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# Factors Associated with Good and Harsh Parenting of Pre-Adolescents and Adolescents in Southern Africa

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## FACTORS ASSOCIATED WITH GOOD AND HARSH PARENTING OF PRE-ADOLESCENTS AND ADOLESCENTS IN SOUTHERN AFRICA

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**Abstract:**

**Background:** There is limited research on the factors associated with parenting and the subsequent outcomes for children and adolescents in southern Africa. Evidence from the global north shows the importance of parenting on child development. There is a pressing need for such research in the global south, in order to inform the development of effective interventions to support families.

**Method:** This working paper presents findings from the analyses of two different observational studies of caregiver-pre-adolescent (4-13 years, referred to as the 'pre-adolescent study') and caregiver-adolescent (10-17 years, referred to as the 'adolescent study') dyads. Regression and structural equation modelling techniques are used to identify practices constituting good and harsh parenting, factors associated with these parenting behaviours and child and adolescent outcomes.

**Results:** Poverty and stigma were found to be negatively associated with good parenting of pre-adolescents whilst biological parents, depression and multiple adults within a household were positively associated. Good parenting in pre-adolescents was associated with fewer educational risks and behavioural problems as well as increased self-esteem, mediated by child trauma and depression. In adolescents, family disadvantage (poverty, AIDS-ill caregiver and caregiver disability) were found to be associated with an increase in harsh parenting and poor caregiver mental health, both of which were associated with increased adolescent health risks.

**Conclusion:** These findings show the importance of parenting for pre-adolescent and adolescent outcomes in southern Africa. They also show that structural disadvantage factors are major predictors of less good parenting. Better support for parents living in high-risk contexts is clearly essential if we are to promote the health and well-being of the next generation.

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## 1. INTRODUCTION

The journey from birth to adulthood is a complex road, with many roadblocks on the way. Millions of children navigate the journey well. Yet millions more children and adolescents face challenges and disasters. At the extreme many die worldwide from violence, suicide and other health complications each year and those in sub-Saharan Africa constitute a disproportionate number of these cases (Swart, Seedat and Nel, 2016; UNFPA, 2012). Sub-Saharan Africa remains a region with high levels of poverty, illness, gender and health inequalities and high levels of violence (World Bank, 2016).

There is a sound theoretical and empirical evidence base demonstrating the importance of parenting for child and adolescent development in the context of adversity (Aber, Jones and Cybele Raver, 2007; Rutter, 2003). This evidence emerges from an exploration of those with good parenting, those with problematic parenting, those with absent parenting as well as evidence on advances made when parenting skills are provided (Betancourt et al., 2011; Cluver et al., 2014; Lachman et al., 2013; Meinck, Cluver and Orkin, 2016). However much of the evidence is piecemeal and – crucially – often skewed to high income settings (Knerr, Gardner and Cluver, 2013), showing the importance of developing an evidence-base for low- and middle-income countries. In the complex and evolving world, with accelerating demands and reduced resources, parenting is a uniquely challenging endeavour. Under conditions of poverty, violence, illness and stress, family structure and relationships can be placed under inordinate pressure with implications for caregiver welfare, parenting behaviour and pre-adolescent and adolescent development and outcomes (Lachman et al., 2013; McLeod and Shanahan, 1993; Scott et al., 2010).

There are few entry criteria and no required training for parenthood, yet it remains one of the most important roles in determining the welfare of future generations. Parenting has a direct and marked effect on both short-term and long-term child development and outcomes (Rutter 2007). Not only are caregivers well placed to offer warmth, affection, protection and care but committed adults are able to act as a buffer and coping resource for young people against the consequences of growing up in a violent or high-risk environment (Blum et al., 2014). The importance of parenting has long been known and the popularity of parenting manuals and techniques was formalised into a science in the global north as early as the 1970's, when an evidence base began to emerge (Bray and Dawes, 2016; Gardner, Montgomery and Knerr, 2015). These interventions offer particular pathways of parental behaviour seen as critically important for particular infant, pre-adolescent and adolescent outcomes (Tomlinson et al., 2014). However, most parenting interventions in both high- and lower-income settings remain focused on infancy and early childhood (Rahman et al., 2008; Rochat, Mkwanazi and Bland, 2013; Rotheram-Borus et al., 2011) and while there is evidence that interventions in early childhood may have long-term beneficial impacts (Barlow, 2015) few evidence-informed programmes are available for teenagers (Cluver et al., 2016).

There is now a small but high-quality set of evidence from sub-Saharan Africa demonstrating the significance of parenting in infancy and early childhood. This shows a connection between disadvantage and childhood conduct disorders and abuse (Conger et al., 1994). However, with the evidence-base for the importance of predictors and outcomes of parenting sourced still largely from

the global north or among infants, there is need for research to be conducted regionally in southern Africa and to include a greater range of ages. In particular, parenting of pre-adolescents and adolescents in sub-Saharan Africa is in need of further investigation. Contextual and cultural differences may have direct and indirect impact on parenting and caregiving and this requires an in-depth understanding (Richter and Naicker, 2013; Webster-Stratton, 2009). Extended families, multigenerational caregiving, gender norms, cultural expectations and background social and political factors are all examples of environmental and contextual variations that are in need of research (Bray and Dawes 2015). Understanding the predictors and impacts of parenting on older children and adolescents can contribute to the development of effective parenting interventions and family support.



## 2. WHAT DO WE KNOW ABOUT PARENTING ALREADY?

### 2.1 What is parenting?

#### *Parents and parenting*

Valuable definitions are provided by UNICEF's 2015 publication 'Family and Parenting Support: Policy and provision in a global context' (Daly et al., 2015), which defines parents as "... the main caregiver of the child; they are not limited to biological or legal parents, or, indeed, even to parents. This breadth is especially important given that significant numbers of children are reared by people other than their parents. 'Family' refers to the most significant intimate group, which can be defined either by kinship, marriage, adoption or choice. Hence, family is recognized to vary in composition and the nature of the relational tie between members and is not understood exclusively as the nuclear family or connection by kinship."

In an additional definition, parents or caregivers are defined according to the WHO as, 'all those who provide significant and/or primary care for adolescents [or pre-adolescents], over a significant period of the adolescent's [or pre-adolescent's] life, without being paid as an employee' (WHO, 2007, p. 7). 'Parenting' is thus understood as the activities and tasks that make up the role of a parent. Both caregiving and parenting can be carried out by biological relatives such as grandparents, aunts and uncles or older siblings as well as non-biological carers.

Parenting is a functional term for the processes involved in promoting and supporting the development and socialization of the child (Richter and Naicker, 2013). The 2015 UNICEF paper (Daly et al., 2015) provides helpful definitions of parenting support: "In parenting support, the focus is on how parents and caregivers approach and execute their role. The intent is to increase their level of education, resources and competence for child-rearing. Parenting support, therefore, tends to focus on the relationship between parent and child as a caregiving and functional relationship and aims to better equip parents for this role by providing them with a variety of information, education, skills and support. A core objective of parenting support interventions is to achieve better outcomes for children and young people by engaging with and strengthening the child-rearing orientations, skills, competencies and practices of their parents (Daly et al., 2015, p. 12)."

#### *Positive or good parenting*

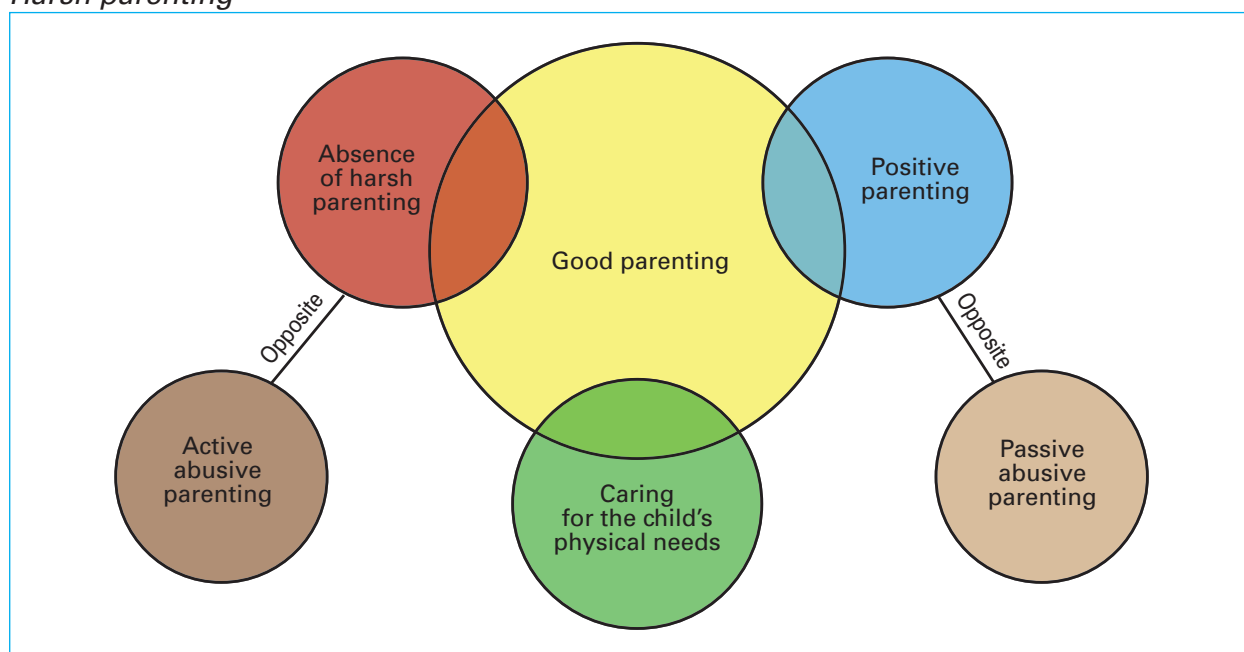
What constitutes 'good parenting' may vary between studies, regions and situations but within the existing literature certain themes emerge. The practical component to good parenting constitutes providing adequate nutrition, school equipment and other tasks required to create an environment conducive to healthy development. In addition, active positive parenting is considered essential to good parenting (Ward and Wessels, 2013). But good parenting also requires the absence of harsh or abusive parenting (see Figure 1, page 10).

Positive parenting has been defined as actively partaking in a child's cognitive development, praising children for desirable behaviours, being assertive through constructive means such as discussing and creating ground rules and realistic expectations (Gardner et al., 2010; Sanders, 2008). Similarly, but

more broadly, in this paper positive parenting can be understood as parenting behaviours that include providing stimulation and affection, clear and focused praise, supporting increasing autonomy, encouraging healthy habits, goal setting, establishing firm rules and consequences (Yap et al., 2015), as well as promoting strong family relationships.

**Figure 1 – Parenting definitions**

*Harsh parenting*



Harsh or abusive parenting in the wider literature includes emotional, sexual and physical abuse and neglect, as well as a range of parenting practices that have been shown to negatively impact on child development and well-being. Abusive parenting can be active, such as striking or assaulting a child, as well as passive, through neglecting or ignoring a child (Browne, Davies and Stratton, 1998). For the purpose of this paper, harsh and abusive parenting is defined as the physical and emotional abuse of a child. The studies in this paper did not focus on sexual abuse and neglect. Neglect is particularly difficult to distinguish in contexts of high material deprivation. Abusive parenting is therefore not simply the absence of positive parenting or the lack of good parenting but involves active emotional or physical abuse such as shouting, shaming, threatening, hitting or smacking so that it hurts (see Table 1, page 11, for definitions of harsh parenting used in the adolescent study).

It is important to note that poor parenting does not require intent. Harsh parenting can also be passive if a parent lacks the capacity to care for the child effectively due to addiction, non-normative views or ill-health. Not providing good enough physical or psychological care to a child for a variety of reasons is called neglect.

**Table 1 – Adolescent study: abuse measures**

UNICEF National Level Measures for Monitoring of Orphans and Other Vulnerable Children (Snider and Dawes, 2006)	Physical abuse	Emotional abuse
In the past year, how often did your carers...	Use a stick, belt or other hard item to hit you?	Said that you would be sent away or kicked out of the house?
	Slap, punch or hit you so you were hurt?	Said they would call ghosts or evil spirits, or harmful people?
		Insulted you by calling you dumb, lazy or other names?

## 2.2 What do we know about the conditions for parenting?

### *Poverty and disadvantage*

Sub-Saharan Africa remains the region with the highest poverty and lowest life expectancy, highest youth disability-adjusted life years and the highest rates of violence exposure (World Bank 2016). Such conditions have been shown to create considerable barriers to a parent's efforts to fulfil the tasks of providing for and protecting their children in high-income countries (Ghate and Hazel, 2008). Research from high-income countries shows that poverty can have direct and indirect effects on child outcomes, i.e. poverty can lead to economic stress and parental mental health problems, which can impact on a parent's emotional availability and result in harsh or inconsistent parenting (Kotchick and Forehand, 2002). Poverty can "... sap parental energy, undermine parental sense of competence and reduce parental sense of control" (Edin and Lein, 1997). Poverty is linked to family stress which has been well documented (Murray et al. 2012; Richter, 2003) as a cause of caregiver mental health problems such as depression or anxiety (Russell, Harris and Gockel, 2008). Unemployment and work place inflexibility, both major causes of family stress, are more common among those living in poverty (Nomaguchi and Johnson, 2014).

Poverty has been shown to increase the risk of child abuse. Research from South Africa indicates that family disadvantage, poverty, illness, distress and conflict, could be a key driver in violence against pre-adolescents and adolescents (Meinck, Cluver and Boyes 2015; Steele et al. 1997). In addition, poverty is often linked with lower parental education status and ability to provide adequate nutrition, which impacts on a child's academic (Kotchick and Forehand, 2002) and physical development (Bray et al., 2011).

### *Family structure*

The growth and development of an adolescent can also be affected by the structure of their immediate family. Situations such as the traumatic loss of a parent or the involvement of the extended family may influence the conditions for parenting. In sub-Saharan Africa, many children were brought up by large extended family networks and research shows that the level of support a caregiver can offer may be more valuable than who that caregiver is or how a family is structured

(Röttger-Rössler, 2014). However, family structures are changing towards smaller families influenced by work migration, deprivation and high HIV/AIDS mortality (Bennett et al., 2015; Lauras Lecoh, 1990).

### *Extended family structure*

Involved members of an extended family can be very important in child development. For this reason the focus in literature has centred on 'caregivers' or 'parents' as opposed to 'biological parents' (Daly et al., 2015). This is particularly relevant to note for research considering parts of sub-Saharan Africa, where a collective approach to child rearing through extended family, neighbours or close friends of the family is much more accepted than the narrower familial connections often regarded as more important in literature from the global north (Röttger-Rössler, 2014).

