

# Telling stories and adding scores: Measuring resilience in young children affected by maternal HIV and AIDS

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**“Telling stories and adding scores: Measuring resilience in young children affected by maternal HIV and AIDS”**, demonstrates how a concurrent mixed method design assisted cross-cultural comparison and ecological descriptions of resilience in young South African children, as well as validated alternative ways to measure resilience in young children. In a longitudinal randomised control trial, which investigated psychological resilience in mothers and children affected by HIV/AIDS, we combined a qualitative projective story-telling technique (Düss Fable) with quantitative data (Child Behaviour Checklist). The children mostly displayed adaptive resilience-related behaviours, although maladaptive behaviours were present. Participating children use internal (resolve/agency, positive future expectations, emotional intelligence) and external protective resources (material resources, positive institutions) to mediate adaptation. Children’s maladaptive behaviours were exacerbated by internal (limited problem-solving skills, negative emotions) and external risk factors (chronic and cumulative adversity).

**Keywords:** adaptation; cross-cultural comparison; HIV and AIDS; indigenisation; protective resources, risk factors

## Background

Individuals and families are continuously placed under increasing risk. Our well-being is tested by aspects such as poverty, economic crises, acts of terrorism and HIV and AIDS (Theron & Theron, 2010). HIV and mental health are often described as having a bi-directional relationship, meaning that the effects of living with HIV/AIDS or having a member of the family affected by the disease increase the risk of mental illness. It is clear that HIV and AIDS pose a direct threat to youth mental health as well as family functioning and well-being (Betancourt, Meyers-Ohki, Charrow & Hansen, 2013). A consequence of the ever increasing pressure is the call for youth enablement and assistance towards resilience (Theron & Theron, 2010). Until recently, most of the research studies focused on the risk-factors associated with HIV and AIDS. Therefore, a great need exists for studies on resilience (Betancourt et al., 2013).

As mentioned before, the majority of South African children face serious threats to their survival, health, development and participation as more than 50% of these children live in poverty-stricken communities taxed by HIV/AIDS. South Africa is also the country with the highest number of persons living with HIV/AIDS in the entire world (UNAIDS Global Report, 2010). Findings from a local South African study of 3 988 children in 2004 indicated that 2.2% of the children had lost both their parents, 3.3% had lost a mother and 10.1% a father (Sherr, 2005). These findings highlight the fact that the HIV/AIDS pandemic represents a chronic stressor in the lives of many South African children (Ebersöhn, Dulleman, Sikkeman & Forsyth, 2002). The emergence of HIV/AIDS is particularly prominent in the

context of poverty, illness and need (Sherr, 2005) as can be seen in South African communities already disadvantaged by poverty, poor infrastructure and limited access to basic services (Foster & Williamson, 2000). In essence, cumulative risks over time, especially poverty in the context of HIV/AIDS, are detrimental to children’s development and functioning and undermine their overall well-being (Dawes, van der Merwe & Brandt, 2007). Children affected by HIV/AIDS have an increased probability of experiencing educational shortfalls and psychosocial distress, in particular internalising problems (Cluver & Operario, 2008). Thus, children of HIV-infected mothers are placed at higher risk for developing behavioural and developmental problems (DeVane Fair, 2006).

For the purpose of this study young children denote the middle childhood years which is a vital period in terms of children’s emotional, cognitive and self-concept development. The family and more specifically the parents play a significant role in a child’s life (Green, 2001). Balanced and stable development during these years provides a concrete foundation for development later in life (Louw & Louw, 2007), as children acquire a more differentiated sense of identity and learn to regard themselves as either positively or negatively. Children acquire attitudes, skills and behaviours in accordance with what is valued by their context and culture. The quality of mediation available to children enables them to use these behaviours, attitudes and skills and to produce them in a unique, personal manner. Thus, they consolidate, expand and refine earlier gained knowledge and skills (Green, 2001).

