

Social protection and the development of HIV-affected children

# The impact of social protection (cash grant + good nutrition) on child educational and cognitive outcomes

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## Introduction

HIV-affected children (living with HIV, living within an HIV-affected household, living within a high HIV-endemic country or being HIV exposed-uninfected) face many challenges within their development.<sup>1,2</sup> In sub-Saharan Africa, children carry the additional burden of many deprivations<sup>1-5</sup> compounded by child and parental illness.<sup>1,2</sup> The shift from the Millennium development goals to the sustainable development goals marks a call for child thriving beyond the first step of child survival. This necessitates attention to be given to programs that support quality child outcomes and ensure social protection.<sup>6</sup>

Cash transfers have been identified as a possible form of social protection to improve outcomes in poverty environments.<sup>7,8</sup> There is a strong body of literature showing that household cash transfers bolster adolescent wellbeing and reduce adolescent risk behaviour.<sup>9,10</sup> Furthermore when multiple social protection interventions are examined, such as cash grants plus good parental care, positive effects for adolescents were strengthened.<sup>11</sup> In some populations, combined social protection (inclusive of cash grants) has even been found to have an impact when cash grants alone have had no effect on outcomes.<sup>11</sup> However, there remains a dearth of evidence relating to younger children. A single study of HIV-affected children found that combined social protection (in the form of cash and good parenting) had positive impacts for child cognition and educational outcomes.<sup>12</sup>

While there is a call for novel approaches to social protection for HIV-affected children, it is vital that the contributions of well-established interventions are not forgotten. Food insecurity remains widespread in sub-Saharan Africa and nutritional provision is sometimes included within cash transfer provision. Policymakers may benefit from knowing which interventions should be bolstered so that integrated programming can be directed rather than a single stand-alone provision. Such guidance should be evidence based. Existing evidence suggests that both cash transfers and good nutritional standard independently contribute to child development.<sup>13-15</sup> This study was undertaken to examine the combination effect of cash transfers and good nutrition on child development outcomes in South Africa and Malawi – operationalised as child educational and cognitive outcomes.



### Research Question

Does social protection provision, in the form of cash grant receipt and good nutritional standard, have an impact on the cognitive or educational outcomes of HIV-affected children in sub-Saharan Africa and, what are the benefits of receiving both?



### The research

Cross-sectional data from the child Community Care study (2013-2014) informs these analyses. The child community care study was set up to track psychosocial outcomes for HIV-affected children and their caregivers attending randomly selected community-based organisations in South Africa and Malawi (24 in South Africa, 4 in Malawi). Data for 796 children (5-15 years) were utilised within these analyses. All children and their caregivers completed a questionnaire comprised of standardised scales and study specific measures inclusive of questions relating to sociodemographic information, health,

wellbeing, nutrition, cash grant receipt, educational engagement and cognition. The study is ongoing and the next follow up will explore transition into adolescence.



## Measures of interest

**Child characteristics.** Sociodemographic information was obtained on child *biological sex, age, HIV status, country of residence* and *exposure to wealth and poverty*.

**Cash grant** receipt was determined by caregiver report. Caregivers reported on whether the child's household received one of six grants: state pension, retirement pension, disability grant, child support, foster care or care dependency. Grant receipt was dichotomised based on whether any grant was received or not.

**Nutrition status.** A composite measure of nutritional standard was derived from both child and caregiver report. Children in the study reported on whether they went to bed hungry the night before the assessment and caregivers reported on the household status regarding food sufficiency. The composite measure used within analyses was dichotomised to reflect good nutritional standard (child not going to bed hungry and the household having sufficient food all/most of the time) and poor nutritional standard (child going to bed hungry and the household commonly having less food than needed or no food).<sup>16,17</sup>