Grandparents can be important sources of support for grandchildren (Chirwa 2002; Oburu and Palmerus, 2003). Over half of all grandmothers and a third of all grandfathers in sub-Saharan Africa live with a grandchild of 15 years or younger (Zimmer and Dayton, 2005). In addition, it has been shown that old age pensions can act as a cash transfer, which can be used to contribute to supporting a grandchild through education and improving their healthcare (Adato and Bassett, 2009; Mokomane, 2013). Conversely, more elderly caregivers may experience higher stress, which can in turn lead to increased physical and mental health challenges among caregiving grandparents (Oburu and Palmerus, 2003).

### *The impact of HIV on families and parenting*

Caregivers with HIV are at higher risk of psychosocial problems when compared to non-affected families. AIDS-illness among caregivers is associated with higher risk for mental health problems such as depression, anxiety and post-traumatic stress disorder due to associated co-morbidities and increased family stress (Kuo and Operario, 2011; Kuo et al., 2013). AIDS-ill caregivers experience high levels of unemployment and higher levels of poverty (Collins and Leibbrandt, 2007). This is important, as poverty is also a predictor of HIV infection (Piot, Greener and Russell, 2007). AIDS-illness among caregivers has been shown to be associated with harsh parenting (Cluver et al. 2011; Meinck, Cluver and Boyes 2015), stigmatization and food insecurity for the family at large. HIV-positive parents use fewer positive parenting techniques (Lachman et al., 2013).

Children living with AIDS-ill caregivers experience higher risk for mental health issues, stigma, poverty and lower levels of educational success compared to children living in families not affected by AIDS (Chi et al., 2015; Cluver et al., 2013; Sherr et al., 2014). In addition, adolescents affected by AIDS, poverty and abuse have greater risk of engaging in behaviours which put them at high risk of HIV infection (Cluver et al. 2011, Cluver et al, 2013).

### *Stigma*

The stigma of AIDS is not only a cause of psychological distress to those with the disease (Campbell et al., 2005) but also to un-infected children of AIDS-unwell parents. AIDS-orphaned children can experience gossip, discrimination, verbal abuse and bullying pertaining to their caregivers HIV+ status (Cluver and Gardner, 2007). Stigma can include fear of physical contact (Okoror et al., 2008) and reluctance to admit sufferers into a homestead (Greeff et al., 2008).

Although many orphaned children are looked after by members of the extended family, AIDS-related stigma can influence the ways in which they are cared for (Campbell et al., 2005). Stigma has been shown to be a strong mediator between AIDS-orphanhood or parental AIDS and psychological trauma (Boyes and Cluver, 2013; Cluver et al., 2008).

### *Parental loss and orphanhood*

Across sub-Saharan Africa, a large number of adolescents live without one of their biological parents, due to many intertwining factors including labour migration, increased likelihood of parental death as a result of high levels of violence and traffic accidents as well as the HIV/AIDS pandemic (Hosegood, Vanneste and Timaeus, 2004). Losing a parent can have detrimental effects on multiple child outcomes (Bray and Dawes, 2016; Case and Ardington, 2006) and parental death can also be the cause of child stigmatization. Single parents are also at higher risk of poverty and parental stress, both of which impact on child outcomes (Aliber, 2003) and present challenges for care provision (Bray et al., 2011; Röttger-Rössler, 2014).

The literature clearly shows that orphanhood borne of any kind increases risks of poverty, failing to attend school, depression and abuse amongst children and this risk may increase for double orphans (Andrews, Skinner and Zuma, 2006; Ruiz-Casares, Thombs and Rousseau, 2009). AIDS-orphaned children are far more likely to report depression and post-traumatic stress than non-orphans and children orphaned by other causes (Cluver et al., 2010; Cluver et al., 2012; Cluver et al., 2008).

### *Outcomes of parenting*

Good parenting is associated with better child outcomes, while harsh parenting is associated with poorer child outcomes. Table 2 summarises some of the outcomes associated with parenting.

**Table 2 – Summary of what is known of the outcomes of parenting**

Outcomes of parenting	
Good Parenting	Youth who have been the recipients of good parenting, have been provided for nutritionally and with essentials, have received stimulation and affection and positive parenting with rule and goal setting, are more likely to have successful outcomes. That is, they are more likely to perform well academically (Black et al., 2013), less likely to engage in risky sexual behaviour (Kotchick et al., 2001), more likely to be healthy as adults (Black et al., 2013; Ward, Gould, Kelly and Mauff, 2015) and not to abuse substances (Ryan, Jorm and Lubman, 2010) and less likely to be caught up in violent or illegal culture (Souverein et al., 2015; Walker et al. 2011).
Harsh Parenting	Youth who have been the recipients of harsh or abusive parenting, that is active physical, emotional or sexual harm, are at an increased risk of suffering from negative mental and physical health outcomes. Previous research shows that abused youth are more likely to suffer from depression, anxiety, substance abuse, suicidality (Norman et al., 2012). Youth who experienced physical and emotional abuse were found to have a higher risk of having a sexually transmitted disease and engage in risky sexual behaviour (Norman et al., 2012). Abused children also have higher rates of school non-attendance (Meinck, Cluver, et al. 2015; Kuo et al. 2013), display conduct problems and struggle to communicate with their caregiver (Youssef, Attia and Kamel, 1998).

## 2.3 What do we know about adolescence?

### *Pre-adolescents and adolescents*

There are multiple definitions of adolescence and pre-adolescence which change over time and in different cultural contexts. The World Health Organization (WHO) defines adolescents as young people aged 10-19 (World Health Organization, 1998). Pre-adolescence is the period following early childhood and preceding adolescence. Different sources cite ages 6-12 (Verburgh et al., 2014), 11-14 (Corsaro, 2014) others as all age groups up to 12 years of age (Bose et al., 2008). The concept of 'pre-adolescents' recognises that the 10-19 age span of adolescence is a broad one and encompasses a range of biological and physical developmental stages and rites of passage that define the entry into adulthood. For the purposes of this paper to align with the Child Study, 'pre-adolescents' refers to 4-13 year-olds, for the adolescent study considered here, 'adolescents' refers to 10-17 year-olds. These definitions recognise that there is debate regarding when a child enters adolescence and that the 10-13 age group can be seen as both 'pre-adolescents' and 'adolescents'.

Much of the child development literature worldwide and thus the linked literature on the influence of parenting on development, has focused on younger children – generally those under age 3 or age 5 (Campbell et al., 2014; Heckman, 2008). However, there is clear evidence that neural, functional and emotion brain development continues into adolescence (Blakemore 2012), as well as adolescence being an important age for the emergence of (or resilience to) risks such as mental health disorders, substance use and sexual risk behaviours (Ward et al., 2012). Thus, understanding the role of parenting for the pre-adolescent and adolescent age groups is of high importance.

A young child is highly dependent upon their primary caregiver and will often receive most of their interaction from this person. As this is an informative time in a child's development, the stability and experience within the household is thus very important. The parenting of adolescents presents different but related challenges. An adolescent faces a transition between childhood and adulthood which can prove hard to navigate for both the caregiver and adolescent. As the adolescent begins to develop a social life external to the household, other influences factor into their development and the caregiver has less oversight of the adolescent's life. Evidence from around the world shows that this transition can be accompanied by higher rates of abusive parenting (Stoltenborgh et al. 2013).

### 3. AIMS OF THE PAPER

The overarching research questions of this working paper are: (1) What factors are associated with parenting of adolescents and pre-adolescents in southern Africa? and (2) In what ways does parenting affect adolescent and pre-adolescent outcomes in these contexts?

This paper aims to add to the evidence-base on parenting in southern Africa, with a particular focus on the age group of adolescents and pre-adolescents who have received very little attention in parenting research in comparison to early childhood. Current evidence from the region is limited in identifying complex pathways of parenting, since it neither collects data in caregiver-child dyads nor does it include broader measures such as health and education.

This paper looks at two cross-sectional cohort studies of pre-adolescents aged 4–13 and of adolescents aged 10–17 and their caregivers. For simplicity, the studies will be referred to as the 'pre-adolescent study' and the 'adolescent study' from here on.

#### 3.1 Specific aims

##### *Pre-adolescent study*

The pre-adolescent study seeks to investigate which factors are correlated with good parenting and what the associated pre-adolescent outcomes of good parenting might be, with an exploration of the direct, indirect or mediated pathways leading to such effects.

##### *Adolescent study*

The adolescent study seeks to investigate which factors lead to harsh parenting and what the associated adolescent outcomes of harsh parenting might be. It creates a pathway model investigating the connections between factors of family disadvantage, harsh parenting and adolescent health outcomes.



## 4. METHODS

### 4.1 Sample

#### *Pre-adolescent study*

Between 2012 and 2014, 989 children aged 4 to 13 (51.4 per cent female – mean age 8.91 years SD=2.84) were interviewed together with their primary caregivers as part of the Child Community Care study in South Africa and Malawi (Skeen et al. 2014a; Skeen et al. 2014b). Participants were drawn from the first 35 consecutive children walking into the door at 28 local community-based organizations in South Africa (n=24) and Malawi (n=4). These were selected at random from a comprehensive list of 558 community-based organizations. Trained data collectors used mobile phone technology to collect the data (Tomlinson et al. 2009).

#### *Adolescent study*

Between 2009 and 2010, 2,477 adolescents aged between 10 and 17 (53.9 per cent female, mean age 13.57) and their primary caregiver (mean age 44.2 years, 88.9 per cent female) were interviewed in Kwa-Zulu Natal, South Africa as part of the Young Carers Study. One rural and one urban health district with high levels of deprivation were selected. All census enumeration areas in these health districts were randomised into a numbered sequence and then visited according to their number allocation. Within these, all households with a resident adolescent were sampled using door-to-door recruitment. One randomly selected teenager per household and their primary caregiver were interviewed.

### 4.2 Ethics and consent

#### *Pre-adolescent study*

Ethical approval for the pre-adolescent study was granted by the University College London Ethics Board (reference number 1478/002) and the Health Research Ethics Committee at Stellenbosch University (reference number N10/04/112).

All community-based organizations (CBOs) consented to inclusion in the study. All caregivers received full information outlining the study and clarifying the voluntary nature of participation, the consent procedures for themselves and their child, the confidentiality around the study and the ability to withdraw at any time with no consequences. Caregiver consent was provided in writing. In addition, assent was gained from all children with standardised and age-appropriate information. Participation was voluntary and unpaid. Child protection issues were handled with a full referral procedure to CBO and local health/social services if required or requested.

#### *Adolescent study*

Ethical approval for the adolescent study was granted by University of Oxford (SSD/CUREC2/09-52) the University of KwaZulu-Natal (HSS/0254/09) and by the provincial Health (HRKM091/09) and Education Departments (0048/2009).

Consent was obtained in writing before baseline data was collected from both the child and their primary caregiver. Confidentiality of participants was maintained unless a perceived harm was present, in which case referrals to the relevant child protection agencies were made.



### 4.3 Measures

Table A1 in the Annex sets out the measures gathered in the two studies. A variety of validated tools were used, together with demographic and study specific questions. Although different tools were utilised, they covered measures of family disadvantage, composite measures of parenting, various mental health measures, physical health of the children/adolescents as well as behaviour and functioning indices. Details of these measures and how they were used in each analysis are given in the text below.

#### *Pre-adolescent study*

**Parenting:** Parenting was measured using ten items on warmth, expressing love and praise, setting boundaries, utilising positive discipline styles, providing consistent care and a lack of violence or abusive parenting, both physical and psychological. Six of these items were based on caregivers' reports and four were based on children's reports. Each item was coded as a binary, and a total score was calculated by summing the ten items (scale range 0–10). Good parenting was defined as scoring  $\geq 8$  on the 10-point parenting scale.

**Caregiver measures:** Socio-economic measures of income, household size and access to basic services were used from the South African DHS survey (Department of Health Medical Research Council, 2007). Caregiver health was measured using medical history questions from the Make A Difference (MAD) about ART study (Mueller et al., 2011). Caregiver mental health was measured using the Shona Symptom Questionnaire (SSQ) and Patient Health Questionnaire (PHQ). The SSQ was developed for use in sub-Saharan Africa while the PHQ was validated in Nigeria (Adewuya, Ola and Afolabi, 2006) and Kenya (Omoro et al., 2006) and used in South Africa (Bhana et al., 2015). Caregiver HIV-related stigma was measured using the UNICEF monitoring tool for psychosocial support for orphans and vulnerable children on Community Maltreatment, Exploitation and Discrimination (Snider and Dawes, 2006). Living arrangements and separation and bereavement were measured with questions on biological relationship status of caregiver to the child, recent death, illness and separation.

**Child outcomes:** Height and weight were measured by the research team and WHO Child Growth Standards were used to determine the percentage of children who were wasting, stunting or underweight. Child health was measured using the medical history questions adapted from the Mad about Art study. Child food security was measured using caregivers' reports based on items from the Food Security Domain of the Child Status Index (Nyangara et al., 2009). Children were asked if they went to bed hungry. Child mental health was also established. The Quality of Life Inventory utilised caregiver report to measure the child's quality of life. The Strengths and Difficulties Questionnaire measured behaviour problems using caregiver report. The Child Depression Inventory measured depression using child self-report (Kovacs, 1985). The Rosenberg Self-Esteem Scale (Rosenberg, 1965) measured self-esteem also based on child self-reports. The Trauma Symptom Checklist measured child exposure to traumatic events as reported by the child (Briere et al., 2001). Educational risks were measured using the Child Status Index and the school functioning subscale of the Pediatric Quality of Life Inventory (Varni, Seid and Kurtin, 2001). See Annex Table A1 for a complete description of measures used.

### *Adolescent study*

**Family disadvantage:** Poverty was measured using child report on access to the eight most socially perceived necessities (Barnes and Wright 2012). These include access to three meals a day, a second pair of shoes and soap to wash. Caregiver-reported AIDS-illness was measured using the Verbal Autopsy (Kahn et al., 2000). Caregiver-reported disability was measured using two items on mobility for daily tasks and inability to get out of bed. Adolescent orphanhood, overcrowding and number of adults in the household were measured using adolescent drawings of a household map.

**Parenting:** Adolescent-reported harsh parenting was assessed using a UNICEF scale for National Level Monitoring of Orphans and Vulnerable children developed for southern Africa, which measured emotional and physical abuse in the past year in the form of insulting, shaming or threatening an adolescent and hitting or slapping in such a way that it hurt, or with a hard object (Snider and Dawes, 2006).

