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DIETER VON FINTEL[*] AND DORRIT POSEL[**]

ABSTRACT

In the absence of longitudinal data that track individuals over an extended period of time, information on childhood socio-economic status can be provided by questions that ask adults to recall their parents' education or their economic status at childhood. The usefulness of these data, however, requires that people are willing to report this information, and that these reports do not vary systematically over time, for example in response to changes in current circumstances. In this paper, we evaluate recall data for South Africa, collected from the same adults in the first two waves of a national panel survey. We show that the data, particularly on father's education, are compromised by very low and selective response, reflecting the fragmented nature of many South African families. Among those who do provide information, parental education is reported more consistently over time than the subjective appraisals of childhood economic status. However, we find also that both sets of indicators are sensitive to changes in current income, which would be consistent with anchoring effects. Furthermore changes in subjective appraisals of the past are highly correlated with changes in subjective appraisals of the present.

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1. Introduction

The central influence of early life circumstances on outcomes later in life is a link that economists now recognize widely (Almond & Currie, 2011). Diverse life choices are enabled or limited by the environment in which children grow up, ranging from early cognitive development to schooling choices and reaching as far as labour market prospects late in the life cycle.

Longitudinal life course surveys provide the ideal source of data to investigate the relationship between childhood inputs and later life outcomes. However, these data have to be collected over long periods of time; the surveys are typically very expensive to administer; and these data are therefore often not available in developing countries. In the absence of longitudinal data, retrospective reports of earlier life circumstances provide an alternative means of assessing the influence of childhood on adult outcomes. For example, retrospective data are used when studying the effects of childhood socio-economic position on adult health outcomes (McKenzie & Carter, 2009).

In this study, we evaluate the quality of retrospective reports of childhood socio-economic status (SES), using data collected in two waves of a longitudinal household survey. The survey was conducted in South Africa, a developing country with high inequality and low levels of social mobility, both within and across generations (Lechtenfeld & Zoch, 2014; Finn et al., 2014; Piraino, 2015), and therefore a country where childhood circumstances should have a long reach on diverse outcomes such as schooling and labour market prospects. We consider whether various reports of childhood SES, collected from the same adults in consecutive waves of the survey, are affected by *current* demographic and economic characteristics of the respondent, as opposed to representing true reflections of the past.

Childhood SES among adults is most commonly measured using information on parental (and typically paternal) occupation or education at the time of the adult's childhood. As retrospective reports, this information is provided by respondents in their adult lives, and not by the parents themselves. A number of studies that assess these reports generally find evidence supporting their reliability (Berney & Blane, 1997; Kriegler et al., 1998; Batty et al., 2005; Ward, 2011). However, in developing countries such information may be less useful. In South Africa, for example, the majority of children do not grow up in dual parent households; and where children live with a parent, this is far more likely to the mother than the father (Posel & Rudwick 2013). As a result, information on

parental education may not be reported or it may not be relevant in identifying childhood circumstances.[1]

An alternative measure of childhood SES derives from a subjective appraisal by adults, who are asked to recall SES at childhood. For example, adults may be asked to rate the economic status of their household at some point in childhood, from 'very poor' to 'rich', or relative to the economic status of other households. Only a few studies evaluate the usefulness of such data. Ward (2011) and Straughen et al. (2013) compare consistency in subjective appraisals of childhood SES across different, but closely related, individuals (siblings, or mothers and daughters). The studies find low concordance between intra-family reports of childhood SES, but this is at least partly because subjective assessments are provided by different people.

In this study, we use replicate reports on childhood SES, collected from the same adults in consecutive waves of a South African panel study, to assess the reliability of recall data on economic status during childhood. We evaluate two sets of indicators of childhood SES: the education of the adult's mother and the adult's father; and the adult's recall of the household's economic status at age 15. In the former case, we only study reports of adults who were asked to recall this information because they were not co-resident with their mother or father (either because the parent was living elsewhere or was deceased).

We first examine people's willingness to provide retrospective reports, and consider whether there is selection on individual characteristics in these response patterns. We then assess whether non-missing reports are consistent over time. In particular, we investigate whether there is evidence of anchoring in retrospective reports, whereby changes in current circumstances are systematically associated with changes in retrospective reports of the same individual over time (Haas, 2007). The longitudinal approach followed here also allows us to control for time-invariant heterogeneity (such as an innate ability to remember past events and other personality characteristics) using fixed effects estimation. Intra-family studies that are typically used to gauge reliability of retrospective data are not able to account for these person-specific omitted factors.

In the next section, we review the literature on childhood recall and in section 3 we describe the data analysed in the study and our methodology. Section 4 presents the descriptive findings and section 5

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[1] Moreover, it is not clear what domain of childhood is measured by parental attributes. Harper et al. (2002), for instance, suggest that parental education measures the child's intellectual environment, while parental occupation measures the material environment during childhood. Each is a measure of one facet of childhood socio-economic status. The former is potentially more suitable to assess the path of education decisions over the life cycle, while the latter attribute affects the financial position of households and credit constraints that influence future choices. The latter measure may also be more suitable to measure intergenerational as opposed to life course mobility, as illustrated by Piraino (2015).

discusses the econometric results. Section 6 concludes by summarising the main findings of the study and considering the broader the implications of poor recall for micro-econometric analysis.

2. Review: the use of retrospective and subjective data

Retrospective data are potentially useful to explore the long reach of childhood in adult life, particularly in developing countries. Most of the research on the dependence of life cycle outcomes on childhood circumstances focuses on developed country populations (Almond & Currie, 2011; Cunha et al., 2006). This is at least partly because of the availability of long-established surveys that track individuals from young ages into the labour market, for instance the National Longitudinal Survey of Youth (NLSY) in the United States. Conducting such long-run studies incurs high monetary costs because individuals need to be tracked or followed, and sometimes over large distances if participants are spatially mobile. Attrition is also likely to be severe in such a scenario. Furthermore, the initiation of a study with a cohort of youths will only yield long-run outcomes at a much later date, implying a long "gestation period" for conclusions to be drawn. In light of these difficulties, birth cohort studies are scarce in developing countries. Yet, given the potential for chronic poverty and low levels of income mobility, it is precisely in these regions that an understanding of the reach of childhood factors is particularly important.

In the absence of life course longitudinal data, recall data are potentially an important alternative. In contrast to birth cohort studies, retrospective data are "available quickly" (Haas 2007:115), and questions asking adults to recall socio-economic conditions during childhood are easily included, and at relatively low cost, in existing surveys. However, the usefulness of these data requires that adults are willing and able to provide a reliable recall of their past, and that this recall is not substantially influenced by the current characteristics or circumstances of the individual.

