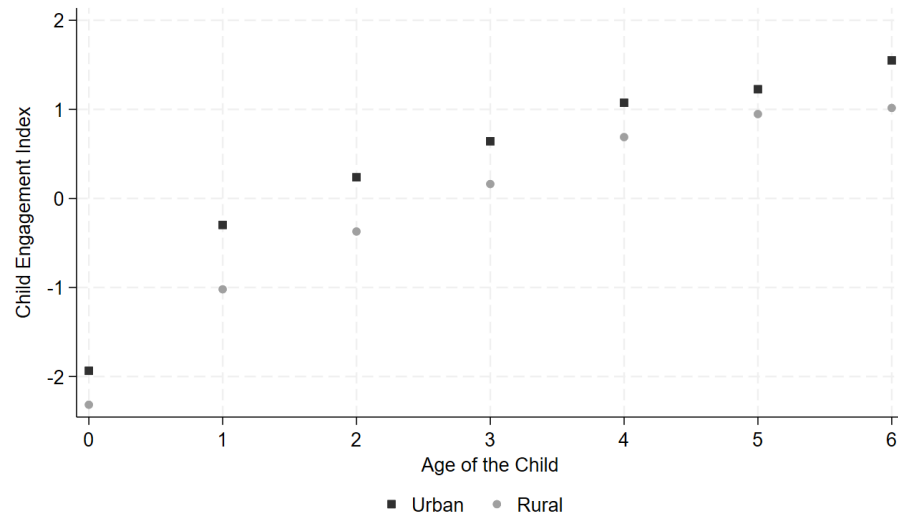
	(1)	(2)
	In School	Repeat Grade
Max current engagement in the Household	0.004*** (0.001)	-0.006*** (0.002)
Observations	4,125	3,807

Notes: Cluster robust standard errors in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Long-term educational outcomes of older children are correlated with current engagement levels of younger children in the household.

Figures



(A) Engagement index by age shows no clear differences across sex of the child.



(B) Engagement by age is higher overall for households in urban areas compared to rural areas.

FIGURE A.1: Some heterogeneity in the engagement by age.