**Educational outcomes.** Caregivers report responded to five items relating to child educational accessibility and school learning outcomes: 1) *school attendance* ('Does your child go to school?'); 2) *school non-attendance* ('How many days did the child miss school in the past 2 weeks?'); 3) *being in the correct class for age* ('Is the child in the correct class for his or her age?'); 4) *school performance* ('How do teachers report your child is doing in school?'); 5) *learning progression* ('is your child quick to learn when introduced to new chores or things?'). *Number of educational risks* was a composite score derived from the five binary educational variables above. Higher scores indicate greater educational risk.<sup>16,17</sup>

**Cognitive outcomes.** *Attention and working memory* were assessed using the digit span task from the Wechsler Intelligence Scale.<sup>18</sup> An age-standardised score was recorded (0-20), with higher scores indicative of better attention and working memory. *Non-verbal cognitive ability* was assessed using the draw-a-person task. Age-standardised scoring was recorded (40-130), with higher scores indicative of greater cognitive ability.<sup>19</sup> *Cognitive functioning difficulty or disability* was assessed using the Ten Questions screen for childhood disability. Caregivers responded to questions relating to child learning, remembering and comprehension ('does your child have any difficulty...?').<sup>20</sup>

## Statistical analyses

Three levels of social protection were explored – receiving neither a household cash grant nor a good nutritional standard, receiving either intervention, or receiving both interventions in combination. Participant characteristics across the three groups were explored using chi-square tests for categorical outcomes and ANOVA models for continuous outcomes. Multivariable linear and logistic regression models inclusive of marginal effects analyses were undertaken to explore the associations between differing levels of social protection and child educational or cognitive outcomes. All analyses were adjusted for child biological sex (female), child age (years), child HIV status (positive) and number of household assets (proxy wealth indicator).



## Findings

### Child characteristics



82.0% (653/796)  
South Africa



18.0% (143/796)  
Malawi



52.3% Female

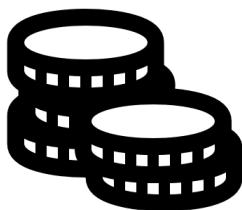
**10.5**  
**years**  
**(SD: 2.61)**



3.88 Household  
assets (SD:1.94,  
Range 0-10)

**13.8%**  
**living**  
**with HIV**

### Social protection – who is receiving what?



19.7% (157/796) No cash grant and  
poor nutrition

32.5% (258/796) Cash or good  
nutrition

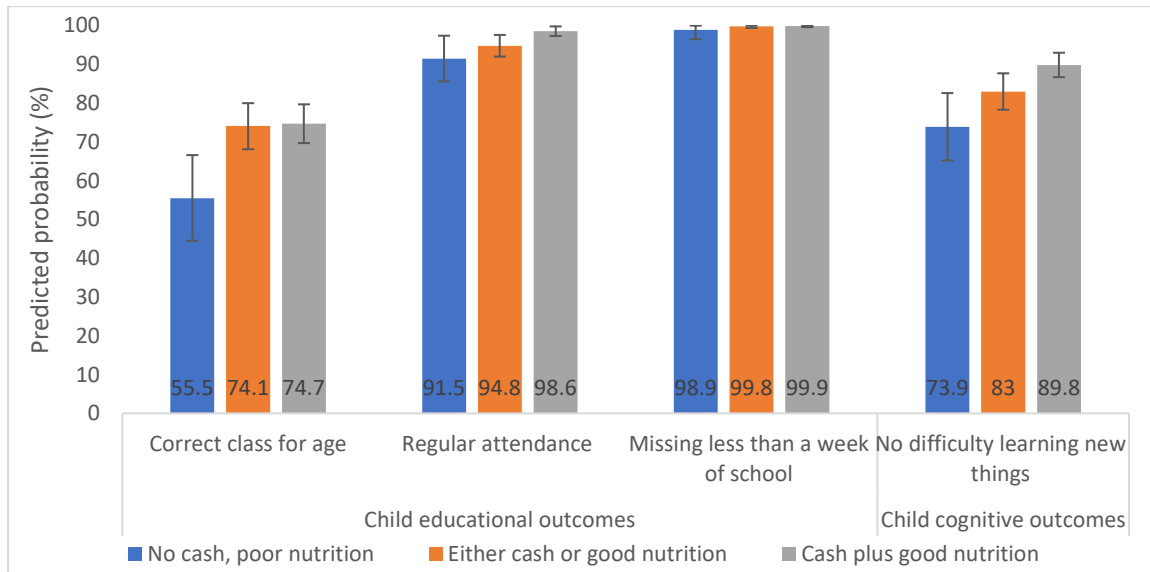
47.9% (381/796) Cash and good  
nutrition in combination