In their study of the quality of retrospective data in a developing country setting, Beckett et al. (2001) describe four typical patterns of errors in recalling the past. The first concerns the length of recall, whereby the longer the time since the recalled event, the more likely the past will be remembered with error. We would therefore expect childhood to be recalled with greater error among older adults. However, where replicate retrospective reports are provided by the same adult, we would not expect inconsistency in these reports to derive from length of recall errors, particularly if the retrospective assessments are collected in relatively close time proximity to each other. In this case, length of recall errors should be strongly correlated over time, with a consistent error surfacing at both reporting occasions.

The second type of error concerns the salience of what is being recalled. Circumstances and events will be recalled with less error if they are more prominent in an individual's life: life-changing events, or particularly severe or opportune circumstances, are likely to be remembered with less error. Hence, childhood SES may only be particularly memorable (and recalled correctly) if adults lived in extreme poverty or wealth as children. However, severe childhood circumstances may also result in non-random non-response among adults, particularly when these circumstances are associated with instability and frequent changes in the family's living arrangements (McKenzie & Carter, 2009).

Third, people's recall of the past may be influenced by telescoping, whereby they estimate the timing of past events incorrectly. In particular, memorable events may be recalled as having occurred more recently than they did. In this case, adults who experienced distinct upward (or downward) mobility during childhood may remember this transition as having occurred more recently (for example, during the early stages of adulthood). Telescoping therefore may result in life-time mobility between childhood and late adulthood being overstated.

The fourth type of error in recall concerns the "accessibility of events" (Brown et al., 1986): occurrences that are easier to recall are reported as having occurred more frequently. In the case of childhood SES, if many temporary shocks to consumption would have affected a household, an individual might recall more permanent depressed economic circumstances, despite their non-permanence.

A further problem that affects the reliability of recall data is related to anchoring, a cognitive bias which was not investigated by Beckett et al. (2001). Anchoring occurs when retrospective reports are influenced by the current circumstances or status of the respondent (Haas, 2007). For example, adults' assessments of SES during childhood will be anchored by their current SES if they project these circumstances backwards. Tversky & Kahneman (1974) emphasize that under uncertainty, individuals tend to make judgments based on beliefs that are simplified by a number of heuristics. While simplification reduces the cost of making fairly good judgments, errors do arise. Anchoring entails that individuals choose a starting information set, from which adjustments are made to conclude on another reference point. In the case of assessing past SES, individuals first consider their current position, and then adjust backwards by an increment which reflects their perceived rise or fall in the income distribution between the starting and end point. Most experiments show that the starting point is influential for the final estimate, even if the degree of adjustment could be correct (Tversky & Kahneman, 1974). Hence, if current circumstances are out of the ordinary, estimates of the past will be biased in the same direction.

The literature that evaluates the reliability and validity of retrospective data is relatively limited, and there are even fewer studies from developing countries (where such recall measures would be particularly valuable in the absence of birth cohort studies). Moreover, the collection of replicate retrospective reports in longitudinal datasets is not common. Survey designers often choose to "benchmark" to reduce interview time (Beckett et al. 2001: 622). That is, interviewers first remind respondents about information that they provided in the previous round, so that a relevant reference point is established for subsequent answers. Consequently, different reports from the same individual are not collected, and few studies can therefore test for evidence of anchoring in retrospective data.

One exception is a study by Haas (2007), which evaluates reports on retrospective child health status in a developed country. The study finds that ordinal retrospective reports (across two waves of the Panel Study of Income Dynamics in the United States) are exactly consistent for approximately 55 per cent of respondents, with some marginal shifts to adjacent categories also prevalent in the data. In order to eliminate these fine differences at category thresholds, measures are also dichotomized, raising consistency to above 90 per cent[2]. Strong consistency suggests that childhood health is a salient characteristic that is recalled accurately by adults. The study also finds that evidence for systematic differences in length of recall is weak, with older individuals recalling their childhood as consistently as younger respondents. However, educated and white adults were more consistent in their responses over time.

A few studies assess the validity of retrospective data on socio-economic status specifically. Some research compares adults' recall of childhood circumstances with information that had been gathered years earlier, during childhood (Batty et al. 2005; Brown 2012). Other studies evaluate the reliability of retrospective reports by comparing assessments of childhood SES provided by different family members – from pairs of adult female twins (Kriegler et al. 1998); siblings (Ward 2011); or mothers and their adult daughters (Straughen et al. 2013).

The findings from these studies are not consistent. Batty et al. (2005), for example, report only "moderate" agreement between retrospective reports of fathers' occupation compared with data collected early in life (54 per cent of responses corresponded). Brown (2012:21), in contrast, finds "typically small" differences between adults' assessments of economic status at childhood and information that had been collected during childhood from the children's mothers. However, the likelihood of inconsistent reports was far higher among those living in larger households, the less educated and among those with less stable family backgrounds.

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[2] This is also done to eliminate insubstantial anchoring effects at the margin.

Studies which compare retrospective reports provided by different family members typically find strong concordance when these reports are on father's education or occupation (Krieger et al. 1998; Ward 2011), but far weaker agreement on subjective reports of childhood socio-economic position (Ward 2011, Straughen et al. 2013). Krieger et al. (1998), for example, compare responses from pairs of adult female twins on parental occupation and education during childhood, collected in a cross sectional survey. Their results show strong concordance in the recall of father's education (91 per cent agreement), and slightly lower concordance in the recall of father's occupational status during childhood (80 per cent). However, there is no evidence that the extent of agreement varied according to the education or social class of respondents.

Ward (2011) also finds strong correspondence between siblings' retrospective reports of childhood SES when this is measured using father's education and occupation. However, concordance is far lower for a subjective question on how financial status at childhood compared to that of other families, even when the seven ordinal responses are grouped into broader categories. Similarly, Straughen et al. (2013) identify low agreement between mothers and their daughters in how they assessed the economic status of the family during the daughter's childhood (with five response options, ranging from "very poor" to "well to do") (Straughen et al. 2013: 296).

These findings suggest that subjective measures (or individual perceptions of economic status) are recalled with greater error than more objective measures, and indeed both Ward (2011) and Straughen et al. (2013) advocate the use of objective indicators of childhood SES (such as parental education and occupation). However, in both studies, subjective assessments from two different family members are compared, and therefore neither analysis can control for the possibility of person-specific response patterns in these assessments. In contrast to recall of parental education or occupation, however, various family members may have different perceptions of childhood economic status, influenced by individual experiences since childhood.