**Caregiver mental health:** Caregiver mental health was measured by using three mental health scales and based on caregiver self-report. The Center for Epidemiology Depression Scale (Radloff 1977), which has been used in multiple studies in South Africa (Kuo, Operario and Cluver, 2012), had good internal validity ( $\alpha = 0.95$ ). The thirty-item Harvard Trauma Questionnaire (Mollica et al., 1992) assessed post-traumatic stress. This scale has also been used on a South African population (Kuo et al. 2013) and proved to have good internal validity in the adolescent study ( $\alpha = 0.94$ ). Caregiver anxiety was measured using the twenty-one item Beck Anxiety Inventory (Beck et al., 1988), which also had high internal validity ( $\alpha = 0.95$ ).

**Adolescent health outcomes:** Adolescent health risk was evaluated using adolescent self-reports on physical and mental health as well as problem behaviour. A factor score was created for each health risk including the respective scale or scales. Physical health was measured on the basis of five common diseases prevalent among adolescents (worms, flu, pneumonia, vomiting and TB). Mental health was a sum of the factor scores<sup>1</sup> of the depression, PTSD, anxiety and suicidal ideation scales. The Child Depression Inventory (Kovacs 1985) has previously been used in South Africa with acceptable internal validity ( $\alpha = 0.65$ ) as have the Revised Children's Manifest Anxiety Scale ( $\alpha = 0.84$ ) (Gilroy, 2004), the Child PTSD scale ( $\alpha = 0.96$ ) (Amaya-Jackson, 1995) and the suicidality subscale of the Mini International Psychiatric Interview for Children and Adolescents ( $\alpha = 0.85$ ) (Sheehan et al., 2010). Problem behaviour was based on the Child Behaviour Checklist's delinquency subscale, tested in South Africa (Achenbach, 2000) with good internal validity ( $\alpha = 0.64$ ).

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<sup>1</sup> Factor scores are composite variables. They provide information about a person's individual placement on a factor. For example, we measured adolescent mental health using four different measures of mental health: anxiety, depression, PTSD and suicidal ideation. Each of these scales consists of a number of questions which elucidate presence of symptoms associated with these conditions. For suicide ideation this might be 'I have thought of killing myself', 'I have made plans to kill myself', 'I have tried to kill myself'. In their sum, all of these observed items measure the latent (unobserved) construct of suicide ideation. As each child will respond differently to each of the items within the scale, the factor score is in essence the sum of all of these items into a single variable taking into account the variation in responses of the individuals and the importance of each item within the sample.

#### 4.4 Data analysis

Analyses of the pre-adolescent and adolescent datasets used different methodologies. The pre-adolescent study used multivariate regression models and path analyses while the adolescent study used multivariate regressions and structural equation modelling. Both analyses are detailed below.

##### *Pre-adolescent study*

Using SPSS v20, multiple logistic regression and multiple linear regression models were run. The former identifies items associated with good parenting and the latter identified pre-adolescent outcomes associated with good parenting. In both cases, all variables and controls were entered into the model simultaneously and mediation analysis was run using the SPSS Macro PROCESS (Hayes, 2013).

##### *Adolescent Study*

In the case of the adolescent study, linear regression analysis and structural equation modelling using maximum likelihood estimations were performed in SPSS v22 and Amos v22 linear. Structural equation modelling is a statistical modelling technique that can examine complex theories by testing the relationships between different variables simultaneously (Hox and Bechger, 2007). In particular, it can test various theoretical models that 'hypothesize how sets of variables define constructs and how these constructs are related to each other' (Schumacker and Lomax, 2010, p. 2). For example, a health researcher might hypothesize that an adolescent's health is influenced by his home environment. Using structural equation modelling, this theory can then be tested using empirical data and advances our understanding of the complex relationships through scientific hypothesis testing (Schumacker and Lomax, 2010).

As variables were not normally distributed in this sample, bootstrapping procedures were used with 1000 samples. Model fit was assessed with chi-squared divided by the degrees of freedom (<4), RMSEA (<.05), SRMR (<.08), Hoelter (>200) and CFI (>.95) (Byrne, 2010). Given the lack of informative priors found in the literature, no pre-hypothesised model was proposed. Rather, a four-step sequential model-building process was conducted.

1. Multivariate regression analyses controlling for adolescent and caregiver age and gender and caregiver-child relationship were used to determine which factors associated with harsh parenting to include. Those that were significant were included in the model.
2. Confirmatory factor analysis<sup>2</sup> tested measurement models for each latent construct<sup>3</sup> separately.

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<sup>2</sup> Confirmatory factor analysis is typically used to investigate the psychometric properties of a measurement instrument, such as a depression scale. It aims to obtain an estimate of how strong the contribution of an observed variable is towards a latent construct. For example, the CES-D uses 20 items to measure symptoms of depression. A confirmatory factor analysis would establish whether all of these 20 items measure the construct 'depression' or not and how much each individual item contributes towards the construct. It also tests how well this construct or latent model fits the data (Hox & Bechger, 2007). It is important to understand that confirmatory factor analysis is used to test if the construct the researcher hypothesized is consistent with the nature of the construct in the data. Where researchers do not have a hypothesis, exploratory factor analysis is used to determine the structure of the construct.

<sup>3</sup> A latent construct is an unobserved variable in a dataset that is identified by observed variables within a dataset. 'Do you feel like you cannot get up in the morning?' is an observed variable. Depression is an unobserved variable because it is constructed by a number of questions which measure observed variables and in their combination the underlying concept of depression i.e. did you feel like you could not get up in the morning? Do you feel sad all day? Do you feel hopeless? Have you lost interest in your friends and family? (Hox & Bechger, 2007).

3. All the latent constructs confirmed were included into a structural model and possible pathways were tested.
4. All pathways were kept based on theoretical reasons and small adjustments were made to improve the model fit.
5. All structural equation models controlled for adolescent and caregiver age and gender, and the type of relationship to their caregiver (i.e. biological parent, biological grandparent or non-biological caregiver).

## 5. RESULTS

### 5.1 Socio-demographics

#### *Pre-adolescent sample*

Socio-demographic characteristics of the sample are described in Table 3. Of the pre-adolescent sample, 53.6 per cent were orphaned, 13.7 per cent affected by HIV and 45.6 per cent had a disability.

**Table 3 – Socio-demographic characteristics of the samples\***

	Pre-adolescent study % (n)	Adolescent study % (n) or Mean, SD, SE
Youth gender (female)	51.4% (503)	53.9% (1334)
Caregiver gender (female)	94.9% (903)	88.9% (2199)
Youth age	M=8.91, SD=284	13.57, 2.23, 0.05
Caregiver age	M=43.45, SD=15.01	44.22, 13.88, 0.28
Caregiver biological parent	46.9% (459)	66.1% (1637)
Caregiver biological grandparent	27.8% (272)	18.5% (458)
Number of adults	M=2.83, SD=1.69	2.08, 1.17, 0.05
Overcrowding	–	34.3% (849)
Poverty	–	32.1% (796)
Disability	45.6% (451)	11.1% (275)
AIDS-illness/HIV status	13.7% (135)	27.4% (679)
Orphanhood (using UN definition of one or both parents deceased)	53.6% (453)	33.6% (832)
Caregiver anxiety	9.5% (90)	12.07, 12.83, 0.26
Caregiver depression	11.8% (112)	13.54, 12.83, 0.26
Caregiver PTSD	–	21.16, 13.47, 0.27
Adolescent mental health problems	M=1.08, SD=1.75	13.18, 14.28, 0.29
Adolescent illness	–	2.03, 0.95, 0.02
Adolescent behaviour problems	–	1.48, 1.31, 0.03
Physical and emotional abuse	64.6% (639)	42.8% (1060)

\* Different measures were used in the two studies therefore comparability is limited.

#### *Adolescent sample*

27.4 per cent of caregivers were AIDS-ill and 11.1 per cent impaired by disability. Of adolescents, 33.6 per cent were orphaned and 42.8 per cent experienced harsh parenting (Table 4).

### 5.2 Factors associated with good parenting of pre-adolescents

#### *Predictors of good parenting of pre-adolescents*

Several factors associated negatively with good parenting were found among the dyads of pre-adolescents and their caregivers. Stigma experienced by the parent had the strongest association but financial status also proved significant. Parents who were not the biological parent of a pre-adolescent tended to score lower on the parent rating scale than those raised by their biological parents.

Surprisingly, caregivers who scored higher on the depression scale had slightly better odds of good parenting. It was also observed that the more adults present in the household, the greater the odds of good parenting.

**Table 4 – Predictors of good parenting of pre-adolescents**

Predictor	Good parenting	Odds ratio, (95% CI)	P-value
Experienced stigma	Increased experience of stigma in caregivers associated with lower parenting rating	0.28 (0.08 – 0.93)	0.037
Financial status	Increased poverty is associated with lower parenting rating	0.74 (0.55 – 0.98)	0.036
Biological parents	Non-biological parents associated with a lower parent rating	0.60 (0.42 – 0.86)	0.005
Depression score	Increased depression score associated with good parenting	1.04 (1.01 – 1.08)	0.012
Number of adults	Increased number of caregivers in a household associated with good parenting	1.17 (1.07 – 1.29)	0.001

#### *Associations of good parenting with pre-adolescent outcomes*

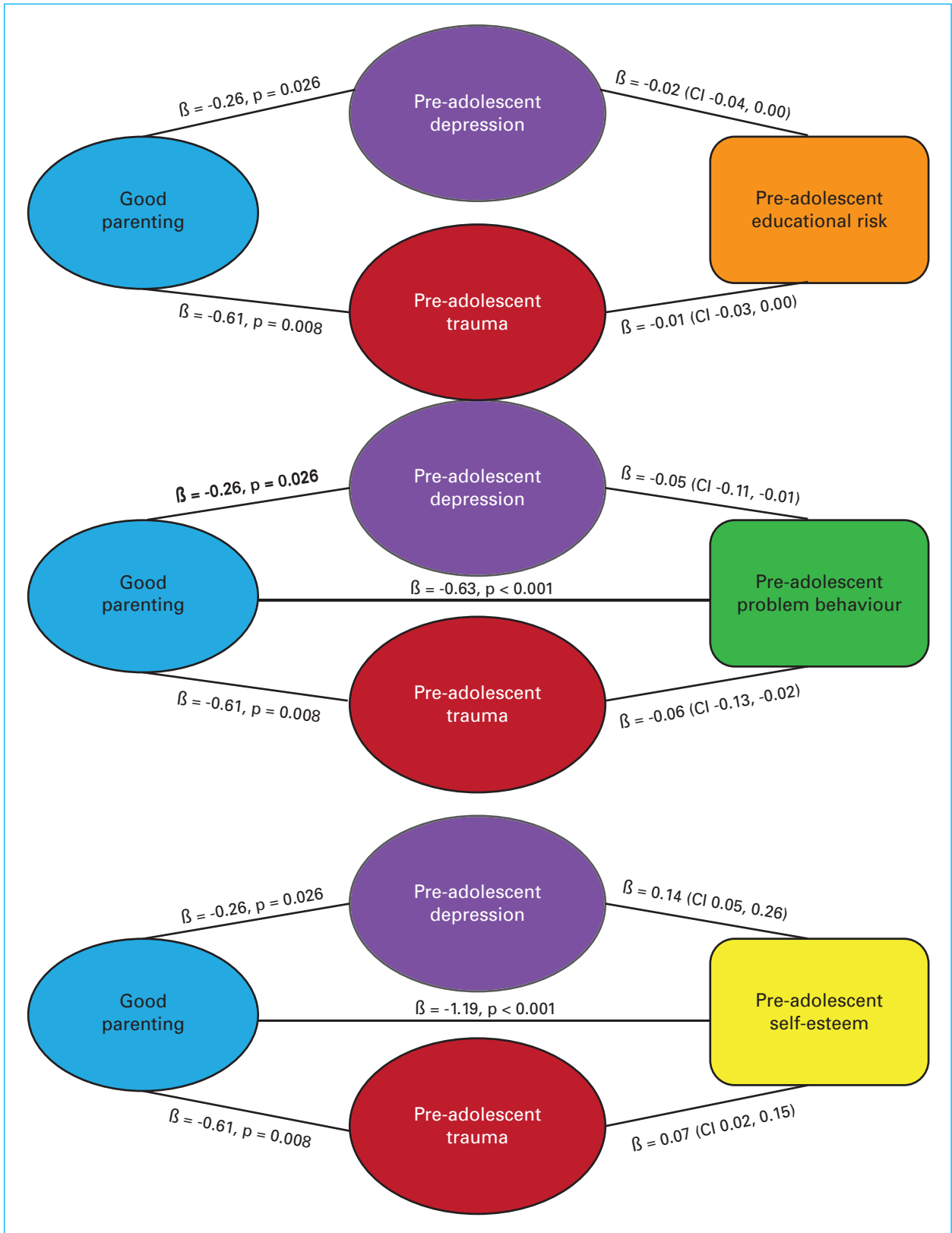
From the sample, 23.6 per cent scored above the cut-off indicator for ‘good parenting’. Associations between good parenting and child outcomes were explored. Children were found to be significantly less depressed, to have higher self-esteem and to score lower in their trauma score where parents practiced ‘good parenting’. For those with parents below the cut-off point, pre-adolescents were more likely to demonstrate behaviour problems, go to bed hungry the previous night and a trend of stunting was identified (33.2 v 26.5 per cent,  $p = 0.059$ ). No differences were observed for cognitive measures, wasting, quality of life, or being underweight.

**Table 5 – Pre-adolescent outcomes associated with good parenting**

Pre-adolescent outcome	Direction of effect	Mean, SD for children with good parenting v Mean, SD for children without good parenting	P-value
Depression	Good parenting was associated with lower depression scores	0.86, 1.35 v 1.15, 1.73	0.007
Self-esteem	Good parenting was associated with higher self-esteem	22.00, 2.80 v 20.67, 2.82	<0.001
Trauma score	Good parenting was associated with lower trauma scores	3.03, 2.98 v 3.75, 3.28	0.003
Behaviour problems	Good parenting was associated with lower behaviour problems	2.46, 1.97 v 3.16, 2.47	<0.001
		<b>% v %, Chi2(1)</b>	
Hunger	Good parenting was associated with lower chance of pre-adolescents going to bed hungry the night before	07.8% v 14.6%, 7.19	0.007
Stunting	Good parenting was associated with lower chance of pre-adolescent stunting	26.5% v 33.2%, 3.58	0.059

For both pre-adolescent behaviour problems (SDQ problem score) and pre-adolescent self-esteem outcomes, good parenting had a direct effect and an indirect effect. Both of these associations were mediated by the pre-adolescent depression score, since a decrease in pre-adolescent depression was an indicator of good parenting, and by the pre-adolescent trauma score for the same reason. In addition, a solely indirect effect of reduced educational risk from good parenting was found, mediated again by reduced levels of pre-adolescent depression and trauma (see Figure 2, page 23).