This study formed part of the broader Kgolo Mmogo project, a collaborative five-year longitudinal study at a local

hospital in Tshwane, South Africa. The project focused on psychological resilience in South African mothers and children who are affected by HIV/AIDS (Eloff, 2008). In this longitudinal randomised control trial (Eloff, Forsyth, Finestone, Ebersohn, Visser, Ferreira, Boeving & Sikkema, 2011), a mixed method design was used to investigate psychological resilience in children with HIV-positive mothers. Theoretically this design meant that resilience of children affected by maternal HIV and AIDS in South Africa could be compared against a standardised norm using the quantitative Child Behaviour Checklist (CBCL).

In this study resilience is defined as both process (Ungar, 2006) and as patterns of positive adjustment (outcomes) in the context of significant adversity, or risk factors that are known to be associated with negative outcomes (Vanderbilt-Adriance & Shaw, 2008). Consequently resilience entails significant adversity (Masten & Reed, 2002), as well as transactional-ecological processes (Ungar, 2006) with a variety of internal (traits) and external (family, school, faith-based organisations) protective resources at play for adaptive coping to occur (Zimmer-Gembeck & Skinner, 2011).

The questions that directed this article are: How can a concurrent mixed method design be used to (1) compare the resilience of young South African children affected by maternal HIV and AIDS against a standardised norm? (2) describe the ecology of resilience in South Africa from the perspective of young children? and (3) test the utility of an alternative culturally appropriate measure for use with young South African children affected by maternal HIV and AIDS?

### Measurement of resilience

According to Ungar, Brown, Liebenberg, Cheung and Levine (2008) researchers face major challenges in the conceptualisation and development of standardised units of measurement for resilience. Resilience in itself can never be directly measured. It is inferred based on the measurement of the two constructs that make up resilience, namely risk or adversity and positive adaptation (Luthar & Zelazo, 2003) and therefore inferences must be made regarding children's behaviour and their circumstances (Masten & Reed, 2002). Accordingly, in order to measure resilience, the child must be evaluated as functioning on an acceptable level by displaying adaptive behaviour while the child's circumstances must be identified as posing a significant risk and threat to good outcomes (Masten & Reed, 2002). Various criteria such as the absence of undesirable behaviour and academic achievement have been used in order to judge whether the child or individual shows good adaptation when exposed to risk factors.

### Methodology

This study formed part of a collaborative longitudinal study between the University of Pretoria and Yale University, which focused on investigating and developing resilience in HIV-positive mothers and their children (Eloff et al., 2011). The study was conducted within the context of a large randomised control study that spanned five years (Eloff et al, 2014). Within the large research, the need arose to garner additional data that would reflect the richness of the

measurement of resilience in young children to a greater extent. In this regard, several small-scale studies were conducted to provide a deeper, granular understanding of resilience in young children. The community which was sampled is resource constrained and an urban sub-section of Pretoria, South Africa. Significant adversity is present as HIV/AIDS, poverty, discrimination, neglect and malnutrition (Forsyth, cited in Van Dullemen, 2009, p. 38). Using a mixed method design, we made use of secondary data analysis (pre-existing data), to answer set research questions. We selected existing data from the baseline assessment phase in the randomised control trial study. The concurrent data collection was facilitated by eight research assistants as one-on-one interviews in the mother tongue of the child-participant.

### Research design

A mixed method design was used for the measurement of resilience in young children affected by maternal HIV and AIDS. Both quantitative and qualitative data sets were collected and analysed simultaneously, yet separately. The results from the data analysis of the two different data sets were then compared in order to determine the convergence of the data (Creswell & Plano Clark, 2007; Creswell, 2009) in this instance the measurement of resilience.