In this study, we take advantage of replicate reports, provided by the same individual in two waves of a longitudinal survey, to assess the reliability of recall data on perceived childhood SES. Any changes in reports can be attributed to occurrences between the two surveys, and are not likely to be influenced by events before that. We consider whether differential reports vary systematically according to the demographic and economic characteristics of the respondent, and we focus on whether there is evidence of anchoring in these reports. In particular, we test whether changes in current household income and in adults' subjective assessments of their current economic status and subjective well-being alter how they evaluate their childhood economic status.

In addition, we evaluate the reliability of reports on parental education in the South African context, where (especially black) children have distinctly low probabilities of living with their biological parents, and particularly with their fathers (Morrell et al. 2003; Hill et al. 2008; Posel & Rudwick, 2013). Although father's education is typically used in the literature to measure childhood SES, less than a third of black children (14 years and younger) in South Africa lived with their fathers in 2008 (Posel & Rudwick 2013). This is explained partly by the persistence of migrant labour where men work in locations distant from their families (Collinson et al. 2007; Posel & Devey 2006; Posel 2010). In addition, both marriage and cohabitation rates are low among blacks and children born out of wedlock are far more likely to live with their mother than their father (Posel & Rudwick 2013; 2014). These household formation patterns raise the possibility that individuals do not know as much about their parents' attributes, and specifically their father's education, as they do about their own experiences.

3. Data and methods

The data for the study come from the first two waves of a South African panel survey, the National Income Dynamics Study (NIDS), conducted in 2008 and in 2010. In the first wave, 16 802 resident adults were surveyed, and of these, 15 113 were successfully re-interviewed in the second wave. In both waves, all adults (15 years and older) who reported having a deceased parent or who were not co-residing with a living parent were asked to recall the parent's educational attainment[3]. Additionally, all adults were asked to assess the retrospective economic status of their household. In particular, resident adults were asked to rank the economic status of their household at age 15 on a ladder with six rungs, ranging from the poorest to the richest households in South Africa.

While most other studies compare retrospective reports among individuals who are close relatives, we use the replicate reports in NIDS to study consistency for the *same* individuals, thereby controlling for person-specific response patterns. It is not possible to test for the full validity of the data, because we do not have "true data" against which the retrospective measures can be compared (Beckett et al. 2001). However, it is possible to establish whether particular individuals are prone to change their recall of parental education or their judgments of childhood economic status. As the waves are only two years apart, inconsistencies in retrospective reports are not likely to be the result of systematic differences in recall periods since childhood. For similar reasons, telescoping is unlikely to be influential. However, the time between the surveys is long enough so that short-run changes in well-being could have led to anchoring among respondents.

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[3] Where individuals do reside with parents, education is reported by the mother and/or father.

In the empirical analysis, we first measure and compare response rates and consistency in reports on parental education and childhood economic ranking. We then use regression analysis to explore further the correlates of changes in these reports. As education is an objective, rather than a subjective measure, we would expect assessments of parental education to be measured more consistently by respondents over time. However, given the South African context, where nuclear families are often fragmented, this information is also more likely to go unreported in a survey interview, particularly for the case of paternal education. In contrast, more individuals may be able to provide a subjective measure of their childhood economic status, as this information relates to their own experiences rather than to those of their parents. However, because the measures are subjective, there may be more variability across time, and in particular, these retrospective reports may be influenced by changes in current circumstances.

To evaluate consistency in reports, we identify the proportion of identical responses over the two waves along various demographic dimensions. We also use kappa statistics[4], which adjust for the probability that agreement was achieved purely by chance (Cohen 1960):

$$\kappa = \frac{P(total\ agreement) - P(agreement\ by\ chance)}{1 - P(agreement\ by\ chance)}$$

…(1)

In the questions on parental education, adults with parents who were not co-resident in the household were asked to recall the highest school grade that their parents had completed, and also to specify whether any post-secondary qualifications had been attained. To measure concordance in parental education, we convert these responses into categories representing no schooling, primary, incomplete secondary, complete secondary (matric) and post-secondary education, corresponding to important thresholds in an individual's schooling career. In so doing, we reduce the discordance that results from small changes in the school grade reported. However, the various education categories do not capture the same number of schooling years, and when we estimate regression models of changes in reports we measure parental education in years of education.

To measure concordance in the subjective rankings of childhood economic status on the national ladder, we compare the original six rung reports in waves 1 and 2, but we also consider how consistency measures change when the six rungs are collapsed into three groups of two (representing "low" "middle" and "high").

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[4]Kappa varies from 0 (perfect discordance) to 1 (perfect concordance). Chance agreement is defined as the product of marginal probabilities for respective categories at each rating. Accounting for the eventuality of random agreement makes these statistics relatively conservative in their conclusions about concordance. Nevertheless, most researchers in social and medical sciences refer to kappa statistics to evaluate consistency across ratings.

We model changes in recall in two sets of regressions. The first explains changes across the two periods as a function of wave 1 characteristics and changes in current well-being, using OLS regressions. To capture changes in current well-being, we consider per capita household income, subjective assessments of economic ranking in the current village distribution (measured in three categories representing "below average", "average" and "above average"), and the adult's self-assessed life satisfaction (or subjective well-being, SWB), measured on a scale from 1 to 10 as explanatory variables. Specifically:

$$\Delta SES_{child;irt} = \beta_0 + \beta_1 HH\ per\ capita\ income_{ir(t-1)} + \beta_2 \Delta HH\ per\ capita\ income_{irt} +$$
$$\beta_3 SER_{current\ local;ir(t-1)} + \beta_4 \Delta SER_{current\ local;irt} + \beta_5 SWB_{ir(t-1)} +$$
$$\beta_6 \Delta SWB_{irt} + \beta_7 SES_{child;ir(t-1)} + x_{ir(t-1)}'\gamma + \mu_r + \varepsilon_{irt}$$

…(2)

where i indexes individuals, r defines regions, t represents time, $x_{ir(t-1)}$ is a vector of demographic characteristics, μ_r is a time-invariant region fixed effect and ε_{irt} is a random error term. The dependent variables ($SES_{child;it}$) represent changes in reports on father's or mother's education, and changes in the adult's subjective recall of economic ranking (SER) at age 15. Wave 1's value of the dependent variable is also included as an explanatory variable in order to assess whether mean reversion in reporting occurs, as is found in income data (Lechtenfeld & Zoch, 2014) and in most other phenomena reported over time (Tversky & Kahneman, 1974).