**Figure 2 – Direct and indirect effects on and of parenting in the pre-adolescent study**





### 5.3 Factors associated with harsh parenting of adolescents

Multivariate regressions controlling for caregiver and adolescent age and gender and caregiver-adolescent relationship status were used to establish associations between each hypothesized factor and harsh parenting. Poverty, caregiver disability, caregiver AIDS-illness, caregiver depression, PTSD, adolescent mental health distress, poor physical health and behaviour problems were all associated with harsh parenting. Overcrowding, number of adults in the household, adolescent orphanhood and caregiver anxiety were not associated with harsh parenting (Table 6).

**Table 6 – Associations with harsh parenting in multivariate regressions in the adolescent sample**

Harsh parenting		
	B Unstandardized coefficient	95% Confidence - Interval
No. of adults in household	-.012	-.079 - .055
Overcrowding	.149	-.012 - .311
Poverty	.096	.061 - .132
Disability	.298	.048 - .547
Caregiver AIDS-illness	.401	.229 - .573
Orphanhood	.029	-.149 - .207
Caregiver depression	.012	.006 - .018
Caregiver anxiety	.002	-.004 - .008
Caregiver PTSD	.018	.013 - .024
Adolescent mental health	.022	.017 - .028
Adolescent health	.380	.300 - .460
Adolescent behaviour	.431	.375 - .486

#### *Latent variables (Figure 3, page 25)*

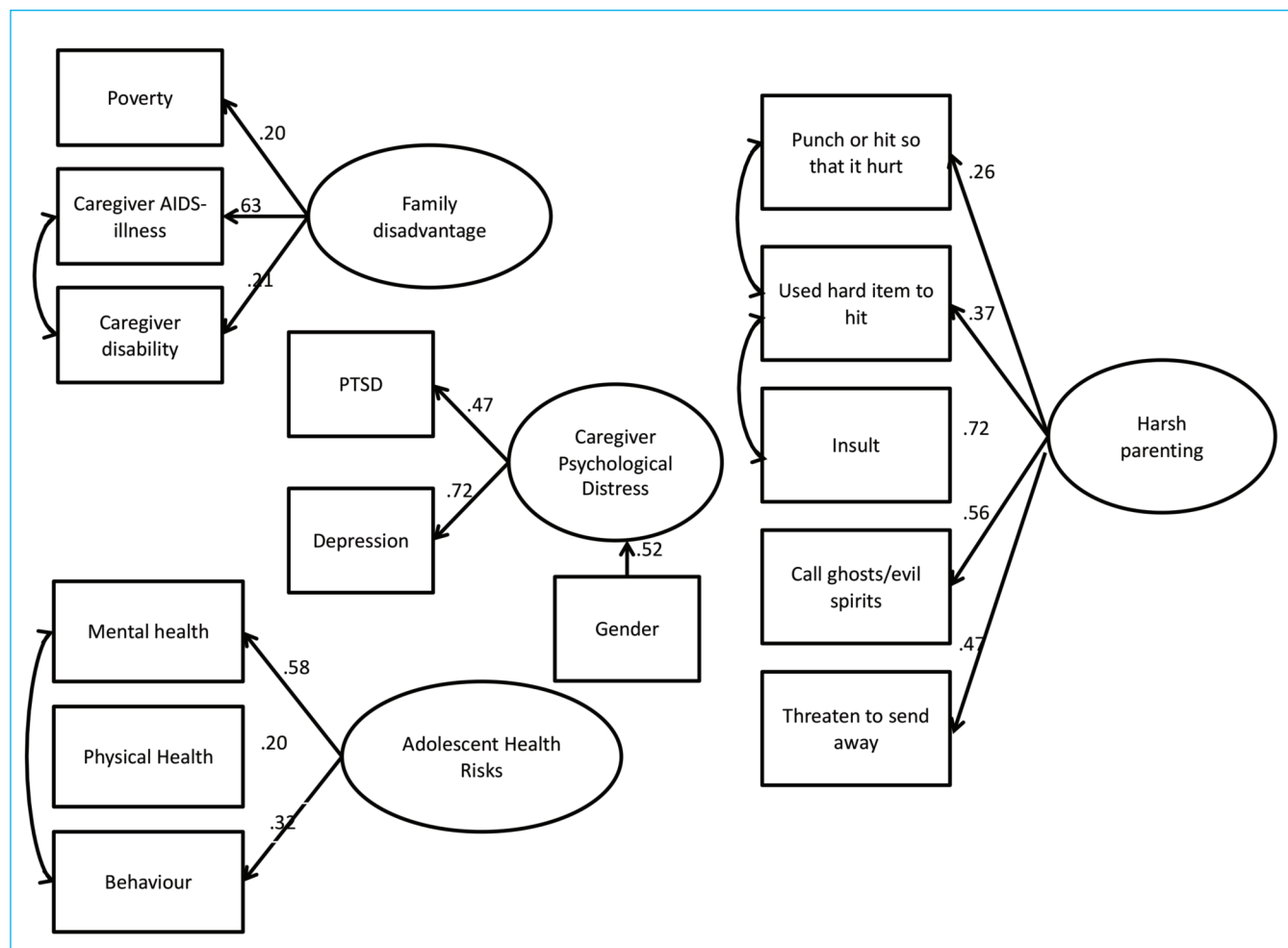
'Family disadvantage', as a latent construct, was identified by caregiver AIDS illness, caregiver disability and poverty. Modification indices were used to improve model fit which resulted in a correlation of residuals that were substantively meaningful and plausibly reflect expected inter-observable correlations within constructs as can be seen in Figure 3. The final model had a fit of  $\chi^2/df= 1.06$ ,  $p=.345$  for CMIN 2.13,  $df=2$ ; RMSEA .005, SRMR .009, Hoelter 6980 and CFI .99.

'Harsh parenting', as a latent construct, was identified by two physical and three emotional abuse items. The final model had a fit of  $\chi^2/df= 3.92$ ,  $p=.008$  for CMIN 11.77,  $df=3$ ; RMSEA .034, SRMR .013, Hoelter 1645 and CFI .99. 'Caregiver mental health distress', as a latent construct, was identified by caregiver post-traumatic stress and depression. This construct was understandably sensitive to the variable caregiver gender, which was therefore introduced as a control variable. The final model had a fit of  $\chi^2/df= 1.74$ ,  $p=.176$  for CMIN 3.47,  $df=2$ ; RMSEA .017, SRMR .008, Hoelter 4272 and CFI .99.

'Adolescent health risk', as a latent construct, was identified by mental health, in particular anxiety, depression, suicidality and post-traumatic stress as well as physical health and child conduct problems. The final model had a fit of  $\chi^2/df= 4.22$ ,  $p=.015$  for CMIN 8.43,  $df=2$ ; RMSEA .036, SRMR .018, Hoelter 1760 and CFI .95.



Figure 3 – Final measurement models of the separate latent constructs



#### Pathways from family disadvantage to adolescent health risks

Structural equation modelling showed that family disadvantage had a direct effect<sup>4</sup> of increasing the risk of harsh parenting. Family disadvantage also had a direct effect on increased caregiver mental health distress. However, no direct effect was seen on harsh parenting by caregiver mental health distress. Caregiver mental health distress and harsh parenting were both associated with adolescent increased health risks. Although there was no direct effect of family disadvantage on increasing adolescent health risk, an indirect effect was observed (see Figure 4 for the model including all pathways and Figure 5 for the model including only significant pathways).

Direct effects were found for associations from family disadvantage to increased risk for harsh parenting and caregiver mental health distress. There was also a direct effect from harsh parenting on increased adolescent health risks and from caregiver mental health distress to increased adolescent health risk (Table 7, page 26).

<sup>4</sup> Direct effect means that one variable is directly associated with another.

**Table 7 – Direct effects within the structural equation model in the adolescent sample**

Predictor	Caregiver mental health distress	Harsh parenting	Adolescent health risks
Family disadvantage	$\beta = 0.819$ ( $p < 0.001$ )	$\beta = 0.301$ ( $p < 0.001$ )	
Caregiver mental health distress			$\beta = 0.242$ ( $p < 0.001$ )
Harsh parenting			$\beta = 0.758$ ( $p < 0.001$ )

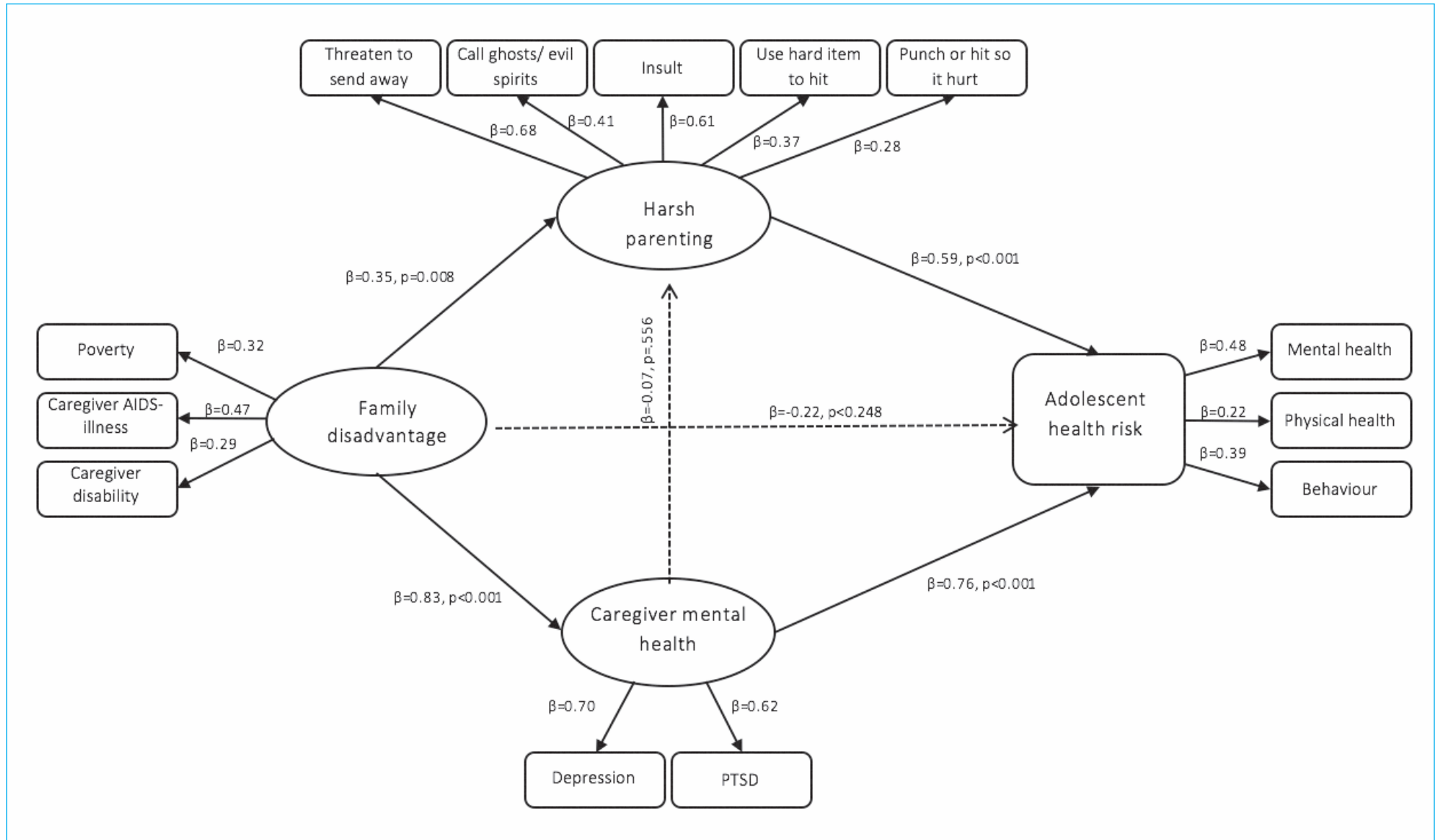
Indirect effects<sup>5</sup> were also observed. There was an indirect effect of family disadvantage on adolescent health risks via harsh parenting, and one via caregiver mental health. A total indirect effect of family disadvantage on adolescent health risk was also found (Table 8).

**Table 8 – Indirect effects**

Predictor	Adolescent health risk via caregiver mental health	Adolescent health risk via harsh parenting	Total indirect effect
Family disadvantage	$\beta = 0.225$ ( $p < 0.001$ )	$\beta = 0.205$ ( $p < 0.001$ )	$\beta = 0.205$ ( $p < 0.001$ )

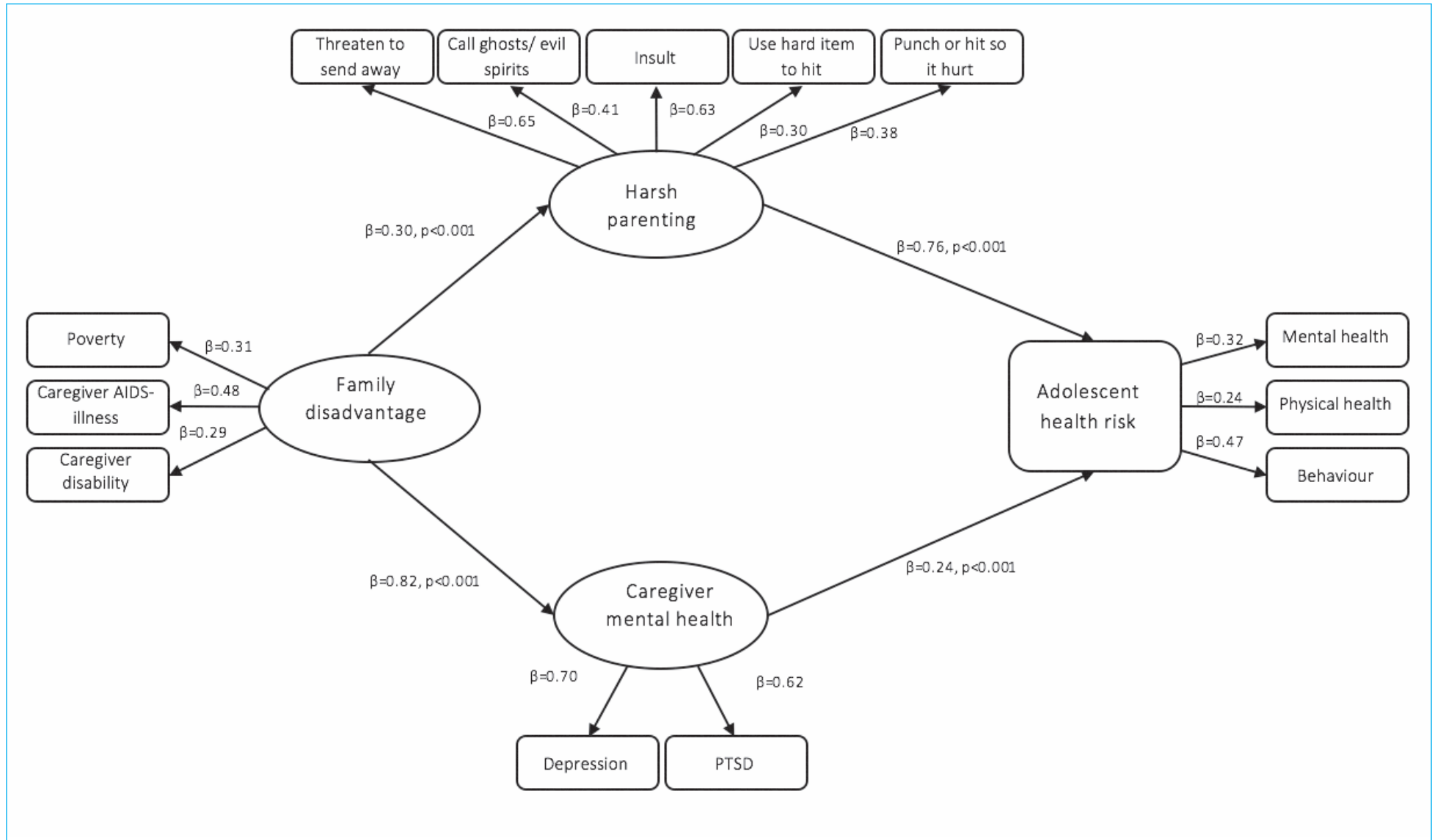
<sup>5</sup> For example: we want to test if poverty and child depression are associated with each other. We find that there is no direct association between poverty and depression but that poverty increases the risk for being hungry and being hungry increases the risk for depression. There is therefore an indirect effect of poverty on depression through the mediator hunger. There is a direct effect of poverty on hunger and a direct effect of hunger on depression. To calculate the indirect effect one multiplies the two direct effects with each other.

