The Adaptation of the Griffith Empathy Measure for use in the Western Cape

Michelle Louw

ASCENT Laboratory

Department of Psychology

University of Cape Town

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Supervisor: Susan Malcolm-Smith

Co-Supervisor: Lea-Ann Pileggi

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Abstract

Understanding the determinants of violent and aggressive behaviour is a crucial step towards reducing the high rates of violence and aggression in South Africa. South Africa offers a unique setting to investigate the relationship between childhood empathy and aggression. However, appropriate measures are required in order to obtain reliable? Findings and inform interventions later on. In order to investigate early childhood aggression, employment of multi-informant assessments is required. One of the assessment tools employed in a recent pilot study in Cape Town (Woolley, 2012) was a parent-report measure known as the Griffith Empathy Measure (GEM). The GEM, however, produced unreliable results thereby affecting the overall reliability of the assessments conducted on childhood aggression. This points to a growing need to investigate and develop an applicable parent-report measure for a Western Cape context. In this study, the format of the original 9-point GEM was adapted to a 3-option response. Two parent-report questionnaires were completed by 92 parents/caregivers of Grade R/Grade 1 and Grade 6/7 children, and the original GEM results from the previous study were incorporated. This study had two main objectives. First, to investigate whether the simplified GEM is a more reliable measure of cognitive and affective empathy than the original GEM. Secondly, to compare the simplified GEM, the original GEM and the Questionnaire of Cognitive and Affective Empathy (QCAE), to establish which parent-report measure is the more reliable measure of cognitive and affective empathy. As predicted, the simplified GEM did significantly better than the original GEM. The QCAE, however, was the superior of all the parent-report measures, indicating that this is the most appropriate measure to be used in a Western Cape context.

Keywords: empathy; parent-report, South Africa, affective empathy; cognitive empathy

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Alarming rates of interpersonal violence continue to plague South African society, where rape and murder figures are among the highest in the world (Numbeo, 2014). The South African Police Service (2013) reported that during the period of 2012 to 2013 approximately 1.8 million serious crimes were committed in South Africa. The consequences associated with these violent and aggressive acts not only have serious damaging outcomes for the perpetrators and victims, but also for their communities (Errante, 1997; Rojas-Flores et al., 2013). These disruptions in daily routine of community activities no longer provides individuals with a source of satisfaction and purpose but rather it becomes a source for the way in which communities and individuals derive meaning about themselves as pathological (Stone, 1992). Identification and understanding of the determinants of violent and aggressive behaviour - whether environmental, social or psychological - is a necessary, crucial step towards reducing the high rates of violence and aggression in South Africa.

In order to understand, as Dadds and colleagues (2008) stated, “the most appealing and appalling aspects of human behaviour” (p. 111), they recommend that we focus our attention on understanding empathy. Research conducted in developed countries has generated a substantial body of work showing empathy to be an important predictor of aggressive and antisocial behaviour, with reduced levels of empathy associated with higher levels of aggression and antisocial behaviour (Björkqvist, Österman, & Kaukiainen, 2000; Kaukiainen et al., 1999; Miller & Eisenberg, 1988; Spinella, 2005; Strayer & Roberts, 2004; Van Langen, Wissink, Van Vugt, Van der Stouwe, & Stams, 2014; Viding, Blair, Moffitt, & Plomin, 2005). Furthermore, early manifestations of aggression are related to later expressions of aggressive behaviour, delinquency and criminality (Blair, Mitchell, & Blair, 2005; Loeber & Hay, 1997; Moeller, Barratt, Dougherty, Schmitz, & Swann, 2001; Moffitt, 1990; Stattin & Magnusson, 1989). Therefore, a developmental approach is needed to investigate empathy in order to identify, address and intervene in the early childhood manifestations of this problem.