As these OLS estimations include some variables in levels, they are not first difference regressions; but they allow us to understand which base period indicators, along with changes in circumstances, are associated with changes in reports over time. However, these regressions do not adequately control for time-invariant unobserved factors (such as inherent recall ability or personality traits), as they can only include district fixed effects. We therefore estimate a second set of individual fixed effects regressions, which include person-level intercepts in the specification:

$$SES_{child;it} = \beta_0 + \beta_1 SES_{current\ local;it} + \beta_2 HH\ per\ capita\ income_{it} + \beta_3 SWB_{it} + x_{irt}'\gamma + \mu_i +$$
$$\lambda_t + \varepsilon_{it}$$

….. (3)

where each of the indices is as before, μ_i is an individual fixed effect and λ_t is a time fixed effect.

Although the fixed effects regressions reduce the problem of individual heterogeneity, the disadvantage is that many of the demographic covariates included in OLS regressions do not vary over time. We therefore also estimate the fixed-effects regressions separately by gender, race group

and age cohort. Young adults who do not live with their parents may represent a select group of adults who have spent less time with their parents and who therefore know less about their parent's education.[5] The separate regressions by age cohort make it possible to assess whether our findings on parental education are influenced by the nature of recall among these adults in particular.

4. Descriptive findings: response rates and concordance

To evaluate the different measures of childhood SES, we start by investigating the willingness of respondents to report on parental education and perceived economic ranking at age 15. Table 1 describes response rates among adults above the age of 15 who appear in both waves of the NIDS panel. In the case of parental education we limit the sample to adults who reported *not* living with the parent of interest in both waves. In the balanced panel, 67 percent of all adults older than 15 were not co-resident with their mother in both waves and 84 percent were not co-resident with their father. Differences in the likelihood of living with a mother rather than a father are far larger among younger adults than older adults. Our samples in the case of mother's (father's) education account for 27 percent (61 percent) of all 15 to 18 year-olds, 40 percent (69 percent) of 19 to 30 year-olds, and 85 percent (95 percent) of those older than 30.

Overall, almost two-thirds of respondents provided subjective appraisals of childhood ranking in both rounds of the survey. The aggregate response rate on mother's education is also high (although below that on childhood ranking), but the response rate on father's education is low, and far lower than on mother's education across all the demographic classifications (with the exception of Indians and whites, where the difference is less marked).

Response rates are typically higher on childhood ranking than on maternal education for all the demographic groups. However, whites, and adults with no schooling, are far less likely to provide an assessment of childhood ranking than they are to report on maternal education. These patterns would be consistent with findings from a number of other studies, that both the rich and the poor are less willing to answer income-related questions (cf. Lillard et al., 1986; Juster & Smith, 1994). The large difference in response rates, on childhood ranking by education, suggests also that the ladder question could have been less easily understood by individuals with no formal schooling.

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[5] However, labour migration has a long history in South Africa, and marriage rates among black South Africans have been declining over several decades. It is therefore also possible that a significant share of older adults had not been living with at least one of their parents in childhood.

Response rates on both maternal and paternal education are substantially lower among younger adults than among older adults. An important explanation for this is that young adults, and particularly those in the youngest cohort (16 to 18 years), may have less detailed knowledge about a parent if they are already separated from the parent at this age. Although the youngest adults (16 to 18 years) are the least likely to provide reports on parental education, they are the most willing, among the age cohorts, to answer the childhood ranking question. This may be because they are closest in age to the reference period in the ranking question.

Table 1. Response rates among adults in the balanced panel

Sample	Childhood Ranking[a]		Mother's Education[b]		Father's Education[b]		N
Overall	0.655	(0.004)	0.621	(0.006)	0.481	(0.005)	15113
Female	0.861	(0.004)	0.633	(0.007)	0.484	(0.007)	7135
Male	0.471	(0.006)	0.599	(0.010)	0.475	(0.009)	7978
Black	0.693	(0.004)	0.661	(0.006)	0.508	(0.006)	11689
Coloured	0.602	(0.010)	0.394	(0.016)	0.280	(0.013)	2231
Indian	0.485	(0.032)	0.440	(0.054)	0.409	(0.051)	241
White	0.360	(0.016)	0.629	(0.027)	0.593	(0.027)	952
16-18 years	0.739	(0.015)	0.464	(0.037)	0.315	(0.024)	627
19-30 years	0.605	(0.007)	0.576	(0.014)	0.383	(0.011)	2680
31-45 years	0.640	(0.008)	0.643	(0.011)	0.493	(0.010)	4013
46-60 years	0.683	(0.008)	0.638	(0.011)	0.544	(0.011)	3152
61+ years	0.702	(0.010)	0.626	(0.012)	0.557	(0.013)	2113
No school	0.373	(0.008)	0.725	(0.013)	0.648	(0.013)	3405
Primary school	0.769	(0.008)	0.613	(0.011)	0.498	(0.011)	3026
Incomplete secondary	0.742	(0.006)	0.556	(0.010)	0.404	(0.009)	5144
Complete secondary	0.696	(0.010)	0.611	(0.017)	0.407	(0.014)	2206
Post-secondary	0.707	(0.013)	0.679	(0.018)	0.553	(0.018)	1315

NOTES: Own calculations from NIDS waves 1 and 2. [a]Figures represent the proportion of adults aged 16 years and older in the balanced panel who reported the indicator in both waves of the data, with standard errors in parentheses. [b]The sample is additionally limited to individuals who were not co-resident with the respective parent in both waves (because the parent was living elsewhere or was deceased) and who were therefore asked to recall the parent's education. Two-sided T-tests of differences between response rates on mother's and father's education are significant at ***1% level **5% level.

Low response rates on paternal education suggest that in the South African context, this common measure of childhood SES will be less representative of the adult population than maternal education or subjective ranking at childhood. However, the usefulness of recall data depends not only on whether information is reported but also on whether these reports are consistent and reliable, rather than varying systematically according to the characteristics or changing circumstances of the respondent. We begin to explore this in Table 2, which describes consistency in replicate reports on parental education and childhood economic ranking, conditional on non-missing responses in both waves of the panel. The proportions of identical responses as well as kappa measures of concordance

(with 95 percent confidence intervals) are presented for the overall samples, and across a range of demographic characteristics.

Only 34 per cent of respondents provide the same subjective ranking of childhood SES on the six-rung national ladder in waves 1 and 2. Furthermore, the kappa statistic is close to zero, which suggests that this subjective recall is highly erratic over time. Consistency increases to almost 63 percent when the six rungs are collapsed into three groups, indicating that many changes in reports across the waves are due to small adjustments to rankings, moving from one rung to an adjacent rung. However, the kappa measure is still very modest at 0.079, with a 95% confidence interval that overlaps with that of the kappa measure for the finely categorized subjective appraisal. In contrast, approximately 73 percent of respondents provide consistent reports of parental education measured in five categories[6]; and the kappa statistics are now far higher. There is also no significant difference in the concordance of responses on mother's or father's education.