### Participants and data collection

In this study we made use of purposively selected baseline assessment data (documents) of 6-year olds ( $n = 19$ , 8 male, 11 female) between the ages of 5 years 6 months and 6 years 11 months. Participants of the study were HIV-negative children and their HIV-infected mothers ( $n = 19$ ). The mothers who participated in the study were in their early to mid-thirties. The families lived in urban informal settlements. Only a few mothers were married; they mostly lived with a partner, other adults and children. All the mothers in this study had some secondary school education (between Grade 10 and 12). The majority of the mothers chose not to disclose their HIV-positive status to their children. The participants originated from different language groupings, including Sepedi (10 children), isiSotho (1 child), isiZulu (3 children) and Setswana (5 children) of whom 72% of the mothers were unemployed. Most of the children were in Grade 0 (pre-school), Grade 1 or Grade 2, while 3.4% of the 6-year old children did not attend school (Ebersöhn et al., 2009). The qualitative measure (Düss fables) were completed by the child-participants and quantitative (CBCL) documents were completed by their mothers. The selection criteria for this specific sample of documents were that both the assessment measures had to be completed for each participant and their mother.

This study adhered to the Ethical Code Guidelines of the Faculty of Education at the University of Pretoria. The "Promoting Resilience in Young Children" study, which this study forms part of, applied and received ethical clearance from the Faculty of Health Sciences Research Ethics Committee, University of Pretoria and the Yale University institutional review boards (IRBs).

## Measures

### **Qualitative data: Düss projective storying (Despert, 1946)**

The Düss fable (Despert, 1946) a projective story-telling technique was used to measure resilience from an emic perspective based on the premise that story-telling can be especially useful with children to communicate their life experiences, conflict situations and interpersonal relationships (Cramer, 2004) in an informal, culture- and age-appropriate manner. Projective techniques are popular methods used to assess children's social and emotional functioning (Lilienfeld, Wood & Garb, 2000; ). One of the Düss fables (Despert, 1946) was selected as it fulfilled the selection criterion to provide an opportunity to narrate on parent-child resilience. The story was translated into the different languages and administered by trained research assistants in their mother tongues. The story reads as follows:

In a tree next to a forest is a bird's nest. Two birds and their chicks live there. The chicks are able to fly. It is night time and they are all fast asleep. Suddenly a tremendous storm comes up and shakes the tree so badly that the nest with the birds falls down onto the ground. The birds wake up. The mother bird immediately flies back into the tree and the daddy bird flies into another tree close by. What do the chicks do?

Research assistants read the fable (story) to the children in their mother tongue. The stories were audio-recorded, transcribed and translated prior to qualitative content analysis.

Qualitative content analysis (Mouton, 2001) was used for the analysis of Düss story (fable) transcriptions in order to identify themes of resilience that emerged from these stories. Content analysis is a systematic approach (Nieuwenhuis, 2007; Stemler, 2001) which involves reading and appraisal (Cohen, Manion & Morrison, 2000) in order to identify and summarise or code (Babbie, 2008) the content of messages (Nieuwenhuis, 2007). It is a data reduction technique whereby inferences are made that can then be substantiated by other data collection strategies (Stemler, 2001) – in this case by the concurrent use of CBCL data.

The raw data (verbatim transcriptions) were prepared for coding. During coding the transcriptions were read and reread, dividing them into meaningful analytical units. Meaningful segments were coded by means of symbols, descriptive words or identifying names, and organised and combined codes into themes of resilience and non-resilience. Subsequently, themes were organised into comprehensible categories to achieve deeper meaning and understanding of the data.

### **Quantitative data: Child Behaviour Checklist (CBCL)**

The Child Behaviour Checklist for ages 6–18 years (CBCL/6–18) was used as an etic, quantitative measure to determine children's levels of resilience according to their mothers (Achenbach & Rescorla, 2001). The CBCL enables parents (in this study the mothers of child-participants) to rate a child's problem behaviours and competencies, which are then calculated to provide scale scores. In this study the CBCL provides mothers' perspectives of their children's

behavioural, social and emotional problems, as well as their adaptive functioning and competencies (Achenbach & Rescorla, 2001). For the purpose of the study the CBCL results were compared to better understand the children's adaptive functioning from the mothers' perspective. Even though the test is designed for children aged between 6 and 18 years, the researchers made the decision to include the children who were a few months younger than six years of age, as the children would have turned six by the time the CBCL was conducted with the mother.