Within the sample, there were a greater proportion of children living with HIV receiving neither cash grant or poor nutrition comparative to those receiving either cash or good nutrition or cash and good nutrition in combination (19.9%, 12.6%, 12.0%, respectively).

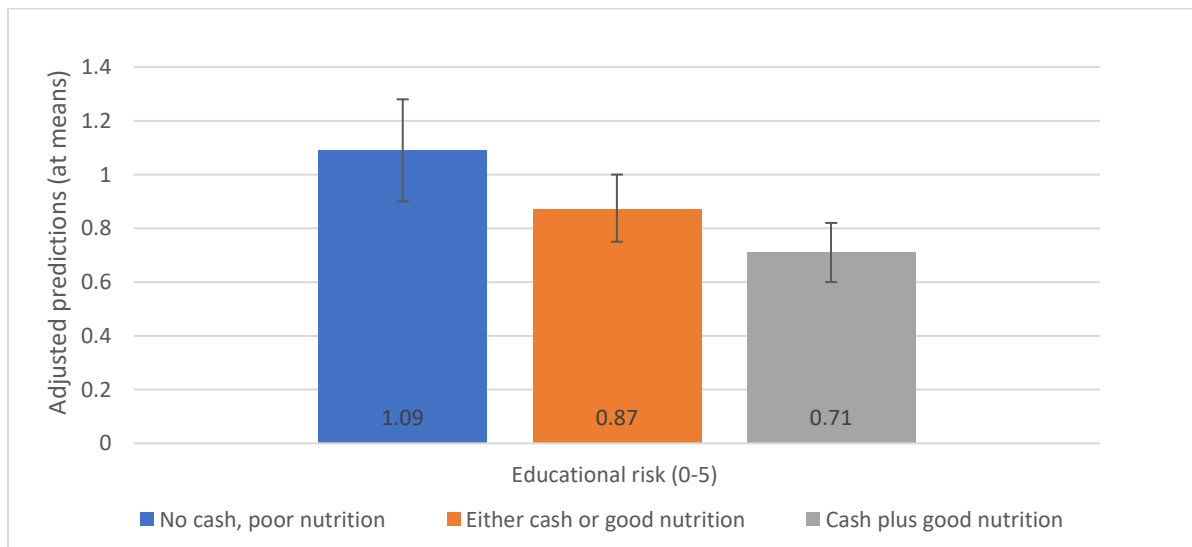


## How does social protection impact child educational outcomes?

Comparative to receiving no social protection, receiving either intervention had a positive impact for one out of the six educational outcomes explored (being in the correct class for age). Combined social protection, comparative to receiving no social protection had a positive impact for four out of the six educational outcomes explored (reduced educational risk scores, improved odds of being in the correct class for age, regular attendance and missing less than a week of school in the previous two weeks; see Figure 1 and Figure 2). Combined social protection provision was also found to have enhanced effects for the outcome of being in the correct class for age, when compared to receiving a single social protection intervention alone (see Figure 1).



**Figure 1. Probability predictions ascertained from marginal effects models testing exploring the effects of cash and good nutritional status on child educational and cognitive outcomes (binary). Adjusted for child biological sex (female), child age (years), child HIV status (positive), number of household assets (proxy wealth indicator; Sherr et al. [In preparation] – figure provided here with the permission of the authors).**