Response rates on the subjective measure of childhood ranking are higher than those on particularly father's education. However, among those who do respond, the subjective measure is less reliably reported than both parental education indicators. Respondents therefore are more willing, or able, to provide subjective appraisals of childhood economic status, than they are to report on father's education, but these appraisals are more likely to change over time.

There is no evidence that the length of recall accounts for changes in childhood SES rankings. Concordance in childhood ranking is insensitive to the respondent's age, with small differences in percentages and insignificant differences in kappa statistics. Consistent recall of parental education does change with age, but not in the manner predicted by length of recall bias. Individuals under the age of 30 report their parent's education with the lowest consistency, while those above 60 show the highest levels of concordance. As with response rates, these patterns suggest that younger adults who are not living with a parent (and who are therefore asked to recall their parent's education), are the least likely to have detailed knowledge about the parent.

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[6] Comparisons *across* objective and subjective measures are, however, not clear cut, as concordance is also dependent on the number of categories by which each is measured, and the thresholds and distribution of the underlying latent variable that determine the categories. One can expect higher concordance when fewer categories are used, and also where there are high concentrations of respondents within particular bins.

Table 2 Proportions of respondents with identical responses over time, with kappa statistics

	Childhood Ranking[a]	Grouped Child Ranking[b]	Mother's Education[c]	Father's Education[c]
Overall	0.340	0.625	0.726	0.727
Kappa	0.047	0.079	0.496	0.469
95% CI	(0.035 ; 0.060)	(0.060 ; 0.097)	(0.476 ; 0.516)	(0.449 ; 0.489)
Female	0.337	0.621	0.733	0.743
Kappa	0.043	0.069	0.496	0.473
95% CI	(0.027 ; 0.059)	(0.045 ; 0.092)	(0.471 ; 0.520)	(0.448 ; 0.499)
Male	0.345	0.633	0.710	0.698
Kappa	0.053	0.096	0.496	0.459
95% CI	(0.033 ; 0.074)	(0.066 ; 0.126)	(0.463 ; 0.529)	(0.427 ; 0.492)
Black	0.337	0.628	0.724	0.727
Kappa	0.030	0.036	0.436	0.393
95% CI	(0.016 ; 0.044)	(0.016 ; 0.057)	(0.414 ; 0.459)	(0.371 ; 0.416)
Coloured	0.364	0.640	0.763	0.722
Kappa	0.077	0.130	0.636	0.583
95% CI	(0.043 ; 0.111)	(0.081 ; 0.180)	(0.567 ; 0.705)	(0.512 ; 0.654)
Indian	0.308	0.530	0.649	0.658
Kappa	0.066	0.118	0.467	0.522
95% CI	(-0.037 ; 0.169)	(-0.045 ; 0.281)	(0.259 ; 0.674)	(0.332 ; 0.711)
White	0.335	0.545	0.692	0.738
Kappa	0.075	0.119	0.470	0.561
95% CI	(0.015 ; 0.135)	(0.028 ; 0.211)	(0.358 ; 0.582)	(0.453 ; 0.669)
16-18 years	0.324	0.613	0.565	0.561
Kappa	0.031	0.081	0.416	0.401
95% CI	(-0.018 ; 0.081)	(0.051 ; 0.112)	(0.295 ; 0.537)	(0.300 ; 0.502)
19-30 years	0.332	0.592	0.527	0.569
Kappa	0.037	0.061	0.347	0.370
95% CI	(0.013 ; 0.061)	(-0.014 ; 0.136)	(0.303 ; 0.392)	(0.326 ; 0.415)
31-45 years	0.346	0.625	0.703	0.709
Kappa	0.053	0.069	0.503	0.480
95% CI	(0.028 ; 0.077)	(0.033 ; 0.106)	(0.466 ; 0.540)	(0.442 ; 0.518)
46-60 years	0.356	0.635	0.763	0.771
Kappa	0.062	0.083	0.470	0.469
95% CI	(0.035 ; 0.089)	(0.045 ; 0.122)	(0.432 ; 0.509)	(0.430 ; 0.507)
61+ years	0.340	0.643	0.872	0.871
Kappa	0.030	0.075	0.519	0.498
95% CI	(-0.003 ; 0.062)	(0.027 ; 0.123)	(0.475 ; 0.563)	(0.451 ; 0.544)
No school	0.398	0.711	0.953	0.940
Kappa	0.045	0.035	0.251	0.136
95% CI	(0.007 ; 0.082)	(-0.015 ; 0.085)	(0.194 ; 0.308)	(0.084 ; 0.188)
Primary school	0.360	0.665	0.783	0.781
Kappa	0.018	-0.001	0.357	0.256
95% CI	(-0.010 ; 0.045)	(-0.039 ; 0.037)	(0.311 ; 0.402)	(0.210 ; 0.302)
Incomplete Secondary	0.322	0.609	0.612	0.615
Kappa	0.018	0.038	0.398	0.367
95% CI	(-0.003 ; 0.038)	(0.009 ; 0.068)	(0.362 ; 0.435)	(0.331 ; 0.404)
Matric	0.321	0.588	0.587	0.597
Kappa	0.044	0.117	0.436	0.447
95% CI	(0.013 ; 0.074)	(0.071 ; 0.164)	(0.386 ; 0.487)	(0.394 ; 0.499)
Post-secondary	0.314	0.535	0.585	0.608
Kappa	0.063	0.109	0.444	0.475
95% CI	(0.026 ; 0.100)	(0.051 ; 0.168)	(0.390 ; 0.497)	(0.420 ; 0.529)
N	9899	9899	4368	4143

NOTES: Own calculations from NIDS wave 1 and 2. All statistics calculated on wave 2 characteristics. Sample includes all adults older than 15. [a]Original measure in data, with six rungs. [b]Rungs grouped into "low", "middle" and "high". [c]Grouped into "No Schooling" "Primary Schooling" "Incomplete Secondary Schooling" "Matric" "Post-Secondary Schooling"; [c]The sample is additionally limited to individuals who were not co-resident with the respective parent in both waves (because the parent was living elsewhere or was deceased) and who were therefore asked to recall the parent's education..

There is little variation in the consistency of the retrospective reports across the other demographic characteristics, with the exception of respondents' own education. In comparison to more educated adults, those who have no schooling provide the highest percentage of identical answers on both childhood economic ranking and parental education. However, for the subjective measures, kappa confidence intervals overlap for each of the respondent education levels, so that no education effect appears to be present. For reports on parental education, kappa statistics increase significantly among respondents with more education[7]. Comparisons of kappa confidence intervals for the recall of mother's and father's education suggest that the former is more reliably reported amongst those with primary schooling or less. This would be consistent with higher levels of paternal, compared to maternal, absence in childhood. However, the difference does not arise among adults with more than primary schooling.