Figure 4 – Pathway diagram of adolescent parenting – all pathways



This model had a fit of  $\chi^2/df = 3.71$ ,  $p < .001$  for CMIN 455.87,  $df = 123$ ; RMSEA .033, SRMR .025, Hoelter 815 and CFI .95. According to those criteria specified in the analysis section, all these fit statistics are deemed excellent. This model accounts for 84% of the variance in adolescent health risks; controlled for caregiver and adolescent age, gender and whether or not they were a biological parent or a grandparent.

**Figure 5 – Pathway diagram of adolescent parenting only significant pathways**



The final model had a fit of  $\chi^2/df= 2.58, p<.001$  for CMIN 317.85,  $df=123$ ; RMSEA .025, SRMR .024, Hoelter 1168 and CFI .97. According to those criteria specified in the analysis section, all these fit statistics are deemed excellent. This model accounts for 74% of the variance in adolescent health risks; it controlled for caregiver and adolescent age, gender and whether or not they were a biological parent or a grandparent.

## 6. DISCUSSION

This working paper aimed to expand our understanding of factors associated with parenting, and pathways from parenting to adolescent and pre-adolescent outcomes in southern Africa. By drawing on two linked studies with different age groups of children, it is possible to examine both common patterns and important differences.

### 6.1 Poverty

Both studies found that poverty is associated with lower capacity for good parenting in southern Africa. Poverty is associated with increases in harsh parenting (in the adolescent study) and decreases in good parenting (in the pre-adolescent study). When there are competing needs between resource provision and positive parenting, this is associated with reduced parental capacity for nurturing, stimulating and developing a deeper relationship between the caregiver and child. Poverty may divert parental attention and may reduce parenting opportunity as the challenges of basic survival are primary. This finding extends the evidence base on the importance of addressing poverty in programming that aims to support parenting in low-income contexts in southern Africa. It will be of value to follow ongoing research that investigates the linking of parenting programmes with poverty reduction programmes (Annan et al., 2013; Cluver et al., 2016; Richter and Naicker, 2013), and research that examines how cash transfers or poverty reduction programmes affect parenting as well as other related child development outcomes (de Groot et al., 2015).

In addition to poverty, caregiver disability and AIDS-illness also increased family disadvantage and therefore were indirectly associated with harsh parenting of adolescents. It might be that whilst poverty is sufficient to distract a caregiver from the nuances of positive parenting, further stress on the family may result in even more severe implications for parenting, and chronic parental stress is not conducive to good parenting. Further research might examine whether a threshold of accumulated stress on a caregiver might be associated with a change from merely the absence of positive parenting to the initiation of harsh parenting, and the impacts of chronic stressors versus sudden shocks. In addition, studies need to investigate whether this is reversible and how poverty alleviation may enhance parenting capacity beyond food and monetary provision.

### 6.2 Caregiver physical health and stigma

It is of note that caregiver HIV-status was not associated with parenting practices in the pre-adolescent study. This suggests that a caregiver who is healthy and well on ART can live with HIV/AIDS and provide supportive parenting. However, where caregivers are affected by AIDS-illness and impaired by disability this was associated with harsh parenting of adolescents. That ill health and stigma are associated with the reduced capacity of a caregiver to parent (Lachman et al., 2013) suggests that keeping HIV+ parents healthy may be an essential part of supporting parenting and preventing abuse.

In addition, a strong, negative association between stigma and good parenting of pre-adolescents was found in the pre-adolescent study. It is apparent that stigma is negatively associated with good parenting – and most likely is associated with the increased stress that stigma puts on being a parent (Kuo et al., 2014). Future research is needed to understand how this functions and whether

stigma reduction is associated with parenting improvements. Importantly, there is currently a lack of evidence-based programming to reduce stigma towards AIDS-affected families and individuals in southern Africa (Pantelic et al., 2015). Community connectedness is a good indicator of coping, and may be the obverse of stigma, so interventions may have the dual role of stigma reduction as well as enhancing connectedness (Campbell et al., 2005).

### **6.3 Caregiver mental health and multiple adult households**

Caregiver mental health was not associated with harsh parenting in adolescents and most surprisingly, higher rates of depression were weakly positively associated with good parenting in pre-adolescents. This does not align with the literature where caregiver mental health distress is seen to have a detrimental effect on good parenting. It is important to explore this counterintuitive finding. It may be that within this study those with mental health problems in the pre-adolescent study were prioritised for assistance as all were recruited from community-based organizations. On the other hand, caregiver depression may herald the influx of supportive extended family provision to relieve the depression in the caregiver and also result in the provision of extended family input with the children. There is good evidence of the importance of social support in bolstering caregivers in the region (Casale et al., 2015). Indeed the data does show that parents who were more depressed tended to live in households with multiple adults. It could either be that caregivers who are suffering draw on a network of support because of their depression or that, in fact, living with multiple adults contributes to depression, possibly due to a lack of privacy and space. Either way, such support from other adults in the household might enable the parent to dedicate time to positive parenting since greater time for interaction with the pre-adolescent is possible. This may also be because the burden of poverty is ameliorated or household tasks are shared, freeing the caregiver, or even that other adults contribute towards the duties of positive parenting by providing attention, stimulation, rule setting and appropriate discipline. Clearly further research is required to explore this phenomenon, and to examine who actually provides the parenting in households with multiple adults – also an essential question for developing appropriate support for parenting in the region (Bray and Dawes, 2016).

The findings here suggest that caregiver mental health is not associated with harsh parenting and that an increased network of support for parents suffering severe depression may be very important in improving parenting capacity. Longitudinal data would be required to explore this further and to test whether the positive gains of living in a large household are sustained as pre-adolescents become adolescents.

### **6.4 Biological parents**

The pre-adolescent study found that pre-adolescents cared for by their biological parents are doing better. Demographic data from the region suggests that where pre-adolescents are not cared for by their biological parent, this is most commonly due to parental death (Hosegood et al., 2004) and high numbers of orphans in both samples support this. Bereavement in such circumstances might directly affect pre-adolescents' outcomes. Most commonly, pre-adolescents are cared for by family members following the death of their parents. However, the grief of the parenting family member

who has assumed parenting responsibilities could affect their ability to parent the child well. More broadly, parental motivation may be highest among biological parents. We do not know enough about the underlying drivers of this, but it would be of value to explore the influences of familial ties, additional duties, ill-preparedness or reluctance to foster children orphaned by HIV/AIDS or other causes (Case, Lin and McLanahan, 2000).

However, no such association was found among adolescents. Orphanhood was not associated with harsh parenting, and it may be that the lack of a biological parent can be buffered by good parenting from other sources. Whilst the evidence shows that parenting is still an important factor associated with adolescent health outcomes, these findings suggest that it is important to support parenting from any primary caregiver.

It is important to note the relationship of gender and parenting practices in the context considered in this paper. Parenting is sometimes assumed to be gender-neutral, whilst in reality (and especially in sub-Saharan Africa) it is frequently a responsibility assumed mostly by females. This is reflected in the overwhelming majority of female primary caregivers in both studies in this paper. Female parents may encounter greater challenges than males and thus many aspects of family disadvantage, such as poverty, may therefore be experienced as more extreme. It will be important for future research and qualitative studies to further develop our understanding of the dynamics of gender within parenting in the region, and in particular how we can best support women in their parenting roles whilst recognising their sometimes limited agency in the context of the household. In addition, it is also important to consider ways in which men are enabled to actively participate in parenting and supported in their roles as fathers and to investigate the impact their presence or absence may have on adolescent well-being.

## **6.5 The effect of good parenting on long-term child outcomes**

### *Pre-adolescent outcomes of parenting*

Good parenting is associated with increased self-esteem, reduced behaviour issues and fewer educational risks, all partly or fully mediated by pre-adolescent depression and trauma.

### *Adolescent outcomes of parenting*

The adolescent study found that harsh parenting is strongly associated with health risks amongst adolescents. It also found that caregiver mental health mediates the relationship between family disadvantage and adolescent health risk, which is in line with extant literature (Bradford et al., 2003). Whilst caregiver mental health is not directly associated with harsh parenting, caregiver mental health problems do present a real risk to adolescent health. It is notable that the inclusion of the non-significant direct pathways from family deprivation to adolescent health risk and from caregiver mental health to harsh parenting in the adolescent structural model did not deteriorate model fit significantly, and increased the variance explained in adolescent health risk by 10 per cent from 74 to 84 per cent.



### *Trauma and depression*

Good parenting can mitigate pre-adolescent trauma and depression. It could be that a lack of positive parenting and abusive parenting is increasing the risk for trauma and depression, or that unavoidable experiences leading to trauma and depression are better tolerated with the presence of good parenting, leading to pre-adolescent resilience.

### *Self-esteem, behaviour and education*

Mediated by the reduction of trauma and depression, good parenting leads to a rise in self-esteem. This is often the first step in a child gaining the confidence that will allow them to pursue other achievements. Through positive parenting (warmth, boundary setting and stimulation), and an avoidance of abusive parenting (harsh punishments, violence and psychological bullying), it may be that the ingredients to prevent or manage behavioural problems are found. Educational risk was measured through school enrolment, attendance and progress and good parenting encourages children to attend and succeed in school. These building blocks are important in pre-adolescents as the absence of such factors may increase risk behaviours and decrease positive experiences in adolescents. It seems plausible that a continuum of positive experience builds positive futures and protects or shields children along the developmental trajectory.

## **6.6 Limitations**

This study is subject to a number of limitations. First, both studies used cross-sectional data which are not suitable to establish directionality of association. Both sets of analyses tested for associations rather than predictors or causal factors. However, considering the dearth of the evidence available on the parenting of adolescents and pre-adolescents in sub-Saharan Africa, these studies are important contributors to the development of theoretical concepts about parenting. Further research with longitudinal and experimental data is required to establish causality.

Second, this paper reports on the results of two studies using different samples, recruitment methods, measures and analytical techniques. While some similar themes emerged from this analysis, we cannot directly compare the results of both studies. However, at the same time, both study similar concepts in similar places. The knowledge generated from both studies allows for a deeper understanding of the importance of parenting in the context of sub-Saharan Africa and builds a solid foundation for further research.

Third, both studies focused on parenting in relation to physical and emotional abuse. Sexual abuse and neglect were not included in the study. The reasoning behind this is as follows: neglect is difficult to distinguish from poverty in areas with high levels of deprivation and was thus not measured for this study. Sexual abuse in adolescence is mostly perpetrated by peers and therefore not directly related to parenting (Meinck et al., 2016) although adolescents who experience sexual abuse often experience previous violence victimisation (Meinck, Cluver and Boyes, 2015b).

Finally, both studies were carried out in areas of high deprivation and therefore cannot be generalised to the whole of the population in sub-Saharan Africa. However, both samples also benefited from in-sample variation such as the inclusion of multiple language groups, multiple countries (in the pre-adolescent study) and different forms of recruitment.



## 6.7 Implications for supporting parenting of adolescents in southern Africa

The findings of these studies can help us with a task that is an essential step towards improving youth outcomes in southern Africa – to understand some of the dynamics of parenting of adolescents in the context of poverty, deprivation, illness and chronic stress that characterise the region (Ward, Makusha and Bray, 2015). These linked studies identify important factors associated with positive and harsh parenting, and show clear linkages between parenting and adolescent emotional and physical health outcomes.

Results also suggest that both preventing negative parenting and promoting positive parenting have important roles to play in youth outcomes. Parenting support programmes cannot only focus on abuse prevention, but also on praise, encouragement and warmth. The strong and independent negative effects of poverty on parenting suggest that it may be of value for parenting interventions to be accompanied with structural-level support or, if this is not possible, to consider a financial management component. However, given the incumbent problem of poverty in large parts of southern Africa, we may also need to recognise that parenting must be managed within poverty for many millions of families. Early results from trials of parenting interventions containing components on alleviation of financial pressures appear promising (Cluver, Lachman and Ward, 2015). Aside from parenting interventions, there is a growing evidence-base for the use of unconditional cash transfers as poverty alleviation tools which are shown to reduce pre-adolescent and adolescent health risk (Cluver, et al., 2014; Luseno et al., 2014). Educational risk is enhanced in the presence of problematic parenting and the policy implications must focus on ease of access to education, structural provision to ensure ongoing engagement, attendance and achievement, and to extend universal access from primary to secondary education (Pettifor et al., 2008).