Following an indigenisation approach, we adapted items on the CBCL in Kgolo Mmogo to enhance fairness by portraying cultural relevance and equivalence (Foxcroft, 2004). Information was culturally tailored, translated and back translated by independent professional translators. The adapted CBCL was piloted and final changes were made based on the outcome of the pilot phase. Research assistants were trained to administer the CBCL during one-on-one interviews with the mothers of participating children.

Raw scores were compared to appropriate age norms to determine scale scores. The items are summed to yield 8 syndrome scores and two broadband category scores (Achenbach, Becker, Döpfner, Heiervang, Roessner, Steinhausen, & Rothenberger, 2008). The internalising T-score and the externalising T-score were the only scores used in the paired-samples *t*-test analysis for this investigation. Scale scores were then used to determine the levels of resilience (adaptive behaviour) according to the three CBCL/6–18 syndromes: internalising problems (consisting of sub-scales anxious/depressed and withdrawn/depressed), externalising problems (consisting of sub-scales rule-breaking behaviour and aggressive behaviour), social problems, attention problems and somatic complaints.

The quantitative data analysis consisted of assessing the participants' levels of adaptive functioning according to their scores received on the CBCL by means of secondary data analysis. The scores on the CBCL syndrome scales which fall within the borderline-clinical and clinical range indicate maladaptive functioning within that specific area of functioning and were then categorised as risk factors. The scores on the syndrome scales which fall within the normal range, signify adaptive functioning and were categorised as protective resources. The second step entailed merging, comparing and contrasting the results gained from both data sources in order to triangulate the data. The last step involved the interpretation of the various results from both data sources in order to end up with valid, well-substantiated conclusions (Creswell & Plano Clark, 2007). We used the scores to determine the levels of resilience reported by mothers according to the CBCL/6–18 scales. Through this method the input from the researcher can be maximised by concentrating on existing data. It can be complementary to, or contrasting with other research that verifies or rejects previous findings.

## Results

After this analysis the levels of resilience were then compared to qualitatively derived themes resulting from the analysis of the children's Düss stories. The CBCL scores

(related protective resources and risk factors, as reported by the child-participants' mothers) were compared with those of themes of resilience and/or non-resilience reported by child-participants in the Düss fables. In addition, the extent to which the results of the Düss fables provided additional enriching, contrasting or no significant information was compared to the CBCL scores.

### **Qualitative results**

Children living in families affected by HIV and AIDS, told stories about protective resources within them (internal protective resources) and within their ecology (external protective resources) which acted as buffers to the effects of risk. *Internal protective resources* signify adaptive coping behaviour, and include emotional intelligence, resolve/agency (display willpower and determination) and positive future expectancies. Examples of related verbatim accounts were: "They got on something that helped them to leave". "He loves them", "They kept on trying over and over", "The father bought a car and built a garage and they were all happy". *External resources* that buffered against the effects of risk included the presence and use of positive institutions, a safe and supportive environment enabling a sense of belonging and availability of material resources. Examples of verbatim extracts from the Düss fables were: "they went to the police station", "mother came back and cooked for the children" and "they had bought food for the little birds to eat".

Children also voiced risk factors which give rise to the need for resilience and act as barriers during resilience processes. *Internal risks* included maladaptive coping, lack of problem solving skills and negative emotions. Examples included: "I don't want to talk anymore", "the birds slept on the ground" and "they were afraid". *External risk factors* consist of children's awareness of chronic risk and adversity, their awareness of death, their exposure to crime and aggressive behaviour, a lack of material resources the absence of family cohesion as well as parental abandonment. The following phrases extracted from the Düss fables serve as examples: "it became dark again and a strong wind started again", "they died and were put in their coffins", "the adult birds who were now human beings, got angry, picked up beer bottles, broke them and stabbed those people and they died", "they sat on the tree and felt cold", "calling their parents by blowing whistles but it did not help" and "the parents took them and threw them in the forest".