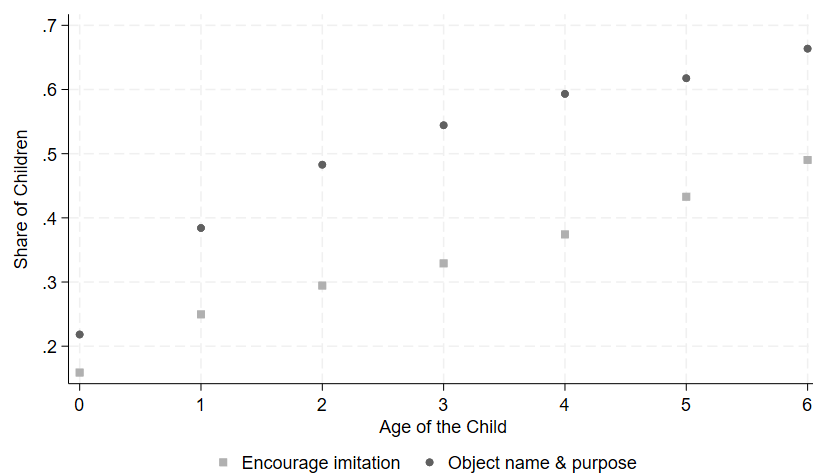
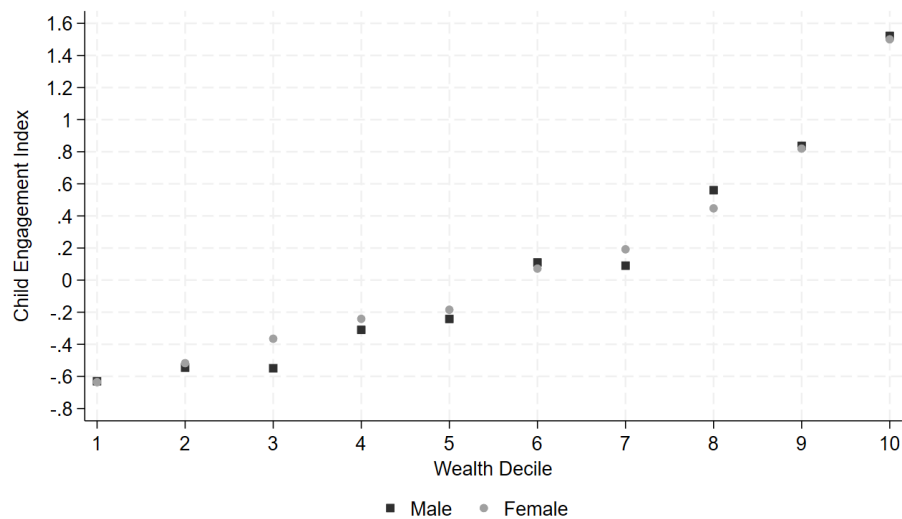
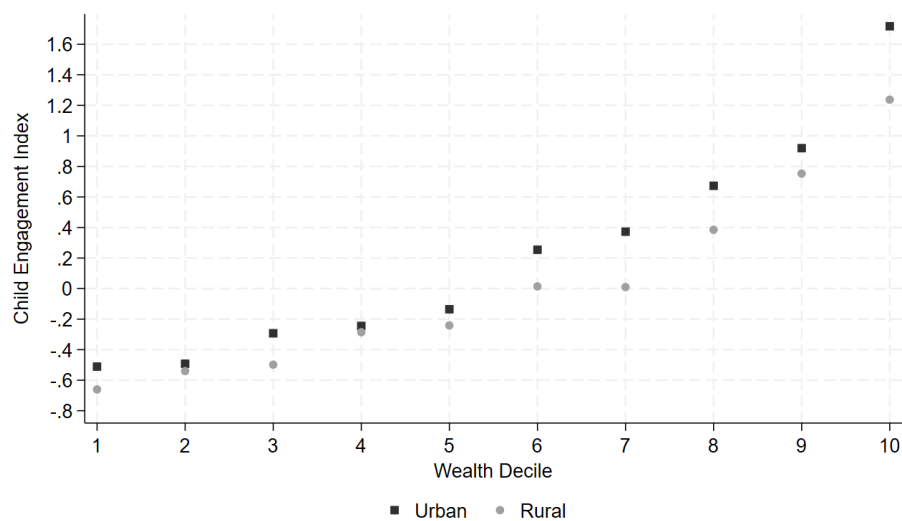


FIGURE A.2: Child engagement with the two measures only available in 2016 peak later at age 6.



(A) Engagement index by wealth shows no clear differences across sex of the child.



(B) Engagement by wealth is similar overall for households in urban areas compared to rural areas.

FIGURE A.3: No observable heterogeneity in the engagement by wealth.

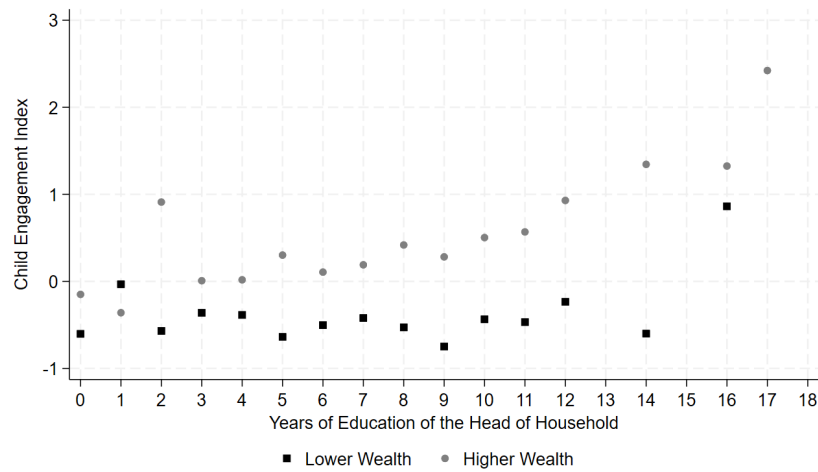


FIGURE A.4: Child engagement varies by wealth and education. Controlling for years of education of the household head, differences in wealth are correlated with differences in engagement. The results are qualitatively similar if I use the maximum or average years of education within the household instead.