In high HIV-prevalence areas, it may also be essential to consider how to alleviate the additional stressors that the disease brings. The challenges include health and life, but also the more subtle ramifications of community connections, stigma, diversions of attention, subtle building of self-esteem and the disease-linked costs that can plummet a family from a fragile balance into poverty. There are a number of interventions for HIV+ caregivers and household illness that have been shown to reduce mental health distress in both caregivers and youth (Stein, Rotheram-Borus and Lester, 2007). In addition, promising programmes focus on supporting families of HIV+ adolescents and pre-adolescents with issues such as adherence (Bhana et al., 2014), and supporting parents with important but difficult processes such as HIV-disclosure to their children (Rochat et al., 2013). More than thirty years into the AIDS epidemic, we still lack effective interventions to reduce HIV-stigma and its effects on affected families. In the search for new interventions we must not overlook older and established provision. However, these may need to be adapted, integrated and evolved to meet the complexity of need. There is much learning from nutrition, health, reproduction and feeding programmes. The HIV arena, and data from these studies, show the overlap and need for integrated and somewhat wider-reaching visions. Complex and combined provision and resources may be needed. Single magic bullet approaches seem to offer less traction.

These two studies provide some of the first empirical findings to explore the complex patterns of parenting adolescents in southern Africa. They underline that parenting is an essential pathway to improving child and adolescent life achievements and outcomes. They show the importance of multiple structural deprivations in making parenting more challenging for caregivers. Perhaps most importantly, they indicate areas for focus in providing effective parenting support, and potential pathways by which we can better support this vital role.

## REFERENCES

- Aber, L., Jones, S. and Cybele Raver, C. (2007). Poverty and Child Development: New perspectives on a defining issue. In L. Aber, S. Bishop-Josef, S. Jones, K. Taaffe McLearn and D. Phillips (Eds.), *Child Development and Social Policy*. Washington, DC: American Psychological Association.
- Achenbach, T. (2000). Child Behaviour Checklists (CBCL/2-3 and CBCL/4-18), Teacher Report Form (TRF) and Youth Self-Report (YSR). In J. Rush, M. First and D. Blacker (Eds.), *The Handbook of Psychiatric Measures* (1st ed.). Arlington, VA: The American Psychiatric Association.
- Adato, M. and Bassett, L. (2009). Social protection to support vulnerable children and families: the potential of cash transfers to protect education, health and nutrition. *AIDS Care*, 21 Suppl 1, 60-75. <http://doi.org/10.1080/09540120903112351>
- Adewuya, A. O., Ola, B. A. and Afolabi, O. O. (2006). Validity of the patient health questionnaire (PHQ-9) as a screening tool for depression amongst Nigerian university students. *Journal of Affective Disorders*, 96(1-2), 89-93. <http://doi.org/10.1016/j.jad.2006.05.021>
- Aliber, M. (2003). Chronic Poverty in South Africa: Incidence, Causes and Policies. *World Development*, 31(3), 473-490. [http://doi.org/10.1016/S0305-750X\(02\)00219-X](http://doi.org/10.1016/S0305-750X(02)00219-X)
- Amaya-Jackson, L. (1995). *Child PTSD Checklist*. North Carolina: Duke Treatment Service.
- Andrews, G., Skinner, D. and Zuma, K. (2006). Epidemiology of health and vulnerability among children orphaned and made vulnerable by HIV/AIDS in sub-Saharan Africa. *AIDS Care*, 18(3), 269-76. <http://doi.org/10.1080/09540120500471861>
- Annan, J., Bundervoet, T., Seban, J. and Costigan, J. (2013). *Urwaruka Rushasha - A randomized impact evaluation of village savings and loans associations and family-based interventions in Burundi*. New York: International Rescue Committee.
- Barlow, J. (2015). Preventing child maltreatment and youth violence using parent training and home visiting programmes. In P. Donnelly and C. Ward (Eds.), *Oxford Textbook of Violence Prevention: Epidemiology, Evidence and Policy* (1st ed., pp. 133-140). Oxford: Oxford University Press. <http://doi.org/10.1093/med/9780199678723.003.0018>
- Barnes, H. and Wright, G. (2012). Defining child poverty in South Africa using the socially perceived necessities approach'. In A. Minujin and S. Nandy (Eds.), *Global Child Poverty and Well-Being: Measurement, Concepts, Policy and Action* (pp. 135-154). Bristol: Policy Press.
- Beck, A.T., Epstein, N., Brown, G. and Steer, R. A. (1988). An inventory for measuring clinical anxiety: psychometric properties. *Journal of Consulting and Clinical Psychology*, 56(6), 893-7.
- Bennett, R., Hosegood, V., Newell, M.-L. and McGrath, N. (2015). Understanding Family Migration in Rural South Africa: Exploring Children's Inclusion in the Destination Households of Migrant Parents. *Population, Space and Place*, 21(4), 310-321. <http://doi.org/10.1002/psp.1842>
- Betancourt, T. S., Meyers-Ohki, S., Stulac, S. N., Barrera, A. E., Mushashi, C. and Beardslee, W. R. (2011). Nothing can defeat combined hands (Abashize hamwe ntakibananira): protective processes and resilience in Rwandan children and families affected by HIV/AIDS. *Social Science and Medicine* (1982), 73(5), 693-701. <http://doi.org/10.1016/j.socscimed.2011.06.053>

- Bhana, A., Mellins, C. A., Petersen, I., Alicea, S., Myeza, N., Holst, H., ... McKay, M. (2014). The VUKA family program: piloting a family-based psychosocial intervention to promote health and mental health among HIV infected early adolescents in South Africa. *AIDS Care*, 26(1), 1–11. <http://doi.org/10.1080/09540121.2013.806770>
- Bhana, A., Rathod, S. D., Selohilwe, O., Kathree, T., Petersen, I., Prince, M., ... Brislin, R. (2015). The validity of the Patient Health Questionnaire for screening depression in chronic care patients in primary health care in South Africa. *BMC Psychiatry*, 15(1), 118. <http://doi.org/10.1186/s12888-015-0503-0>
- Black, R. E., Victora, C. G., Walker, S. P., Bhutta, Z. A., Christian, P., de Onis, M., ... Uauy, R. (2013). Maternal and child undernutrition and overweight in low-income and middle-income countries. *Lancet*, 382(9890), 427–51. [http://doi.org/10.1016/S0140-6736\(13\)60937-X](http://doi.org/10.1016/S0140-6736(13)60937-X)
- Blakemore, S.-J. (2012). Imaging brain development: the adolescent brain. *NeuroImage*, 61(2), 397–406. <http://doi.org/10.1016/j.neuroimage.2011.11.080>
- Blum, R. W., Astone, N. M., Decker, M. R. and Mouli, V. C. (2014). A conceptual framework for early adolescence: a platform for research. *International Journal of Adolescent Medicine and Health*, 26(3), 321–31. <http://doi.org/10.1515/ijamh-2013-0327>
- Boris, N. W., Thurman, T. R., Snider, L., Spencer, E. and Brown, L. (2006). Infants and young children living in youth-headed households in Rwanda: Implications of emerging data. *Infant Mental Health Journal*, 27(6), 584–602. <http://doi.org/10.1002/imhj.20116>
- Bose, K., Bisai, S., Chakraborty, J. and Datta, N. (2008). Extreme levels of underweight and stunting among pre-adolescent children of low socioeconomic class from Madhyamgram and Barasat, West Bengal, India. *Collegium*. Retrieved from <http://hrcak.srce.hr/file/35938>
- Boyes, M. and Cluver, L. (2013). Relationships Among HIV/AIDS Orphanhood, Stigma and Symptoms of Anxiety and Depression in South African Youth: A Longitudinal Investigation Using a Path Analysis Framework. *Clinical Psychological Science*, 1(3), 323–330. <http://doi.org/10.1177/2167702613478595>
- Bradford, K., Barber, B. K., Olsen, J. A., Maughan, S. L., Erickson, L. D., Ward, D. and Stolz, H. E. (2003). A Multi-National Study of Interparental Conflict, Parenting and Adolescent Functioning. *Marriage and Family Review*, 35(3-4), 107–137. [http://doi.org/10.1300/J002v35n03\\_07](http://doi.org/10.1300/J002v35n03_07)
- Bray, R. and Dawes, A. (2016). Parenting, family care and adolescence in East and Southern Africa: an evidence-focused literature review. *UNICEF Working Paper*.
- Bray, R., Gooskens, I., Moses, S., Kahn, L. and Seekings, J. (2011). Growing up in the new South Africa: childhood and adolescence in post-apartheid Cape Town.
- Briere, J., Johnson, K., Bissada, A., Damon, L., Crouch, J., Gil, E., ... Ernst, V. (2001). The Trauma Symptom Checklist for Young Children (TSCYC): reliability and association with abuse exposure in a multi-site study. *Child Abuse and Neglect*, 8(25), 1001–1014.
- Browne, K., Davies, C. and Stratton, P. (1998). The nature of child abuse and neglect: an overview. In *Early prediction and prevention of child abuse*. Chichester: John Wiley and Sons.

- Byrne, B. (2010). *Structural Equation Modeling With Amos* (2nd ed.). New York: Routledge.
- Campbell, C., Foulis, C. A., Maimane, S. and Sibiyi, Z. (2005). "I have an evil child at my house": stigma and HIV/AIDS management in a South African community. *American Journal of Public Health*, 95(5), 808–15. <http://doi.org/10.2105/AJPH.2003.037499>
- Campbell, F., Conti, G., Heckman, J. J., Moon, S. H., Pinto, R., Pungello, E., ... Romano, J. P. (2014). Early childhood investments substantially boost adult health. *Science (New York, N. Y.)*, 343(6178), 1478–85. <http://doi.org/10.1126/science.1248429>
- Casale, M., Wild, L., Cluver, L. and Kuo, C. (2015). Social support as a protective factor for depression among women caring for children in HIV-endemic South Africa. *Journal of Behavioral Medicine*, 38(1), 17–27. <http://doi.org/10.1007/s10865-014-9556-7>
- Case, A. and Ardington, C. (2006). The impact of parental death on school outcomes: longitudinal evidence from South Africa. *Demography*, 43(3), 401–20.
- Case, A., Lin, I.-F. and McLanahan, S. (2000). How Hungry is the Selfish Gene? *Economic Journal*, 110, 781–804.
- Chi, P., Li, X., Tam, C. C., Du, H., Zhao, G. and Zhao, J. (2015). Parenting Mediates the Impact of Caregivers' Distress on Children's Well-Being in Families Affected by HIV/AIDS. *AIDS and Behavior*, 19(11), 2130–9. <http://doi.org/10.1007/s10461-015-1104-0>
- Chirwa, W. (2002). Social exclusion and inclusion: Challenges to orphan care in Malawi. *Nordic Journal of African Studies*, 11(1), 93–113.
- Cluver, L., Bowes, L. and Gardner, F. (2010). Risk and protective factors for bullying victimization among AIDS-affected and vulnerable children in South Africa. *Child Abuse Negl.*, 34, 793–803.
- Cluver, L. and Gardner, F. (2007). Risk and protective factors for psychological well-being of children orphaned by AIDS in Cape Town: a qualitative study of children and caregivers' perspectives. *AIDS Care*, 19(3), 318–25. <http://doi.org/10.1080/09540120600986578>
- Cluver, L., Gardner, F. and Operario, D. (2008). Effects of Stigma on the Mental Health of Adolescents Orphaned by AIDS. *Journal of Adolescent Health*, 42, 410–417. Retrieved from <http://www.sciencedirect.com/science/article/B6T80-4RFD066-5/2/1e6d946e265514f2dee941dc30714ce3>
- Cluver, L., Lachman, J. M. and Ward, C. (2015). Developing a parenting programme to prevent child abuse in South Africa: A pre-post pilot study. *Res Soc Work Pract.*
- Cluver, L., Lachman, J., Ward, C., Gardner, F., Peterson, T., Hutchings, J. M., ... Redfern, A. (2016). Development of a Parenting Support Program to Prevent Abuse of Adolescents in South Africa: Findings From a Pilot Pre-Post Study. *Research on Social Work Practice*, 1049731516628647. <http://doi.org/10.1177/1049731516628647>
- Cluver, L., Orkin, F., Boyes, M. and Sherr, L. (2014). Cash plus care: social protection cumulatively mitigates HIV-risk behaviour among adolescents in South Africa. *AIDS (London, England)*, 28 Suppl 3, S389–97. <http://doi.org/10.1097/QAD.0000000000000340>

- Cluver, L., Orkin, F., Boyes, M., Sherr, L., Makasi, D. and Nikelo, J. (2013). Pathways from parental AIDS to child psychological, educational and sexual risk: Developing an empirically-based interactive theoretical model. *Social Science and Medicine*, 87, 185–93.
- Cluver, L., Orkin, M., Boyes, M., Gardner, F. and Meinck, F. (2011). Transactional sex amongst AIDS-orphaned and AIDS-affected adolescents predicted by abuse and extreme poverty. *JAIDS Journal of Acquired Immune Deficiency Syndromes*.  
<http://doi.org/10.1097/QAI.0b013e31822f0d82>
- Cluver, L., Orkin, M., Gardner, F. and Boyes, M. (2012). Persisting mental health problems among AIDS-orphaned children in South Africa. *Journal of Child Psychology and Psychiatry*, 53, 363–370.
- Collins, D. L. and Leibbrandt, M. (2007). The financial impact of HIV/AIDS on poor households in South Africa. *AIDS (London, England)*, 21 Suppl 7, S75–81.  
<http://doi.org/10.1097/01.aids.0000300538.28096.1c>
- Conger, R. D., Ge, X., Elder, G. H., Lorenz, F. O. and Simons, R. L. (1994). Economic stress, coercive family process and developmental problems of adolescents. *Child Development*, 6 (2 Spec No), 541–61.
- Corsaro, W. A. (2014). *The sociology of childhood*. New York: SAGE Publications.
- Daly, M., Bray, R., Bruckhauf, Z., Byrne, J., Margaria, A., Pecnik, N. and Samms-Vaughan, M. (2015). Family and Parenting Support: Policy and Provision in a Global Context. *UNICEF*.
- de Groot, R., Palermo, T., Handa, S., Ragno, L. and Peterman, A. (2015). *Cash Transfers and Child Nutrition: What We Know and What We Need to Know* (No. 07). Florence.
- de Onis, M., Onyango, A. W., Borghi, E., Siyam, A., Nishida, C. and Siekmann, J. (2007). Development of a WHO growth reference for school-aged children and adolescents. *Bulletin of the World Health Organization*, 85(9), 660–7.
- Department of Health Medical Research Council. (2007). *South Africa Demographic and Health Survey*. South Africa: Department of Health.
- Durkin, M. S., Davidson, L. L., Desai, P., Hasan, Z. M., Khan, N., Shrout, P. E., ... Zaman, S. S. (1994). Validity of the ten questions screened for childhood disability: results from population-based studies in Bangladesh, Jamaica and Pakistan. *Epidemiology (Cambridge, Mass.)*, 5(3), 283–9.
- Edin, K. and Lein, L. (1997). *Making ends meet*. New York: Russell Sage Foundation.
- Gardner, F., Hutchings, J., Bywater, T. and Whitaker, C. (2010). Who benefits and how does it work? Moderators and mediators of outcome in an effectiveness trial of a parenting intervention. *Journal of Clinical Child and Adolescent Psychology : The Official Journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division 53*, 39(4), 568–80. <http://doi.org/10.1080/15374416.2010.486315>
- Gardner, F., Montgomery, P. and Knerr, W. (2015). Transporting Evidence-Based Parenting Programs for Child Problem Behavior (Age 3-10) Between Countries: Systematic Review and Meta-Analysis. *Journal of Clinical Child and Adolescent Psychology : The Official Journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division 53*, 1–14.  
<http://doi.org/10.1080/15374416.2015.1015134>