### **Quantitative results**

The majority of the participants' mothers observed that their children generally displayed adaptive behaviour (protective resources), with maladaptive behaviour (risk factors) also being present. Thus, most of the mothers evaluated their children as being *well adjusted without exhibiting internalising and externalising problems*.

All of the participants were evaluated as being able to give and maintain adequate age-appropriate attention, with the exception of one. Whereas seven of the participants' mothers indicated only the presence of adaptive behaviour, one of the participants' mothers indicated that her child portrayed only maladaptive behaviour.

The maladaptive risk-related behaviours that the most participants presented with were *externalising problems* firstly relating to *rule-breaking* behaviours ( $n = 6$ ) and secondly to *aggressive* behaviours ( $n = 4$ ). More participants presented with *internalising problems* that fall within the *anxious/depressed* ( $n = 4$ ) category than those that fall within the *withdrawn/depressed* ( $n = 3$ ) category. More participants presented with *social problems* ( $n = 4$ ) than with somatic complaints ( $n = 3$ ). Only one participant was reported to experience problems with attention.

### **Correlation between Düss themes and CBCL scores**

We compared the Düss-related categories of risk factors and protective resources to the manifestations of problematic behaviour or the absence of problematic behaviour on the CBCL (Table 1). The Düss-risk factors reflect as high scores (risk factors) on the CBCL syndrome scales, indicating either/or internalising, externalising, social and attention problems. The Düss-protective resources reflected as good adjustment (protective resources) and are noticeable as the absence of problem areas of functioning on the CBCL syndrome scales.

Mostly, the Düss data correlates with the CBCL data. Protective resources as well as risk factors were identified in results from both measures. In some instances, only risk factors were identified in both the measures. In other instances, only protective resources were identified when comparing the two measures. As mentioned before, the various categories of risk and protective factors identified from the fables relates to the risk and protective factors on the CBCL and can be seen as the children's manifestations of problematic behaviour or the absence of problematic behaviour. To illustrate this, the case of participant 602 is discussed as exemplar. Based on the analysis of the Düss fable it was clear that the participant shows determination (They kept on trying over and over, line 1) as well as willpower (calling their parents by blowing whistles, line 2) and takes action when faced with a problem (crying for help, line 2). The risk factors identified from the Düss fable reflect as high scores (risk factors) on the CBCL syndrome scales, indicating either/or internalising, externalising, social and attention problems. This can be illustrated in case 716. When his story was analysed, it was apparent that he makes use of maladaptive coping strategies (left on the ground they fell on, line 1). His mother scored him high (borderline-clinical – 66) on the anxious/depressed CBCL syndrome scale. His mother also reported that he had social problems (scale score = borderline-clinical – 67). Protective resources as well as risk factors were identified on both assessment measures in the cases of participants 498, 516 and 602. In the cases of these three participants, the areas of adaptive functioning as reported by their mothers were corroborated by their own expression of protective resources in their stories. To illustrate this, case 516 will be discussed. He expressed a sense of belonging (father built a garage and they were all happy, line 1) and awareness of chronic risk and adversity (found the house destroyed ... then it rained, lines 2 and 3).