In Table 3, we begin to test for evidence of anchoring in the childhood SES measures, by describing the relationship between changes in these reports and changes in the individual's current circumstances. To capture current circumstances, we consider here only individuals' assessments of how they think their household's income compares to that of other households in their locality or village. The first row repeats the information in Table 2, indicating that overall, for the six rung (or grouped three rung) childhood SES measure, 34.1 per cent (62.6 percent) of assessments remain the same. An additional 27.2 per cent (12.7 per cent) of changes in these childhood reports move in the same direction as changes in current rankings in the village distribution by the finer (coarser) classification. Movements are dominated by concordant upward changes in current and childhood rankings, at 15.8 per cent (8.1 per cent), with a slightly smaller percentage (11.3 per cent or 4.6 per cent) exhibiting concordant downward adjustments. An additional 16.4 per cent (7.6 per cent) of respondents report discordantly, with their changes in childhood and current rankings moving in opposite directions across time. A remaining 22.3 per cent (19.8 per cent) of changes in childhood rankings occur despite no adjustment to individuals' reports of their current relative income. Where there is a relationship between changes in current perceptions and changes in recall of childhood ranking, therefore, the modal response is a movement in the same direction. This suggests that individuals update their perceptions of the past according to their perceptions of the present.

However, there is less evidence of anchoring on current perceptions in the reports on parental education. Less than thirty percent of responses on both paternal and maternal education change over the waves, and where reports do change, discordant changes outnumber concordant changes. In the

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[7] While kappa statistics are lowest for the least educated, the proportions of agreement are highest amongst this group. This discrepancy is because of the high probability of random agreement across time.

next section, we consider other indicators of the individual's current circumstances, and further test for evidence of anchoring in childhood SES measures using regression analysis.

Table 3. Changes in reports on retrospective and current relative economic position

Change in direction of reports		Proportion of respondents			
		Childhood Ranking		Parental Education	
Past	Current	Original[a]	Grouped[b]	Mother[c]	Father[c]
Unchanged		0.341	0.626	0.728	0.727
↑	↑	0.158	0.081	0.033	0.033
↓	↓	0.113	0.046	0.051	0.049
↑	↓	0.080	0.034	0.032	0.033
↓	↑	0.084	0.042	0.067	0.068
↑	Unchanged	0.120	0.088	0.036	0.035
↓	Unchanged	0.103	0.084	0.053	0.054
Total concordant changes		0.272	0.127	0.084	0.083
Total discordant changes		0.164	0.076	0.100	0.101

NOTES: Own calculations from NIDS wave 1 and 2. [a]Original measure in the data, with a category for each of six rungs. [b]Rungs are grouped into three categories ("low", "middle" and "high"). [c]Grouped into "No Schooling" "Primary Schooling" "Incomplete Secondary Schooling" "Matric" "Post-Secondary Schooling"; [c]The samples for parental education are limited to adults (16 years and older) who were not co-resident with the respective parent in both waves (because the parent was living elsewhere or was deceased) and who were therefore asked to recall the parent's education.

5. Regression analysis

We estimate the correlates of changes in non-missing childhood SES reports using OLS and fixed effects regressions. Our main objective is to explore whether these reports are influenced by the individual's current circumstances. To capture current status, we include not only the subjective assessment of relative income in the village, but also per capita household income and self-reported life satisfaction.

The OLS regressions, presented in Table 4, provide strong evidence consistent with anchoring on household income in all the childhood SES reports. Adults with higher levels of income in wave 1, and adults whose income increased over the two waves, are significantly more likely to have increased their appraisal of childhood ranking, and their recall of both mother's and father's education. In addition, changes in perceived childhood ranking are significantly correlated with subjective assessments of both current relative income in the village and individual life satisfaction (or subjective well-being). Adults who provided higher reports of their relative income in the village and their life satisfaction in wave 1, and who increased these reports over the waves, are also significantly more likely to have increased their retrospective assessments of household ranking at age 15. In contrast, recall of parental education does not appear to be anchored by changes in subjective reports of current circumstances, with one exception: adults who initially reported greater life satisfaction tended to report higher values for father's education in wave 2 compared to wave 1.

Each of the specifications also controls for the level of the respective dependent variables in wave 1, in order to understand whether regression to the mean occurred in reporting (Tversky & Kahneman, 1974). This was the case for each childhood SES measure, whereby those with lower (higher) initial reports tended to raise (lower) them in the subsequent period.

The regressions show further that changes in the childhood SES reports are significantly correlated with a range of demographic characteristics. In comparison to blacks, other adults are more likely to have remembered the past more favourably in wave 2 compared to wave 1. This is particularly evident among whites, who raised their reports on all indicators by the highest magnitude. Individuals with more education are also significantly more likely to have revised their recall of childhood SES upwards across all the measures. Age is not a significant correlate of changes in childhood rankings; but as individuals get older, so they are more likely to lower their reports of parental education over the waves.

The remaining three tables in this section (Table 5 to Table 7) present the fixed effects regressions, which, in contrast to the OLS regressions, control for unobservable individual characteristics (such as inherent personality traits or innate memory ability). Analyses are also conducted for various sub-samples to assess whether the correlates of changes in reports vary by group.

Consistent with the findings from the OLS regressions, the fixed-effects specifications on the full samples show evidence of anchoring in current household income across all the childhood SES reports. Moreover, individuals who increased their subjective assessments of both current relative income in the village, and life satisfaction, are also more likely to have increased their subjective assessment of childhood ranking, while there is again no relationship between changes in the recall of parental education and changes in either subjective appraisals of current economic status or life satisfaction.

These findings are largely robust across the different sub-samples. For the subjective measure of childhood SES, more favourable assessments of relative income in the village are significantly correlated with more favourable assessments of childhood ranking for both men and women, and for the different age cohorts and among blacks specifically. The size of the anchoring effect on current income ranking in the village appears to be largest among the youngest cohort (16 – 18 years), who are closest in age to the reference period for childhood ranking, and lowest among the oldest cohort (those older than 60). Whereas adults in the youngest cohort on average adjust their childhood rankings by about one fifth of a rung for every one-level change in their current relative income status, those older than 60 do so by less than half the amount.

Although both changes in household income and changes in life satisfaction are significantly correlated with changes in childhood ranking for the full sample, the relationships are not consistently significant for the different sub-samples. There is stronger evidence of anchoring on household income among women and those aged 31 to 60; and on life satisfaction among men, adults 19 to 30 years, and particularly adults older than 60 years.