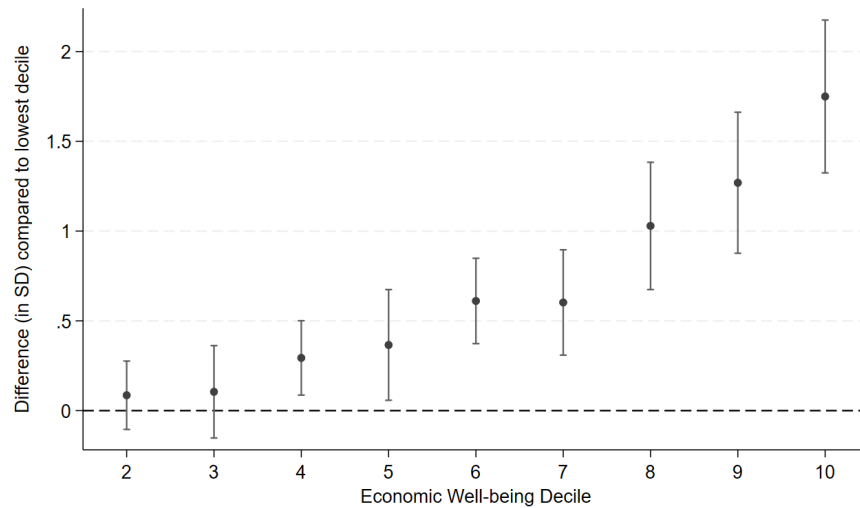


FIGURE A.5: Increases in engagement is largely linear with wealth even when controlling for a host of household and child characteristics.