**Table 1:** The correlation between the Düss themes and CBCL scores

Subject	Düss Themes		CBCL scores										
	Protective resources		Internalising problems					Externalising problems					
	Internal adaptive behaviours	Risk Factors	Anxious/Depressed	Withdrawn/Depressed	Somatic complaints	Social problems	Attention problems	Rule-breaking behaviour	Aggressive behaviour				
302	External resources that buffer adaptive behaviours Maladaptive coping	Internal maladaptive behaviours Clinical	Borderline clinical	Clinical	Clinical	Borderline clinical	Clinical	Clinical	Clinical	Clinical	Clinical	Clinical	Clinical
382	Navigation towards positive institutions Sense of belonging Availability of material resources	Maladaptive coping Lack of problems solving skills Awareness of death	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Borderline clinical
390	Problem focussed coping	Lack of problems solving skills	Normal	Normal	Clinical	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
482	Sense of belonging Availability of material resources	Maladaptive coping Lack of problem solving skills	Normal	Normal	Borderline clinical	Normal	Normal	Borderline clinical	Normal	Normal	Normal	Normal	Normal
498	Sense of belonging Availability of material resources	Lack of problem solving skills	Normal	Borderline clinical	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
504	Sense of belonging Availability of material resources	Maladaptive coping	Borderline clinical	Normal	Normal	Borderline clinical	Normal	Normal	Normal	Normal	Borderline clinical	Borderline clinical	Normal
516	Problem focussed coping	Negative emotions	Borderline clinical	Normal	Normal	Borderline clinical	Normal	Normal	Normal	Normal	Normal	Normal	Borderline clinical
534	Emotional intelligence Positive future expectancy	Navigation towards positive institutions Sense of belonging Negotiation of health resources	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
517	Problem focussed coping	Negative emotions	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
534	Problem focussed coping	Negative emotions	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
550	Emotional intelligence Spirituality/religious identification Positive future expectancy Problem focussed coping	Navigation towards positive institutions Sense of belonging Availability of material resources Navigation towards positive institutions	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
602	Emotional intelligence Resolve / agency	Navigation towards positive institutions Sense of belonging Availability of material resources	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
604	Problem focussed coping Resolve / agency	Maladaptive coping Negative emotions	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
		Awareness of chronic risk and adversity Awareness of death Exposure to crime and aggressive behaviour Absence of family cohesion Awareness of chronic risk and adversity	Normal	Normal	Normal	Clinical	Normal	Normal	Normal	Normal	Clinical	Normal	Clinical

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Table 1: continued

Subject	Düss Themes	Risk Factors					CBCL scores						
		External resources that buffer adaptive behaviours	Internal maladaptive behaviours	External factors contributing to maladaptive behaviours	Internalising problems	Externalising problems	Anxious/Depressed	Withdrawn/Depressed	Somatic complaints	Social problems	Attention problems	Rule-breaking behaviour	Aggressive behaviour
652	Problem focussed coping Positive future expectancy	Sense of belonging Availability of material resources				Normal	Clinical	Normal	Normal	Normal	Normal	Normal	Normal
656		Navigation towards positive institutions	Maladaptive coping			Normal	Normal	Normal	Normal	Normal	Clinical	Normal	Normal
658		Sense of belonging Availability of material resources				Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
675	Problem focussed coping Availability of material resources			Awareness of chronic risk and adversity		Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
712	Problem focussed coping		Maladaptive coping	Awareness of death Absence of family cohesion		Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
716				Awareness of death		Borderline clinical	Normal	Normal	Borderline clinical	Normal	Clinical	Clinical	Normal
721				Awareness of death Parental abandonment		Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal

### Comparing resilience against a standardised norm

It is apparent from the CBCL results that young HIV-affected South African children in this study are largely well-adjusted in comparison with a standardised norm for adjustment. Thus, irrespective of the significant adversities in their life-worlds – particularly HIV and AIDS, scarce resources and unemployment in their households – this young group of children compare favourably in the way in which they are able to adapt.

Risk-related behaviours that were evident include internalising and externalising behaviours such as rule-breaking behaviour, aggressive behaviour, social problems and attention problems. *Maladaptive coping* was identified as the most prominent internal risk factor as expressed by the children.