- Ghate, D. and Hazel, N. (2008). *Parenting in poor environments: Stress, support and coping*. London: Jessica Kingley.
- Gilroy, S. (2004). The Revised Children's Manifest Anxiety Scale (RCMAS): "What I think and feel." In *Devilly GJ, editor*. Vict. Web, Australian Centre for Posttraumatic Mental Health.
- Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A research note. *Journal of Child Psychology and Psychiatry*, 38, 581–586.
- Greeff, M., Uys, L. R., Holzemer, W. L., Makoe, L. N., Dlamini, P. S., Kohi, T.W., ... Phetlhu, R. D. (2008). Experiences of Hiv/Aids Stigma of Persons living with Hiv/Aids and Nurses involved in their care from five African Countries. *Africa Journal of Nursing and Midwifery*, 10(1), 78–108.
- Hayes, A. (2013). *Introduction to mediation, moderation and conditional process analysis: A regression-based approach*. New York: Guilford Press.
- Heckman, J. J. (2008). Role of income and family influence on child outcomes. *Annals of the New York Academy of Sciences*, 1136, 307–23. <http://doi.org/10.1196/annals.1425.031>
- Hosegood, V., Vanneste, A.-M. and Timaeus, I. M. (2004). Levels and causes of adult mortality in rural South Africa: the impact of AIDS. *AIDS (London, England)*, 18(4), 663–71.
- Hox, J. and Bechger, T. (2007). An introduction to Structural Equation Modeling. *Family Science Review*, 11, 354–373.
- Kahn, K., Tollman, S., Garenne, M. and Gear, J. (2000). Validation and application of verbal autopsies in a rural area of South Africa. *Tropical Medicine and International Health*, 5, 824–831.
- Knerr, W., Gardner, F. and Cluver, L. (2013). Improving Positive Parenting Skills and Reducing Harsh and Abusive Parenting in Low- and Middle-Income Countries: A Systematic Review. *Prevention Science*, 1–12. <http://doi.org/10.1007/s11121-012-0314-1>
- Kotchick, B. A. and Forehand, R. (2002). Putting Parenting in Perspective: A Discussion of the Contextual Factors That Shape Parenting Practices. *Journal of Child and Family Studies*, 11(3), 255–269. <http://doi.org/10.1023/A:1016863921662>
- Kotchick, B. A., Shaffer, A., Forehand, R. and Miller, K. S. (2001). Adolescent sexual risk behavior: a multi-system perspective. *Clinical Psychology Review*, 21(4), 493–519.
- Kovacs, M. (1985). The Children's Depression, Inventory (CDI). *Psychopharmacology Bulletin*, 21(4), 995–8.
- Kuo, C., Cluver, L., Casale, M. and Lane, T. (2014). Cumulative effects of HIV illness and caring for children orphaned by AIDS on anxiety symptoms among adults caring for children in HIV-endemic South Africa. *AIDS Patient Care and STDs*, 28(6), 318–26. <http://doi.org/10.1089/apc.2013.0225>
- Kuo, C. and Operario, D. (2011). Health of adults caring for orphaned children in an HIV-endemic community in South Africa. *AIDS Care*, 23(9), 1128–1135.
- Kuo, C., Operario, D. and Cluver, L. (2012). Depression among carers of AIDS-orphaned and other-orphaned children in Umlazi Township, South Africa. *Global Public Health*, 7, 253–269. <http://doi.org/10.1080/17441692.2011.626436>

- Kuo, C., Reddy, M. K., Operario, D., Cluver, L. and Stein, D. J. (2013). Posttraumatic stress symptoms among adults caring for orphaned children in HIV-endemic South Africa. *AIDS and Behavior*, 17(5), 1755–63. <http://doi.org/10.1007/s10461-013-0461-9>
- Lachman, J., Cluver, L., Boyes, M., Kuo, C. and Casale, M. (2013). Positive parenting for positive parents: HIV/AIDS, poverty, caregiver depression, child behavior and parenting in South Africa. *AIDS Care*, 1–10. <http://doi.org/10.1080/09540121.2013.825368>
- Lauras Lecoh, T. (1990). Family Trends and Demographic Transition in Africa. *International Social Science Journal*, 126, 475–492.
- Luseno, W. K., Singh, K., Handa, S. and Suchindran, C. (2014). A multilevel analysis of the effect of Malawi's Social Cash Transfer Pilot Scheme on school-age children's health. *Health Policy and Planning*, 29(4), 421–32. <http://doi.org/10.1093/heapol/czt028>
- McLeod, J. and Shanahan, M. (1993). Poverty, Parenting and Children's Mental Health. *American Sociological Review*, 58, 351–366.
- Meinck, F., Cluver, L. and Boyes, M. (2015a). Household illness, poverty and physical and emotional child abuse victimisation: findings from South Africa's first prospective cohort study. *BMC Public Health*, 15(1), 444. <http://doi.org/10.1186/s12889-015-1792-4>
- Meinck, F., Cluver, L. and Boyes, M. (2015b). Longitudinal Predictors of Child Sexual Abuse in a Large Community-Based Sample of South African Youth. *J Interpers Violence*. <http://doi.org/10.1177/0886260515596331>
- Meinck, F., Cluver, L., Boyes, M. and Loening-Voysey, H. (2016). Physical, emotional and sexual adolescent abuse victimisation in South Africa: prevalence, incidence, perpetrators and locations. *J Epidemiol Community Health*, 70, 910–916. <http://doi.org/10.1136/jech-2015-205860>
- Meinck, F., Cluver, L., Boyes, M. and Ndhlovu, L. (2015). Risk and protective factors for physical and emotional abuse victimisation amongst vulnerable children in South Africa. *Child Abuse Review*, 24(3), 182–197. <http://doi.org/10.1002/car.2283>
- Meinck, F., Cluver, L., Orkin, M., Kuo, C., Dhar Sharma, A., Hensels, I. and Sherr, L. (2016). Pathways from family disadvantage via harsh parenting and caregiver mental health distress to adolescent health risks in South Africa. *Journal of Adolescent Health*.
- Mokomane, Z. (2013). Social protection as a mechanism for family protection in sub-Saharan Africa 1. *International Journal of Social Welfare*, 22(3), 248–259. <http://doi.org/10.1111/j.1468-2397.2012.00893.x>
- Mollica, R. F., Caspi-Yavin, Y., Bollini, P., Truong, T., Tor, S. and Lavelle, J. (1992). The Harvard Trauma Questionnaire. Validating a cross-cultural instrument for measuring torture, trauma and posttraumatic stress disorder in Indochinese refugees. *The Journal of Nervous and Mental Disease*, 180(2), 111–6. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/1737972>
- Mueller, J., Alie, C., Jonas, B., Brown, E. and Sherr, L. (2011). A quasi-experimental evaluation of a community-based art therapy intervention exploring the psychosocial health of children affected by HIV in South Africa. *Tropical Medicine and International Health : TM and IH*, 16(1), 57–66. <http://doi.org/10.1111/j.1365-3156.2010.02682.x>



- Murray, L., Lau, P.Y., Arteché, A., Creswell, C., Russ, S., Zoppa, L. Della, ... Cooper, P. (2012). Parenting by anxious mothers: effects of disorder subtype, context and child characteristics. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 53(2), 188–96. <http://doi.org/10.1111/j.1469-7610.2011.02473.x>
- Nomaguchi, K. and Johnson, W. (2014). Parenting Stress Among Low-Income and Working-Class Fathers: The Role of Employment. *Journal of Family Issues*, 0192513X14560642–. <http://doi.org/10.1177/0192513X14560642>
- Norman, R. E., Byambaa, M., De, R., Butchart, A., Scott, J. and Vos, T. (2012). The long-term health consequences of child physical abuse, emotional abuse and neglect: a systematic review and meta-analysis. *PLoS Medicine*, 9(11), e1001349. <http://doi.org/10.1371/journal.pmed.1001349>
- Nyangara, F., O'Donnell, K., Murphy, R. and Nyberg, B. (2009). Child Status Index: A tool for assessing the well-being of orphans and vulnerable children. *USAID*.
- Oburu, P. O. and Palmérus, K. (2003). Parenting stress and self-reported discipline strategies of Kenyan caregiving grandmothers. *International Journal of Behavioral Development*, 27(6), 505–512. <http://doi.org/10.1080/01650250344000127>
- Okoror, T. A., Airhihenbuwa, C. O., Zungu, M., Makofani, D., Brown, D. C. and Iwelunmor, J. (2008). “My mother told me I must not cook anymore”—food, culture and the context of HIV- and AIDS-related stigma in three communities in South Africa. *International Quarterly of Community Health Education*, 28(3), 201–13. <http://doi.org/10.2190/IQ.28.3.c>
- Omoro, S. A. O., Fann, J. R., Weymuller, E. A., Macharia, I. M. and Yueh, B. (2006). Swahili translation and validation of the Patient Health Questionnaire-9 depression scale in the Kenyan head and neck cancer patient population. *International Journal of Psychiatry in Medicine*, 36(3), 367–81.
- Pantelic, M., Shenderovich, Y., Cluver, L. and Boyes, M. (2015). Predictors of internalised HIV-related stigma: a systematic review of studies in sub-Saharan Africa. *Health Psychology Review*, 9(4), 469–90. <http://doi.org/10.1080/17437199.2014.996243>
- Patel, V., Simunyu, E., Gwanzura, F., Lewis, G. and Mann, A. (1997). The Shona Symptom Questionnaire: the development of an indigenous measure of common mental disorders in Harare. *Acta Psychiatrica Scandinavica*, 95(6), 469–75.
- Pettifor, A. E., Levandowski, B. A., MacPhail, C., Padian, N. S., Cohen, M. S. and Rees, H. V. (2008). Keep them in school: the importance of education as a protective factor against HIV infection among young South African women. *International Journal of Epidemiology*, 37(6), 1266–73. <http://doi.org/10.1093/ije/dyn131>
- Piot, P., Greener, R. and Russell, S. (2007). Squaring the Circle: AIDS, Poverty and Human Development. *PLoS Med*, 4, e314. <http://doi.org/10.1371/journal.pmed.0040314>
- Radloff, L. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1, 385–401.

- Rahman, A., Malik, A., Sikander, S., Roberts, C. and Creed, F. (2008). Cognitive behaviour therapy-based intervention by community health workers for mothers with depression and their infants in rural Pakistan: a cluster-randomised controlled trial. *The Lancet*, 372(9642), 902–909. [http://doi.org/10.1016/S0140-6736\(08\)61400-2](http://doi.org/10.1016/S0140-6736(08)61400-2)
- Reynolds, C. (1980). Concurrent validity of What I Think and Feel: the Revised Children's Manifest Anxiety Scale. *Journal of Consulting and Clinical Psychology*, 48, 774–775.
- Richter, L. M. (2003). Poverty, underdevelopment and infant mental health. *Journal of Paediatrics and Child Health*, 39(4), 243–8.
- Richter, L. and Naicker, S. (2013). *A Review of Published Literature on Supporting and Strengthening Child-Caregiver Relationships (Parenting)*. Arlington, VA.
- Rochat, T. J., Mkwanazi, N. and Bland, R. (2013). Maternal HIV disclosure to HIV-uninfected children in rural South Africa: a pilot study of a family-based intervention. *BMC Public Health*, 13(1), 147. <http://doi.org/10.1186/1471-2458-13-147>
- Rosenberg, M. (1965). Society and the adolescent self-image. *Princeton, NJ: Princeton University Press*.
- Rotheram-Borus, M.-J., Richter, L., Van Rooyen, H., van Heerden, A., Tomlinson, M., Stein, A., ... Greco, E. (2011). Project Masihambisane: a cluster randomised controlled trial with peer mentors to improve outcomes for pregnant mothers living with HIV. *Trials*, 12, 2. <http://doi.org/10.1186/1745-6215-12-2>
- Röttger-Rössler, B. (2014). Bonding and belonging beyond WEIRD worlds: rethinking attachment theory on the basis of cross-cultural anthropological data. In H. Otto and H. Keller (Eds.), *Different Faces of Attachment* (pp. 141–168). Cambridge: Cambridge University Press. <http://doi.org/10.1017/CBO9781139226684>
- Ruiz-Casares, M., Thombs, B. D. and Rousseau, C. (2009). The association of single and double orphanhood with symptoms of depression among children and adolescents in Namibia. *European Child and Adolescent Psychiatry*, 18(6), 369–76. <http://doi.org/10.1007/s00787-009-0739-7>
- Russell, M., Harris, B. and Gockel, A. (2008). Parenting in poverty: Perspectives of high-risk parents. *Journal of Children and Poverty*, 14(1), 83–98. <http://doi.org/10.1080/10796120701871322>
- Rutter, M. (2003). Poverty and Child Mental Health: Natural Experiments and Social Causation. *JAMA*, 290, 2063–2064. <http://doi.org/10.1001/jama.290.15.2063>
- Rutter, M. (2007). Resilience, competence and coping. *Child Abuse and Neglect*, 31(3), 205–9. <http://doi.org/10.1016/j.chiabu.2007.02.001>
- Ryan, S. M., Jorm, A. F. and Lubman, D. I. (2010). Parenting factors associated with reduced adolescent alcohol use: a systematic review of longitudinal studies. *The Australian and New Zealand Journal of Psychiatry*, 44(9), 774–83. <http://doi.org/10.1080/00048674.2010.501759>
- Sanders, M. R. (2008). Triple P-Positive Parenting Program as a public health approach to strengthening parenting. *Journal of Family Psychology*, 22(4), 506–517. <http://doi.org/10.1037/0893-3200.22.3.506>