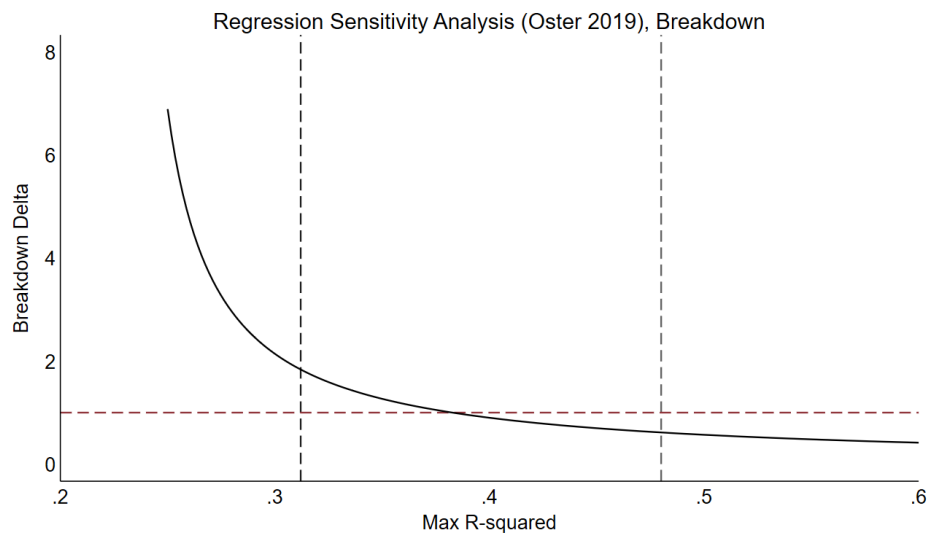
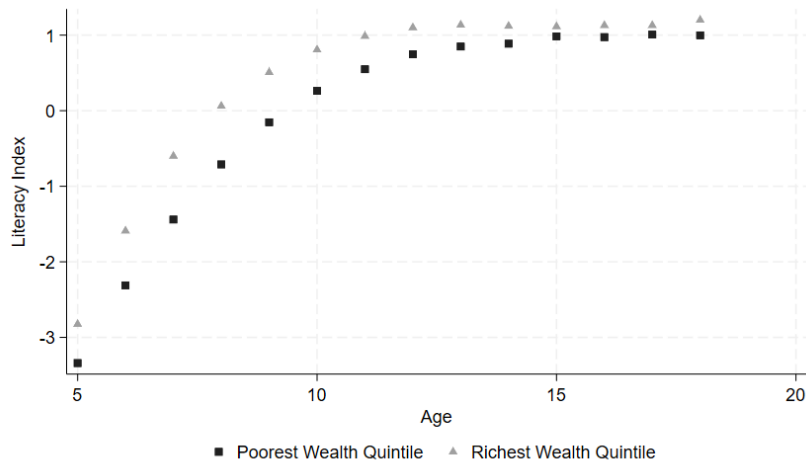
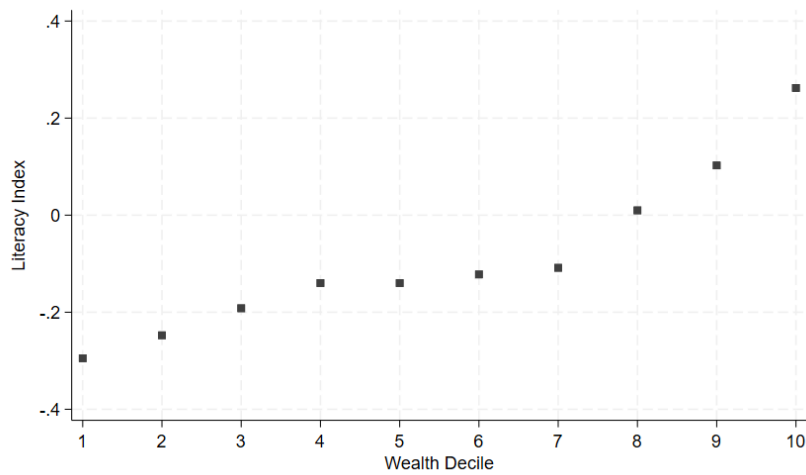


FIGURE A.6: Oster's δ by the maximum R^2 suggests robustness of the coefficient estimate of household wealth on engagement with children. Vertical line **A** marks $1.3 \times R^2_{long}$ while line **B** marks $2 \times R^2_{long}$. The dashed horizontal line is at 1.

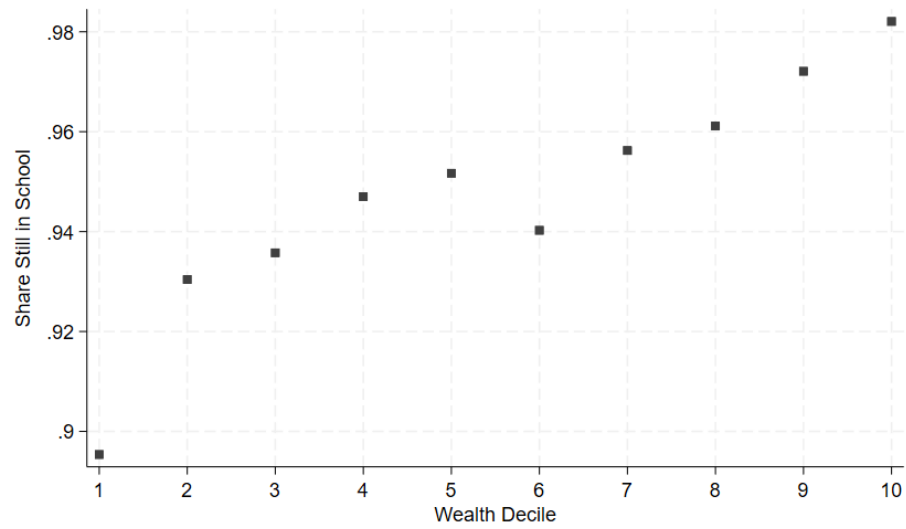


(A) Most of the variation in the literacy index is by age, however, even across age groups, the literacy index is still higher among children in wealthier households.