### Describing the ecology of resilience in South Africa

The children's narrations provide a vivid image of the resilience landscape of their lives. Talking about themselves, it is evident that the young children use *emotional intelligence* (regulation) as an internal source to adapt. Emotional intelligence included the ability to identify, understand and express emotions within themselves and others. The expression of these emotional intelligence-related attributes is age-appropriate as children in the middle childhood years have gained more emotional maturity (Green, 2001) and have an increased ability to understand complex emotions (Louw & Louw, 2007). They have become more accomplished at recognising and talking about their own and other individuals' emotions (Louw & Louw, 2007) and therefore developed an enhanced capability to judge the social appropriateness of emotional expression (Wenar and Kerig, 2005).

They also seem to have the *resolve* to manage the problems they face. The occurrence of the theme of resolve and/or agency reflects children's willpower, determination and actions when faced with a problem. The processes whereby children develop self-determination behaviours happen in social context (families): children acquire beliefs, attitudes and behaviour regulations by internalising these concepts and altering them into personal intrinsic characteristics and values. The development of self-determined behaviour includes learning to set goals, solve problems, make decisions and advocate for one's needs as well as having opportunities to make choices and experience control in one's life. Therefore, self-determination behaviour signifies autonomous self-regulated actions in response to adverse circumstances in a psychologically empowered manner (Snyder & Lopez in Snyder and Lopez, 2005, p. 760). The capability of self-control and the facilitation of positive social relationships is a key characteristic which is generally identified in resilient children (Rochat & Hough, 2007).

The children were inclined towards *positive future expectations*. Fundamental to positive expectancy is optimism and hope (Worthen & Isakson, 2011). Positive expectancy refers to the confidence children have regarding the attainment of goals. Confidence in the attainment of goals will progress into actions and continued efforts at achieving one's goal. Furthermore, confidence in the ultimate attainment of one's goal results in continuous goal-directed actions, regardless of adversity. This relates to optimism, as optimistic

individuals are most likely to believe in their own ability to handle adversity. They expect positive outcomes even when faced with hardship.

The children expressed a *sense of belonging* in their families. In general the participants expressed themselves as socially well-adjusted and the quantitative results did not exhibit problem behaviours. Choenarom, Williams and Hagerty (2005) state that a sense of belonging promotes children's adaptive behaviours or functioning and that the absence of a sense of belonging is associated with social-emotional problems. A sense of belonging originates from experiences and relationships with supportive adults in such a way that the child feels integrated within interpersonal systems (Choenarom et al., 2005; Rolfe, 2002). Many of the participants who experienced a sense of belonging within their families also presented with adaptive problem-focused coping strategies.

The children were aware that material resources were available. The availability of material resources such as shelter, clothing, food and nutrition is especially important during early childhood as there is a continued need for physiological resources that promote growth and development (Cameron, Ungar & Liebenberg, 2007) and indirectly enhance the attainment of developmental outcomes, adaptive coping strategies and subsequently, child functioning. Findings from the International Resilience Project (Ungar, 2006) identified the availability of material resources as one of the 'tensions' youth should navigate for resolutions in order to portray resilience.

The children spoke about how they are able to *navigate towards resources* (child's capacity to seek available help) in their ecology. In most of the cases the father, mother or both parents were identified as positive individuals providing protection and a sense of security for their children. Navigation towards positive institutions coincides with a sense of belonging in that children can only navigate towards that (people, institutions and relationships) which is available and easily accessible (Ungar, 2006). Theron and Theron (2010) state that supportive family relationships (available and accessible) serve as a buffer against the negative effects of adversity, and more specifically facilitate children's adaptation in the context of HIV/AIDS. Here the complex interactional process of resilience-related variables becomes evident. The availability of material resources, parental care and positive relationships would most probably enhance a child's sense of cohesion, security and belonging.