Similarly, the regressions for recall of parental education by sub-sample suggest that possible anchoring effects in these reports may be larger or more significant among some groups than others. In comparison to older adults, young adults who do not live with a parent are more likely to have had limited interaction with the parent and to have less knowledge of the parent's educational attainment. We would therefore be concerned that anchoring effects in recall of parental education are larger among those younger than 30 than among older adults. However, in the case of paternal education, evidence of anchoring on household income is more significant among adults older than 30 than among young adults. For reports on maternal education, household income is not a significant correlate among the specific age cohorts except among adults aged 19 to 30. However, there is no relationship between changes in either current relative income or life satisfaction and changes in reports on mother's or father's education among any of the age cohorts.

In the fixed effects regressions, education is mostly not a significant correlate of changes in childhood SES reports, at least partly because all education coefficients are obtained from small samples of switchers. However, where the relationship is significant, it is typically negative. This is most evident in reports of paternal education, where adults – and specifically men and adults aged 19 to 30 years – who increased their education over the period, are significantly more likely to have provided lower reports of father's education in wave 2 than in wave 1.

In sum, both the OLS and fixed effects regressions show a relationship between adults' recall of the past and changes in current circumstances, and specifically, changes in income. This is the case whether adults are assessing the ranking of their household at childhood or reporting on their parents' education, and particularly paternal education. In addition, subjective perceptions of childhood ranking are further correlated with subjective assessments of the present, and consistently across all the sub-groups in the case of perceptions of current relative income. These findings suggest therefore that the childhood SES measures evaluated here are not only compromised by selection effects in which adults provide reports, but further, by anchoring effects in the reports provided, which may also be stronger among specific groups of the population.

Table 4. Correlates of changes in retrospective reports, differenced OLS regressions

OLS	Δ Childhood Ranking[a]	Δ Mother's education[b]	Δ Father's education[b]
log(real pc HH income)$_{t-1}$	0.103	0.177	0.238
	(0.014)***	(0.069)***	(0.072)***
Δlog(real pc HH income)	0.061	0.208	0.273
	(0.013)***	(0.063)***	(0.064)***
Current village income step$_{t-1}$	0.205	0.015	-0.014
	(0.016)***	(0.071)	(0.077)
ΔCurrent village income step	0.188	-0.061	-0.074
	(0.011)***	(0.049)	(0.047)
Subjective well-being $_{t-1}$	0.062	0.005	0.064
	(0.007)***	(0.031)	(0.032)**
ΔSubjective well-being	0.055	-0.027	0.006
	(0.005)***	(0.022)	(0.023)
Childhood SES step$_{t-1}$	-0.981		
	(0.011)***		
Mother's education$_{t-1}$		-0.513	
		(0.020)***	
Father's education$_{t-1}$			-0.531
			(0.021)***
Female$_{t-1}$	0.040	0.009	0.180
	(0.022)*	(0.101)	(0.101)*
Coloured$_{t-1}$	0.087	0.058	1.182
	(0.057)	(0.304)	(0.333)***
Indian$_{t-1}$	-0.138	1.205	1.590
	(0.100)	(0.459)***	(0.488)***
White$_{t-1}$	0.416	2.861	3.051
	(0.070)***	(0.296)***	(0.299)***
Age$_{t-1}$	0.000	-0.023	-0.027
	(0.001)	(0.004)***	(0.004)***
Primary education$_{t-1}$	0.044	-0.286	-0.254
	(0.037)	(0.095)***	(0.103)**
Incomplete secondary$_{t-1}$	0.147	0.392	0.231
	(0.041)***	(0.147)***	(0.147)
Matric$_{t-1}$	0.170	0.980	0.661
	(0.047)***	(0.215)***	(0.233)***
Post-secondary$_{t-1}$	0.208	0.901	1.012
	(0.058)***	(0.267)***	(0.279)***
Constant	-0.026	1.256	-0.264
	(0.141)	(0.673)*	(0.628)
District council FE	Y	Y	Y
R-squared	0.540	0.282	0.304
N	7895	3444	3259

NOTES: Own calculations from NIDS wave 1 and 2. * $p<0.1$, ** $p<0.05$, *** $p<0.01$. Standard errors in parentheses. [a]Original six-rung measure, differenced over time. [b]Measured in years of education, differenced over time. The samples for parental education are limited to adults (16 years and older) who were not co-resident with the respective parent in both waves (because the parent was living elsewhere or was deceased) and who were therefore asked to recall the parent's education.

Table 5. Fixed effects regressions for changes in reports of childhood SES

	Dependent variable: Childhood ranking at age 15 (6 rungs)							
Sample:	All	Female	Male	Age 16-18	Age 19-30	Age 31-60	Age 61+	Black
log(pc HH income)	0.037**	0.055***	0.018	0.113	0.022	0.041*	0.031	0.049***
	(0.016)	(0.021)	(0.025)	(0.101)	(0.031)	(0.024)	(0.058)	(0.017)
Current village income step	0.145***	0.142***	0.148***	0.225***	0.143***	0.132***	0.080**	0.142***
	(0.012)	(0.015)	(0.019)	(0.066)	(0.025	(0.018)	(0.033)	(0.012)
Subjective well-being	0.012**	0.009	0.018**	0.048	0.018*	-0.003	0.029***	0.013**
	(0.005)	(0.006)	(0.008)	(0.030)	(0.010)	(0.007)	(0.014)	(0.005)
Matric	-0.011	-0.105	0.141	0.309	0.076	-0.103	1.029**	-0.048
	(0.075)	(0.101)	(0.124)	(0.233)	(0.179)	(0.207)	(0.460)	(0.082)
Post-secondary education	-0.034	-0.276**	0.270*		0.133	-0.022	0.486	-0.064
	(0.095)	(0.135)	(0.145)		(0.197)	(0.194)	(0.483)	(0.107)
Constant	1.328***	1.281***	1.356***	0.600	1.429***	1.372***	1.252***	1.218***
	(0.108)	(0.141)	(0.175)	(0.651)	(0.214)	(0.175)	(0.406)	(0.113)
Individual FE	Y	Y	Y	Y	Y	Y	Y	Y
Time FE	Y	Y	Y	Y	Y	Y	Y	Y
R-squared	0.030	0.029	0.032	0.097	0.028	0.029	0.029	0.036
N	26838	15749	11081	2988	7434	12087	3405	21440

NOTES: Own calculations from NIDS wave 1 and 2. * p<0.1, ** p<0.05, *** p<0.01.The samples for parental education are limited to adults (16 years and older) who were not co-resident with the respective parent in both waves (because the parent was living elsewhere or was deceased) and who were therefore asked to recall the parent's education.