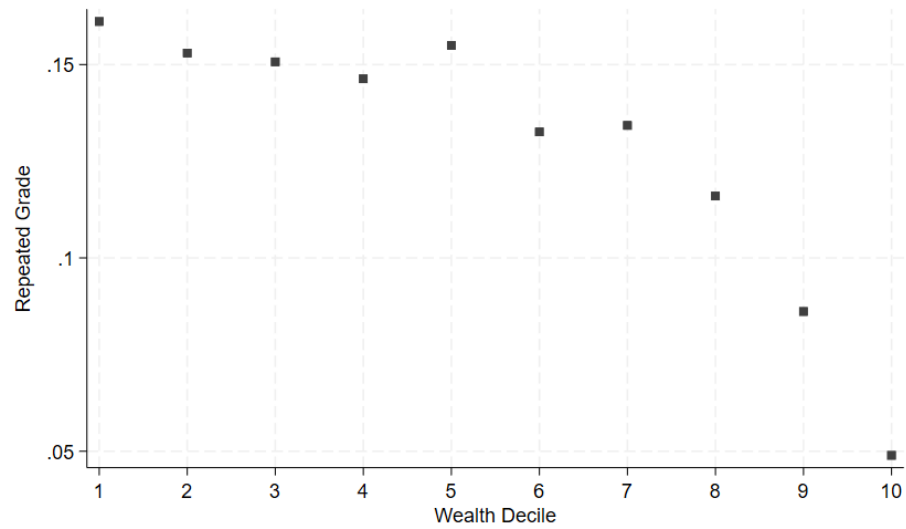


(B) Age-Adjusted literacy index increases with wealth.

FIGURE A.7: School outcome improve with wealth.



(A) Children 14-17 years old in poorer households are less likely to still be in school.



(B) Children 14-17 years old still in school who are poorer are three times as likely to have repeated a grade compared to those in the richest households.

FIGURE A.8: School outcome improve with wealth.

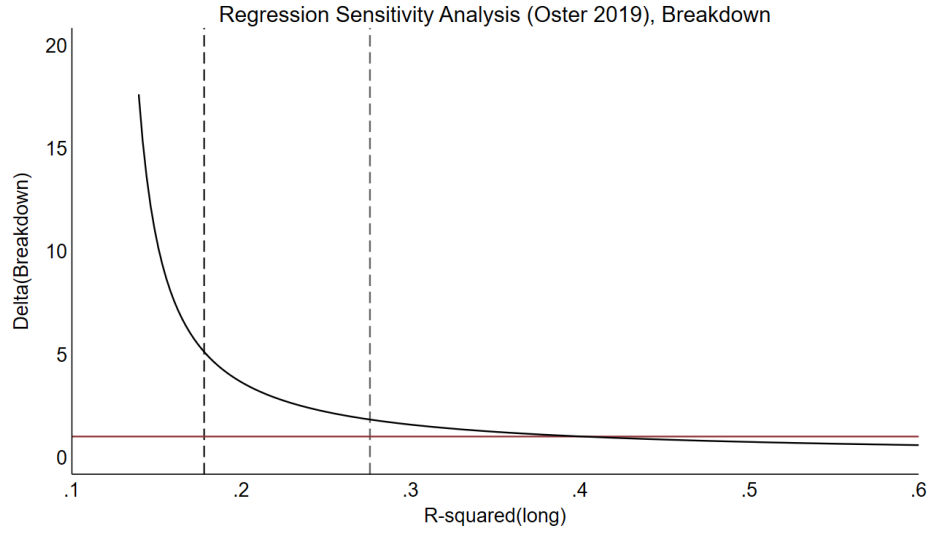


FIGURE A.9: Oster's δ by the maximum R^2 suggests robustness of the coefficient estimate of engagement with current young children on the literacy index of 10-13 year olds. Vertical line **A** marks $1.3 \times R^2_{long}$ while line **B** marks $2 \times R^2_{long}$. The dashed horizontal line is at 1.