The children also voiced *knowledge of risk* within their environment. The majority of the children expressed an awareness of chronic risk and adversity as well as death. There were isolated instances where the participants' stories gave evidence of exposure to *crime and aggressive behaviour as well as lack of material resources*. This relates to findings of a research study conducted by Rochat and Hough (2007) with children affected by HIV/AIDS in South Africa. Findings from this study indicated that the children experienced their communities as unsafe, characterised by recurring adversity and that they were exposed to crime and violent behaviour. In the South African landscape, and particularly the HIV/AIDS context, children are at risk of prematurely being exposed to grief and bereavement

(Murphy, Roberts & Hoffman, 2006) as well as crime and violent behaviour. Research shows that poverty, crime, discrimination and limited access to basic services are some of the risk factors children affected by HIV/AIDS face (Foster & Williamson, 2000). Thus, the emergence of the themes, awareness of death, chronic adversity and lack of material resources is characteristic of the experiences of children living within an HIV/AIDS context (Sherr, 2005).

### **Testing the utility of a qualitative measure for use with young South African children?**

Based on the correlation between the Düss and CBCL results, it would seem that the translated Düss story (isiZulu, Sepedi, Setswana and Setsotho) shows promise for use with young children in South Africa to measure resilience. The Düss fable provided rich and detailed information on children's adaptive functioning as well as the adverse factors that pose as risks. The Düss fable as a projective instrument added to the understanding of the life experiences and resilience in this group of children. It was effective to elicit themes indicating age-related coping strategies and behaviours. It can be concluded that the Düss fable promises utility as a valuable and practical instrument to measure young children's needs, thoughts, feelings and motivations with regard to resilience.

The utility would naturally require additional investigation with a more representative sample in an additional concurrent study using the CBCL and Düss. We adopted the stance of Achenbach et al., (2008), Berry (1999) and Ho, Peng, Lai and Chan (2001), whereby indigenisation is seen as the complementary use of both emic and etic knowledge in order to advance the cross-cultural psychological discourse. In this way a concurrent mixed-method design enabled us to generate culturally sensitive (Adair, 1999) research situated in global psychological knowledge in order to inform local knowledge. We view this as a first step in what Van de Vijver and Rothmann (2004) note as a goal of assessment practices: to validate existing measures for cross-cultural use (indigenisation). The finding of the preliminary utility of the Düss addresses Byrne, Leong, Hambleton, Oakland, Van de Vijver and Cheung (2009) and Foxcroft and Roodt's (2005) concerns regarding the importance of selecting and using reliable assessment measures in psychological practices and research – rather than favouring uncritical administration and use of measures which lead to erroneous inferences.

### **Limitations**

The main limitation relates to the representativeness of the study to the larger population. However, the aim of this study was to gain insight into, and achieve a better understanding of the phenomena rather than to generalise the findings to the larger population.

Due to the translation of the Düss fable from English into isiZulu, Sepedi, Setswana and Setsotho the possibility exists that certain meanings could have inadvertently been omitted. In addition, the mother tongue responses of child-participants were also translated into English for analysis which could also have had an effect on the story content and the meanings thereof.

## Conclusion

Theoretically the mixed-method design led to (1) comparisons of resilience of young HIV and AIDs-affected children, and (2) culturally appropriate understandings of resilience in young children. Through the use of a mixed-method approach, the researchers discovered that South African children affected by HIV and AIDS compare positively with the standardised norms of adaptation. The mixing of methods also provides valuable ecological contextualisations of resilience through the eyes and mouths of young South Africans.

In addition, by following a mixed-method design the researchers could correlate standardised quantitative scores with inductive resilience categories to determine if the DÜSS fable is an alternative tool to assess resilience in young children locally in South Africa. Consequently, using a concurrent mixed-method design in the secondary analysis of baseline data was meaningful as an initial test of the utility of a tool to measure resilience.

The use of a mixed-method design in a randomised control trial therefore contributed to resilience theory by comparing and describing how South African children experience resilience, and expanded knowledge on culturally appropriate measures of resilience (by testing the utility of the DÜSS fable to measure resilience in young children).

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