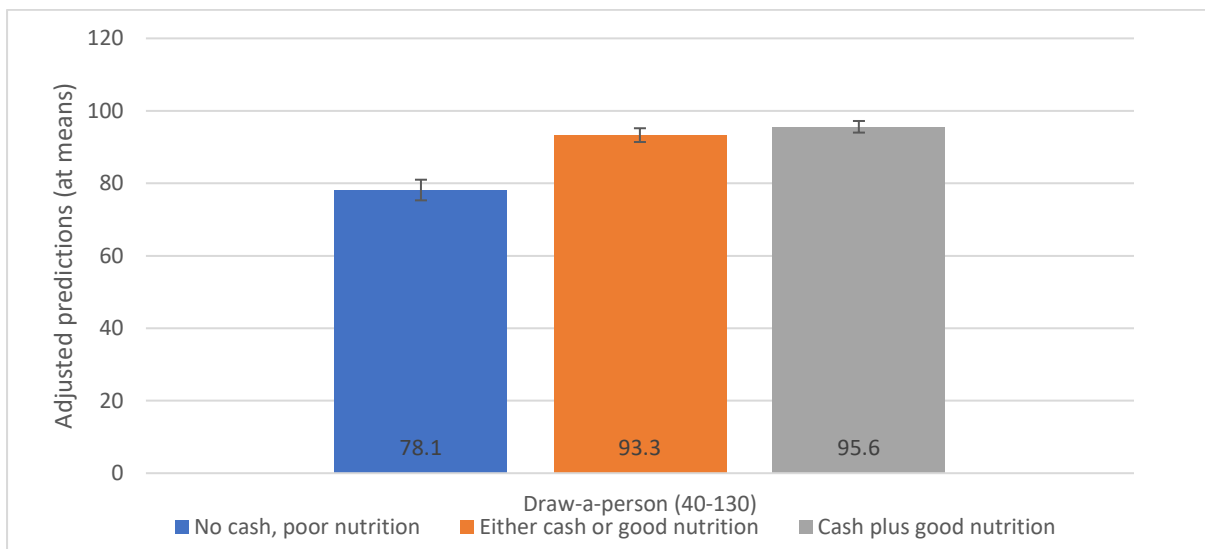


**Figure 2. Adjusted educational risk scores predictions ascertained from marginal effects models testing exploring the effects of cash and good nutritional status. Adjusted for child biological sex (female), child age (years), child HIV status (positive), number of household assets (proxy wealth indicator; Sherr et al. [In preparation] – figure provided here with the permission of the authors).**