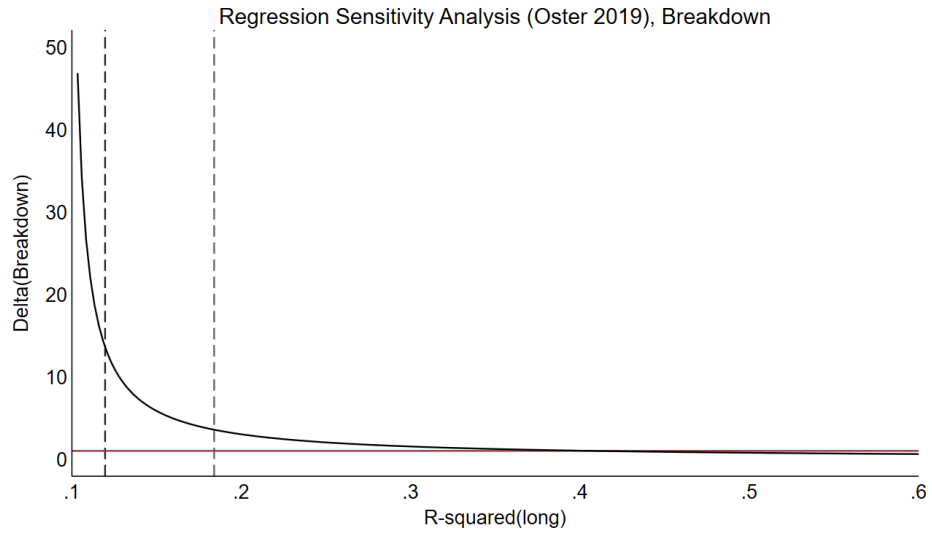
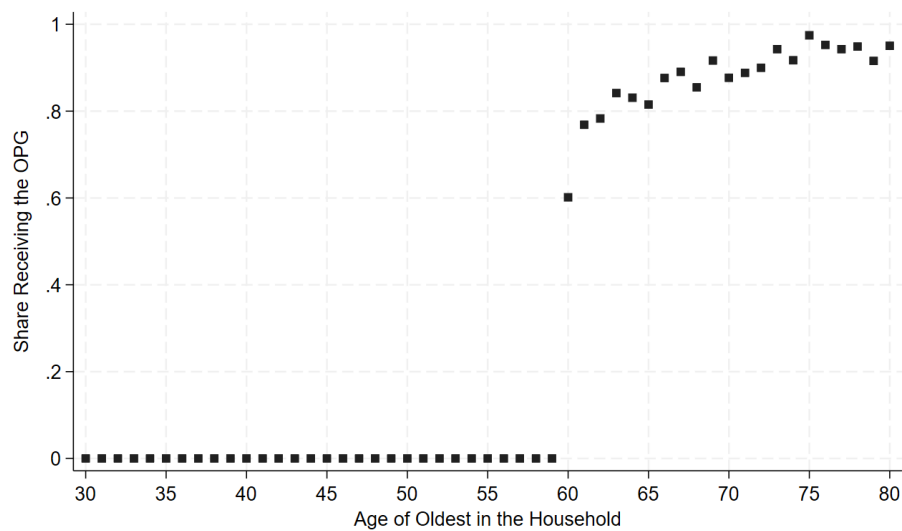
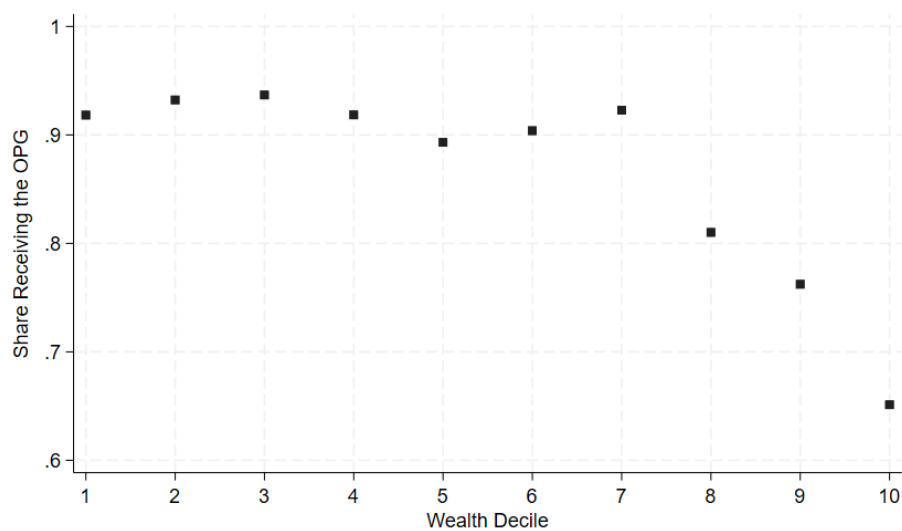