- Schumacker, R. and Lomax, R. (2010). *A Beginner's Guide to Structural Equation modeling*. New York: Routledge.
- Scott, S., O'Connor, T. G., Futh, A., Matias, C., Price, J. and Doolan, M. (2010). Impact of a parenting program in a high-risk, multi-ethnic community: the PALS trial. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 51(12), 1331–41. <http://doi.org/10.1111/j.1469-7610.2010.02302.x>
- Sheehan, D. V., Sheehan, K. H., Shytle, R. D., Janavs, J., Bannon, Y., Rogers, J. E., ... Wilkinson, B. (2010). Reliability and Validity of the Mini International Neuropsychiatric Interview for Children and Adolescents (MINI-KID). *The Journal of Clinical Psychiatry*, 71(03), 313–326. <http://doi.org/10.4088/JCP.09m05305whi>
- Sherr, L., Cluver, L., Betancourt, T. S., Kellerman, S. E., Richter, L. M. and Desmond, C. (2014). Evidence of impact: health, psychological and social effects of adult HIV on children. *AIDS (London, England)*, 28 Suppl 3, S251–9. <http://doi.org/10.1097/QAD.0000000000000327>
- Skeen, S., Tomlinson, M., Macedo, A., Croome, N. and Sherr, L. (2014a). Mental health of carers of children affected by HIV attending community-based programmes in South Africa and Malawi. *AIDS Care*, 26 Suppl 1, S11–20. <http://doi.org/10.1080/09540121.2014.906559>
- Skeen, S., Tomlinson, M., Macedo, A., Miltz, A., Croome, N. and Sherr, L. (2014b). Child development in HIV-positive and HIV-affected children in South Africa and Malawi—What role for community organisations? *Children and Youth Services Review*, 45, 90–97. <http://doi.org/10.1016/j.chilyouth.2014.03.041>
- Smucker, M., Craighead, W., Craighead, L. and Green, B. (1986). Normative and reliability data for the Children's Depression Inventory. *Journal of Abnormal Child Psychology*, 14, 25–40.
- Snider, L. and Dawes, A. (2006). *Psychosocial Vulnerability and Resilience Measures For National-Level Monitoring of Orphans and Other Vulnerable Children: Recommendations for Revision of the UNICEF Psychological Indicator*. Cape Town: UNICEF.
- Souverein, F. A., Ward, C. L., Visser, I. and Burton, P. (2015). Serious, Violent Young Offenders in South Africa: Are They Life-Course Persistent Offenders? *Journal of Interpersonal Violence*. <http://doi.org/10.1177/0886260515570748>
- Statistics South Africa. (2003). *Census 2001: Census Database*. Pretoria.
- Steele, R., Forehand, R. and Armistead, L. (1997). The Role of Family Processes and Coping Strategies in the Relationship Between Parental Chronic Illness and Childhood Internalizing Problems. *Journal of Abnormal Child Psychology*, 25, 83–94. <http://doi.org/10.1023/a:1025771210350>
- Stein, J. A., Rotheram-Borus, M. J. and Lester, P. (2007). Impact of Parentification on Long-Term Outcomes Among Children of Parents With HIV/AIDS. *Family Process*, 46(3), 317–333. <http://doi.org/10.1111/j.1545-5300.2007.00214.x>
- Stoltenborgh, M., Bakermans-Kranenburg, M. J., van Ijzendoorn, M. H. and Alink, L. R. A. (2013). Cultural-geographical differences in the occurrence of child physical abuse? A meta-analysis of global prevalence. *International Journal of Psychology : Journal International de Psychologie*, 48(2), 81–94. <http://doi.org/10.1080/00207594.2012.697165>

- Straus, M. A., Hamby, S. L., Boney-McCoy, S. and Sugarman, D. B. (1996). The Revised Conflict Tactics Scales (CTS2): Development and Preliminary Psychometric Data. *Journal of Family Issues*, 17(3), 283–316. <http://doi.org/10.1177/019251396017003001>
- Straus, M. A., Hamby, S. L., Finkelhor, D., Moore, D. W. and Runyan, D. (1998). Identification of child maltreatment with the Parent-Child Conflict Tactics Scales: Development and psychometric data for a national sample of American parents. *Child Abuse and Neglect*, 22, 249–270.
- Swart, L.-A., Seedat, M. and Nel, J. (2016). Adolescent homicide victimization in Johannesburg, South Africa: incidence and epidemiological characteristics (2001–2009). *International Journal of Injury Control and Safety Promotion*, 23(3), 323–331. <http://doi.org/10.1080/17457300.2015.1047870>
- Thurman, T. R., Snider, L., Boris, N., Kalisa, E., Nkunda Mugarira, E., Ntaganira, J. and Brown, L. (2006). Psychosocial support and marginalization of youth-headed households in Rwanda. *AIDS Care*, 18(3), 220–9. <http://doi.org/10.1080/09540120500456656>
- Tomlinson, M., Doherty, T., Ijumba, P., Jackson, D., Lawn, J., Persson, L. Å., ... Chopra, M. (2014). Goodstart: a cluster randomised effectiveness trial of an integrated, community-based package for maternal and newborn care, with prevention of mother-to-child transmission of HIV in a South African township. *Tropical Medicine and International Health : TM and IH*, 19(3), 256–66. <http://doi.org/10.1111/tmi.12257>
- Tomlinson, M., Solomon, W., Singh, Y., Doherty, T., Chopra, M., Ijumba, P., ... Jackson, D. (2009). The use of mobile phones as a data collection tool: a report from a household survey in South Africa. *BMC Medical Informatics and Decision Making*, 9, 51. <http://doi.org/10.1186/1472-6947-9-51>
- UNDP (2006). *Human development report 2006. Beyond scarcity: Power, poverty and the global water crisis*. New York: Palgrave Macmillan.
- UNFPA (2012). *Status Report Adolescents and Young Children in sub-Saharan Africa: Opportunities and Challenges*. Johannesburg: United Nations Population Fund.
- Varni, J., Seid, M. and Kurtin, P. S. (2001). PedsQL 4.0: Reliability and Validity of the Pediatric Quality of Life Inventory Version 4.0 Generic Core Scales in Healthy and Patient Populations. *Medical Care*, 39(8), 800–812.
- Verburgh, L., Königs, M., Scherder, E. J. A. and Oosterlaan, J. (2014). Physical exercise and executive functions in preadolescent children, adolescents and young adults: a meta-analysis. *British Journal of Sports Medicine*, 48(12), 973–9. <http://doi.org/10.1136/bjsports-2012-091441>
- Walker, S. P., Chang, S. M., Vera-Hernández, M. and Grantham-McGregor, S. (2011). Early childhood stimulation benefits adult competence and reduces violent behavior. *Pediatrics*, 127(5), 849–57. <http://doi.org/10.1542/peds.2010-2231>
- Ward, C., Gould, C., Kelly, J. and Mauff, K. (2015). Spare the rod and save the child: Assessing the impact of parenting on child behaviour and mental health. *South African Crime Quarterly*, 51, 9. <http://doi.org/10.4314/sacq.v51i0.2>
- Ward, C. L., Artz, L., Berg, J., Boonzaier, F., Crawford-Browne, S., Dawes, A., ... Van der Spuy, E. (2012). Violence, violence prevention and safety: a research agenda for South Africa. *South African Medical Journal = Suid-Afrikaanse Tydskrif Vir Geneeskunde*, 102(4), 215–8. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/22464496>

- Ward, C. L., Makusha, T. and Bray, R. G. (2015). Parenting, poverty and young people in South Africa: What are the connections?, 69–74.
- Ward, C. and Wessels, I. (2013). Rising to the challenge: Towards effective parenting programmes. *L Berry et Al (Eds), South African Child Gauge, Children's Institute, University of Cape Town, Cape Town*, 64.
- Webster-Stratton, C. (2009). Affirming Diversity: Multi-Cultural Collaboration to Deliver the Incredible Years Parent Programs. *International Journal of Child Health and Human Development*, 2, 17–32.
- World Bank (n.d.). Poverty headcount ratio at \$3.10 a day (2011 PPP) (% of population).
- World Bank (2016). Sub-Saharan Africa (developing only) data. Retrieved September 22, 2016, from <http://data.worldbank.org/region/sub-saharan-africa>
- World Health Organization (1998). *The second decade: improving adolescent health and development*. (WHO, Ed.). Geneva: WHO.
- World Health Organization (2007). *Helping parents in developing countries improve adolescents' health*. Geneva: WHO.
- Yap, M. B. H., Fowler, M., Reavley, N. and Jorm, A. F. (2015). Parenting strategies for reducing the risk of childhood depression and anxiety disorders: A Delphi consensus study. *Journal of Affective Disorders*, 183, 330–8. <http://doi.org/10.1016/j.jad.2015.05.031>
- Youssef, R. M., Attia, M. S. and Kamel, M. I. (1998). Children experiencing violence. I: Parental use of corporal punishment. *Child Abuse and Neglect*, 22(10), 959–73.
- Zimmer, Z. and Dayton, J. (2005). Older adults in sub-Saharan Africa living with children and grandchildren. *Population Studies*, 59(3), 295–312. <http://doi.org/10.1080/00324720500212255>



**ANNEX Table A1 – Measures used split by study**

		Pre-adolescent study	Adolescent study
Concept	Respondent	Measures	Measures
Family disadvantage	Child	<ul style="list-style-type: none"> <li>Household composition (Department of Health Medical Research Council, 2007)</li> <li><i>Food Security Domain of the Child Status Index</i> (CSI) (Nyangara et al. 2009)</li> <li>Separation and bereavement</li> <li>Pre-adolescent education status, school enrolment, attendance and progress (Varni et al., 2001)</li> <li><i>Social Connection Scale</i> (BORIS et al. 2006)</li> <li><i>Straus Conflict Tactics Scale</i> (adapted) (Straus, Hamby, Boney-McCoy and Sugarman, 1996)</li> </ul>	<ul style="list-style-type: none"> <li>Poverty was assessed by measuring how many of the eight of the most socially-perceived necessities* an adolescent had access to (Barnes and Wright, 2012)</li> <li>Overcrowding and numbers living in a homestead (Statistics South Africa, 2003; UNDP, 2006)</li> <li>Adolescent orphanhood defined as one or both biological parents deceased</li> <li>Caregiver relationship status to the child (biological parent vs biological grandparent or neither)</li> </ul>
	Caregiver	<ul style="list-style-type: none"> <li><i>Sources of income, access to basic services South African DHS Survey</i> (adapted) (Department of Health Medical Research Council OrcMacro 2007)</li> </ul>	Caregiver AIDS illness and disability were measured as part of 'family disadvantage' considering research evidence of the impact of family AIDS on parenting style (see 'physical health' below)
Parenting	Child	<ul style="list-style-type: none"> <li><i>Social and Health Assessment Scale</i> (Mueller et al. 2011) to measure risk behaviour</li> </ul>	<ul style="list-style-type: none"> <li>UNICEF scale for national monitoring of orphans and vulnerable children (Snider and Dawes 2006) was used to measure physical and emotional abuse</li> </ul>
	Caregiver	<ul style="list-style-type: none"> <li><i>Parent Child Conflict Tactics Scale</i> (P-C CTS) (Straus, Hamby, Finkelhor, Moore and Runyan, 1998)</li> <li>Positive discipline items (Straus et al., 1998)</li> <li><i>Caregiver Exposure to Violence</i> (individual item adapted from South African DHS Survey)</li> </ul>	Harsh parenting was not assessed using caregiver report
Mental health	Child	<ul style="list-style-type: none"> <li>Adapted version of the <i>Child Depression Inventory</i> (validated for South Africa and Zimbabwe) (Kovacs 1985)</li> <li><i>Ten Questions</i> (TQ) screen on cognitive developmental ability (caregiver report) (Durkin et al. 1994)</li> <li><i>Rosenberg Self-Esteem Scale</i> (Rosenberg 1965) (not validated for sub-Saharan Africa)</li> <li><i>Paediatric Quality of Life Inventory</i> (PedsQL, caregiver report) (Varni et al., 2001)</li> <li><i>Strengths and Difficulties Questionnaire</i> (Goodman 1997)</li> <li><i>Experience of Stigma, Discrimination and Social Exclusion Scale</i> (Thurman et al. 2006)</li> </ul>	<ul style="list-style-type: none"> <li><i>Child Depression Inventory</i> (validated for South Africa and Zimbabwe) (Smucker, Craighead, Craighead and Green, 1986)</li> <li><i>Revised Children's Manifest Anxiety Scale</i> (RCMAS) (Gilroy, 2004; Reynolds, 1980)</li> <li><i>Child PTSD checklist</i> (Amaya-Jackson, 1995)</li> <li><i>Mini International Psychiatric Interview for Children and Adolescents</i> (Mini-Kid) (Sheehan et al. 2010)</li> </ul>
	Caregiver	Caregiver mental health was assessed using <ul style="list-style-type: none"> <li><i>Shona Symptom Questionnaire</i> (SSQ) (Patel et al. 1997)</li> <li><i>Patient Health Questionnaire</i> (PHQ) (Omoro et al. 2006)</li> </ul>	Caregiver mental health was assessed using <ul style="list-style-type: none"> <li><i>Centre for Epidemiological Studies Depression Scale</i> (CES-D) (Radloff 1977)</li> <li><i>Harvard Trauma Questionnaire</i> (HTQ) measured PTSD (Mollica et al., 1992)</li> <li><i>Beck Anxiety Inventory</i> (BAI) (Beck, Epstein, Brown and Steer, 1988)</li> </ul>

		Pre-adolescent study	Adolescent study
Concept	Respondent	Measures	Measures
Physical health	Child	<ul style="list-style-type: none"> <li>• <i>Paediatric Quality of Life Inventory</i> (PedsQL, caregiver report) (Varni et al., 2001)</li> <li>• Medical history questions (caregiver report) (Mueller et al., 2011)</li> <li>• Pre-adolescent growth, height, weight and BMI were measured</li> <li>• Nutritional status was measured to the WHO Global Database on Child Growth and Malnutrition (de Onis et al. 2007)</li> </ul>	Presence in the past month of any of the five most common illnesses affecting children in South Africa: vomiting, pneumonia, flu, worms or TB. Items were summed together to create a total sum score ranging from 0 (no illnesses) to 5 (all 5 illnesses present in the past month)
	Caregiver	<ul style="list-style-type: none"> <li>• Medical history questions (Mueller et al., 2011)</li> </ul>	<ul style="list-style-type: none"> <li>• Caregiver disability measuring the extent to which caregivers are unable to do daily physical tasks and whether they had to spend a lot of time in bed</li> <li>• <i>Verbal Autopsy-adapted</i> used to measure AIDS-illness (Kahn, Tollman, Garenne and Gear, 2000) (verbal symptom measure for AIDS-illness originally developed for post-mortem but adapted for surviving parents)</li> </ul>
Child behaviour and functioning	Child		<ul style="list-style-type: none"> <li>• Child Behaviour Checklist (Achenbach 2000)</li> </ul>
	Caregiver	School functioning (caregiver report). Educational risk was assessed using a scale of 0-5 where points were allocated for presence of any of the five negative educational outcomes: school irregular attendance, non-attendance, incorrect class for age, learning difficulties and poor performance.	NA

\*clothing, toiletries, three meals a day, access to healthcare, school uniform, equipment and fees as well as two pairs of shoes