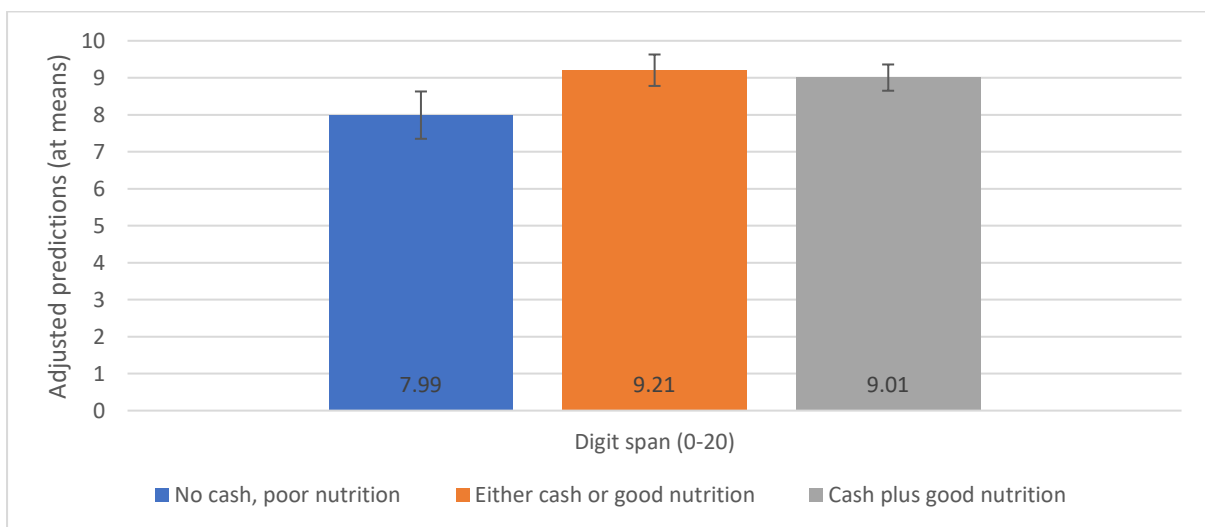


## How does social protection impact child cognitive outcomes?

Comparative to receiving no social protection, receiving either intervention had a positive impact for two out of the five cognitive outcomes explored (scores on assessments of non-verbal cognitive ability and, attention and working memory). Combined social protection, comparative to no social protection had a positive impact for three out of the five cognitive outcomes explored (scores on assessments of non-verbal cognitive ability, attention and working memory, and no difficulty learning new things see Figure 1, Figure 3 and Figure 4). Combined social protection provision was found to have enhanced effects for scores on the assessment of non-verbal cognition when compared to receiving a single social protection intervention (see Figure 2). However, no enhanced effects related to combined social protection were identified within the assessments of attention and working memory (see Figure 4).



**Figure 3. Adjusted non-verbal cognitive ability scores predictions ascertained from marginal effects models testing exploring the effects of cash and good nutritional status. Adjusted for child gender, child age, child HIV status, and number of household assets (Sherr et al. [In preparation] – figure provided here with the permission of the authors).**



**Figure 4. Adjusted attention and working memory scores predictions ascertained from marginal effects models testing exploring the effects of cash and good nutritional status. Adjusted for child biological sex (female), child age (years), child HIV status (positive), number of household assets (proxy wealth indicator; Sherr et al. [In preparation] – figure provided here with the permission of the authors).**

## Summary

These data indicate that for HIV-affected children, engagement with education and some cognitive outcomes could be enhanced through combination social protection interventions that are frequently implemented in many low- and middle-income countries in silos. Both cash transfers and good nutritional standard are important provisions and have added benefit if provided in combination. It could be assumed that children living with or affected by HIV may have a greater need for such interventions. However, these data show that those living with HIV are significantly less likely to access these interventions, highlighting the importance of targeted provision for those children who may be the hardest to reach, or the most vulnerable. These data underscore potential pathways for the combined utilisation of well-established existing interventions to bolster child outcomes and enhance programmatic reach. Our findings suggest that combinations of interventions may have greater positive impacts for children than single interventions alone. Future works should focus on the exploration of differing combinations of social protection to develop an understanding of which child outcomes are affected, and to establish clarity on the potential accelerator effects of provision in combination.

Several limitations should be considered within the interpretation of these data. Firstly, the data presented are cross-sectional, as such there is less certainty regarding causality. Secondly, these data are limited to two settings – South Africa and Malawi. Thirdly, these data are observational and do not report on a specific intervention and rely on self-report data regarding received provisions. Nevertheless, data regarding the impacts of combined social protection on child development outcomes remains scarce. As such, these data provide a foundation for further research exploring the impacts of social protection provision on child development outcomes.

## Key messages

- **Social protection has long reaching benefits.** Social protection in the form of either cash grant receipt and good nutrition seemingly has positive impacts for some domains of child cognition and child educational outcomes.
- **Combinations of social protections may have wider reaching effects.** Combined social protection (cash + good nutrition) was found to impact more outcomes relating to child cognition and child educational outcomes and reach outcomes which were not impacted by a single intervention alone. Combined provision was also found to show improvements for some outcomes comparative to a single intervention alone.
- **Well-established interventions should not be forgotten within social protection research and policy.** In the search for novel forms of social protection for HIV-affected children, the potential beneficial impacts of well-established interventions should not be overlooked. These data highlight positive impacts across some developmental domains when children live in households in receipt of cash grants and have access to a good nutritional standard.
- **Further research is required.** The analyses presented are drawn from cross-sectional data and as such are exploratory. Further research using longitudinal and/or randomised control trials were required to substantiate findings. For some outcomes, no effect of social protection was identified. As such, alternative interventions for specific outcomes where cash and a good nutritional standard were not found to be effective should be sought out and explored further.

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