FIGURE A.10: Oster's δ by the maximum R^2 suggests robustness of the coefficient estimate of engagement with current young children on the literacy index of 10-13 year olds. Vertical line **A** marks $1.3 \times R^2_{long}$ while line **B** marks $2 \times R^2_{long}$. The dashed horizontal line is at 1.



(A) In our sample of households with children six and under, household-level receipt of the Older Person's Grant increases discontinuously when the oldest person in the household is 60.



(B) In our sample, receipt of the Older Person's Grant is highest in the bottom 7 deciles of wealth.

FIGURE A.11: Older Person's Grant by Age and Wealth.

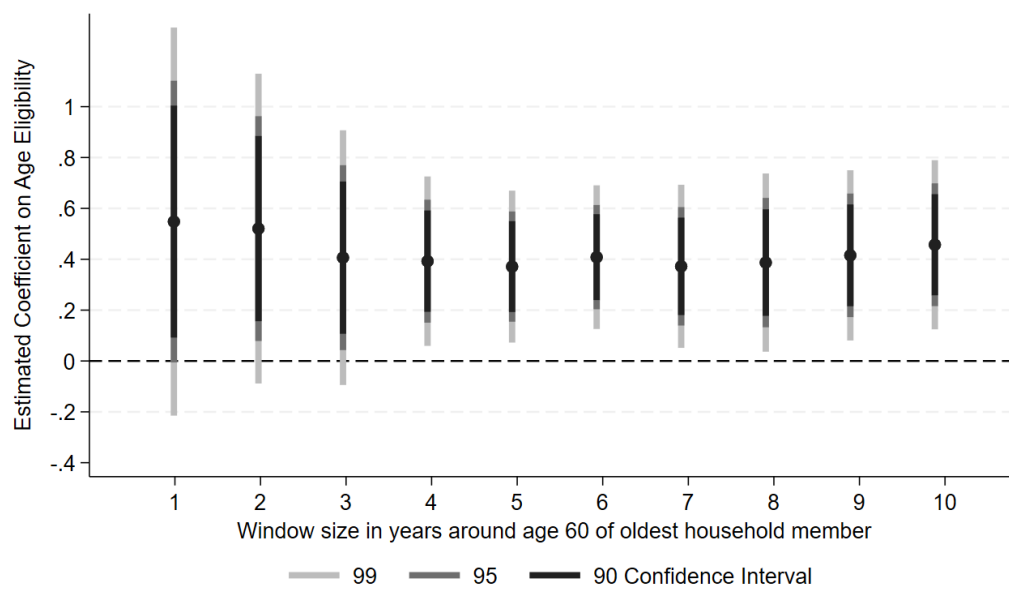
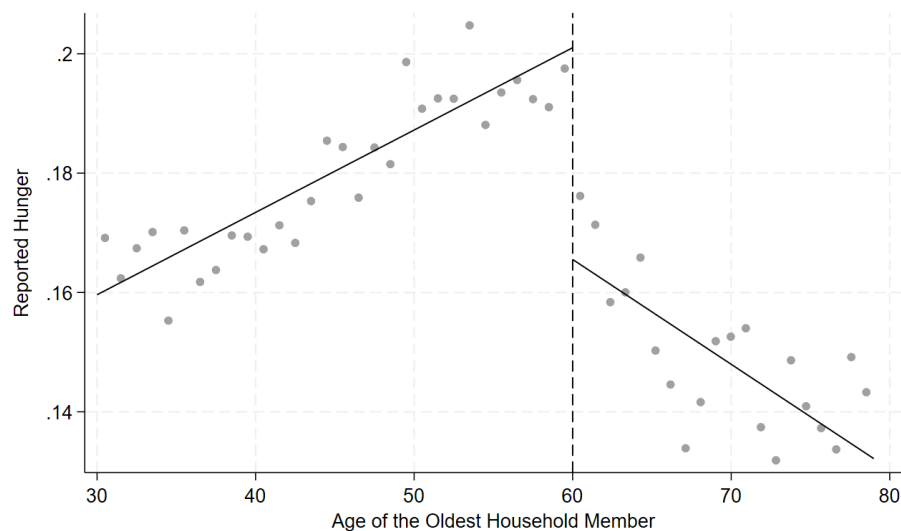
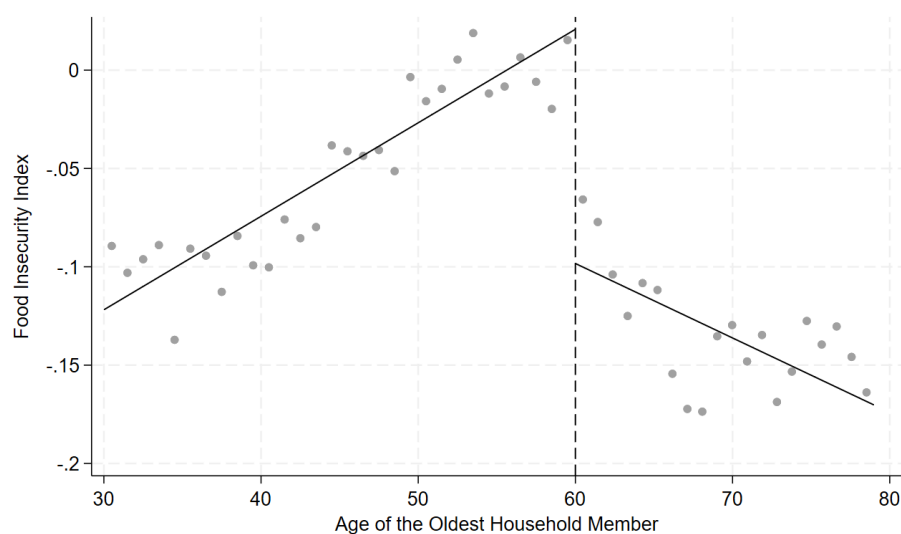


FIGURE A.12: Choice of window around 60 does not change the estimated coefficient in a meaningful way. MSE optimal bandwidth using RD methods suggest 6 as the optimal bandwidth.



(A) In our sample of households with children six and under, household-level receipt of the Older Person's Grant see a sharp decrease in reported hunger.



(B) In our sample of households with children six and under, household-level receipt of the Older Person's Grant see a sharp decrease in food insecurity.

FIGURE A.13: Older Person's Grant by Age and Wealth.