Table 6. Fixed effects regressions for changes in reports of maternal education

	Sample	All	Female	Male	Age 16-18	Age 19-30	Age 31-60	Age 61+	Black
		Dependent variable: Mother's education in years							
log(pc HH income)		0.153	0.129	0.172	-0.169	0.331	0.119	0.052	0.148
		(0.057)***	(0.068)*	(0.101)*	(0.927)	(0.176)*	(0.073)	(0.112)	(0.061)**
Current village income step		-0.045	-0.102	0.029	-0.429	-0.051	-0.086	0.018	-0.029
		(0.041)	(0.049)**	(0.072)	(0.585)	(0.148)	(0.054)	(0.054)	(0.044)
Subjective well-being		-0.005	0.002	-0.007	0.335	-0.095	0.005	-0.003	-0.007
		(0.017)	(0.021)	(0.03)	(0.301)	(0.063)	(0.022)	(0.024)	(0.019)
Matric		-0.415	-0.511	-0.512	-0.649	-0.082	0.134	2.572	-0.425
		(0.394)	(0.487)	(0.661)	(2.323)	(1.146)	(0.806)	(0.938)***	(0.444)
Post-secondary education		0.104	-0.066	-0.067		-0.495	1.138	3.985	-0.011
		(0.432)	(0.591)	(0.665)		(1.187)	(0.725)	(1.052)***	(0.497)
Constant		2.618	2.679	2.734	6.791	4.096	2.188	0.803	2.078
		(0.394)***	(0.466)***	(0.704)***	(6.499)	(1.243)***	(0.531)***	(0.76)	(0.406)***
Individual FE		Y	Y	Y	Y	Y	Y	Y	Y
Time FE		Y	Y	Y	Y	Y	Y	Y	Y
R-squared		0.021	0.023	0.026	0.174	0.059	0.025	0.033	0.017
N		14818	9091	5726	854	3003	8030	2630	12183

NOTES: Own calculations from NIDS wave 1 and 2. * p<0.1, ** p<0.05, *** p<0.01. Standard errors are in parentheses. The samples for parental education are limited to adults (16 years and older) who were not co-resident with the respective parent in both waves (because the parent was living elsewhere or was deceased) and who were therefore asked to recall the parent's education.

Table 7. Fixed effects regressions for changes in reports of paternal education

Sample	All	Female	Male	Age 16-18	Age 19-30	Age 31-60	Age 61+	Black
				Dependent variable: Father's education in years				
log(pc HH income)	0.183	0.192	0.101	0.163	0.278	0.210	0.245	0.185
	(0.061)***	(0.078)**	(0.096)	(0.657)	(0.174)	(0.078)***	(0.121)**	(0.065)***
Current village income step	-0.043	-0.130	0.062	-0.322	0.019	-0.028	-0.049	-0.030
	(0.043)	(0.054)**	(0.068)	(0.491)	(0.137)	(0.056)	(0.063)	(0.046)
Subjective well-being	-0.003	-0.027	0.037	0.019	-0.091	-0.012	0.016	-0.012
	(0.018)	(0.023)	(0.029)	(0.176)	(0.056)	(0.024)	(0.027)	(0.020)
Matric	-0.884	-0.427	-1.665	-0.722	-1.759	-0.263	1.073	-0.962
	(0.352)**	(0.452)	(0.585)***	(1.617)	(1.129)	(0.728)	(1.098)	(0.386)**
Post-secondary education	-0.721	-0.196	-1.256		-2.194	-0.333	1.561	-1.001
	(0.401)*	(0.526)	(0.632)**		(1.218)*	(0.653)	(1.011)	(0.468)**
Constant	2.447	2.379	3.099	5.279	4.364	1.665	-0.225	1.847
	(0.419)***	(0.526)***	(0.669)***	(4.429)	(1.209)***	(0.562)***	(0.839)	(0.431)***
Individual FE	Y	Y	Y	Y	Y	Y	Y	Y
Time FE	Y	Y	Y	Y	Y	Y	Y	Y
R-squared	0.026	0.026	0.051	0.050	0.075	0.028	0.030	0.026
N	15278	9112	6163	1108	3341	7972	2471	12677

NOTES: Own calculations from NIDS wave 1 and 2. * p<0.1, ** p<0.05, *** p<0.01. Standard errors are in parentheses. The samples for parental education are limited to adults (16 years and older) who were not co-resident with the respective parent in both waves (because the parent was living elsewhere or was deceased) and who were therefore asked to recall the parent's education.

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6. Conclusion

Questions on retrospective measures of childhood conditions are easy to include in existing cross-sectional surveys and this information may fill important data gaps when evaluated life histories are unavailable, making them potentially very useful in developing countries. In South Africa, knowledge about life course persistence could contribute to a broader literature on the relationship between childhood poverty and later outcomes in life, and on the relative lack of mobility within the society. However, the value of these indicators is compromised when response rates on recall questions are low and selective, when reports are not consistent over time, and when changes in reports vary systematically according to the characteristics or circumstances of individuals.

In this study, we evaluated two sets of measures on childhood SES collected in a South African household panel survey – the perceived ranking of the adult's household at age 15 on a national income ladder, and reports on both mother's and father's education. In contrast to other studies which assess these kinds of indicators, we analysed replicate reports from the same individual, collected in waves 1 and 2 of the panel.

As we had predicted given the nature of household formation in South Africa, response rates on the two sets of questions varied substantially. Less than half of all adults who were asked to recall their father's education provided a response, while response rates for the comparable sample reporting on mother's education was over sixty percent. Response rates were highest for subjective ranking at childhood, but these reports were also less reliable: among those who did respond, we found more consistency in reports on both types of parental education than in subjective assessments of childhood ranking. We also found evidence of anchoring in current circumstances for both sets of reports, but whereas reports of parental (and particularly paternal) education are anchored only by changes in current income, subjective assessments of the past are anchored also by subjective assessments of the present.

Notwithstanding the potential benefit of these recall data, therefore, our study suggests that both sets of reports provide non-random and contaminated measures of childhood SES that are enumerated with error. Evidence of anchoring means further, that the childhood SES measures are endogenous to adult outcomes, rather than their independent predictors. Anchoring in these measures thus compromises causal estimation of childhood reach. While some authors have used repeated measures of the same assessment to conduct instrumental variables' estimates (Crossley & Kennedy, 2002), this would not be a solution when anchoring effects are persistent. Of the three measures evaluated in the study, recall of mother's education appears to the most reliable, where both response rates and

concordance are high, and evidence of anchoring is weaker. Subjective rankings, in contrast, suffer from substantial anchoring effects, while father's education is subject to poor response.

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