In order to investigate childhood empathy, researchers have proposed the employment of multi-informant assessments which utilize a combination of teacher- and parent-report measures as well as child-based measures and observational measures (Barnett, Howard, Melton, & Dino, 1982; Dadds et al., 2008; Gerdes et al., 2010; Wied, Goudena, & Matthys, 2005). With regard to South Africa, identifying an appropriate parent-report measure has proved challenging. Currently, in developed countries, the employment of the Griffith Empathy Measure (GEM), a parent-report measure of dispositional empathy, appears to be the most reliable parent-report measure to date (Dadds et al., 2008). However, in a recent

South African study on childhood empathy, the GEM was employed and found not reliable and valid for the South African context (Woolley, 2012).

To date, research investigating childhood empathy in South Africa is lacking, aside from one recent pilot study (Woolley, 2012). South Africa offers a unique setting to investigate the relationship between childhood empathy and aggression, but appropriate measures are necessary to obtain reliable and valid findings to inform interventions later on. This thesis aims to examine the reliability of two alternative parent-report measures of empathy, and compare these findings to the original GEM (i.e., Woolley (2012)'s findings). Identifying a reliable and valid measure of empathy for the South African context is fundamental in research, as poor measures undermine all subsequent findings.

Background

The theoretical connection between deficits in empathy and aggression is well-embedded in mainstream research. However, the empirical evidence for empathy inhibiting or mitigating aggression has been inconsistent (Jolliffe & Farrington, 2004; Miller & Eisenberg, 1988). One explanation is that various other factors, such as age, socioeconomic status and gender, have been identified that moderate and/or confound this relationship (Gerdes & Segal, & Lietz, 2010; Shechtman, 2002; Warden & Mackinnon, 2003). A second, and perhaps more important reason is the inconsistent conceptualization and different measurement instruments utilised in the study of empathy. If a problem exists at this foundational level, it is likely to obscure the relationship, regardless of moderators (Lovett & Sheffield, 2007).

Definitional Issues Surrounding Empathy

Empathy is generally defined as the comprehension and sharing of perceived emotion of another (Björkqvist et al., 2000). However, what exactly empathy embodies has been the subject of debate, as empathy is widely acknowledged to be a particularly heterogeneous construct (Mar, 2011). This is due to the fact that empathy involves a number of sub-processes, such as as perspective-taking, empathic mimicry, cognitive empathy, affective empathy and sympathy, to name a few, and overlaps with other related constructs (Blair, 2005; Decety & Lamm, 2006; Lovett & Sheffield, 2007; Preston & de Waal, 2002). As a result there is no general consensus on a definition for research (Reniers, Corcoran, Drake, Shryane, & Völlm, 2011). Therefore various conceptual definitions are employed, making comparisons across research findings problematic (Dadds et al., 2008; Gerdes, et al., 2010; Mar, 2011).

One of the main problems associated with constructing a widely accepted definition of empathy stems from the question about whether empathy involves experiencing emotions or recognising them, or both (Reniers et al., 2011). Findlay, Girardi and Coplan (2006), for example, postulated that empathy encompasses both by characterising it as incorporating, "both recognizing and experiencing another person's emotional state" (p. 347). In addition, the debate on the definition of empathy has examined whether or not to incorporate the actual behavioural response (Eisenberg, 2000; Vreeke & van der Mark, 2003). The majority of definitions of empathy place comprehension of another's emotional condition at the center of their definitions, while Eisenberg (2000) placed the affective response at the center of her definition of empathy and defined empathy as "an affective response that stems from the apprehension or comprehension of another's emotional state or condition and is similar to what the other person is feeling or would be expected to feel" (p. 671).

Recent arguments have proposed that empathy contains partly dissociable neurocognitive processes, suggesting a distinction should be made between affective and cognitive empathy (Reniers et al., 2011). According to Spinella (2005), the emotional component of empathy involves the individual's genuine emotional reaction. In contrast, the cognitive component is a form of social cognition, which allows an individual to mentally represent another individual's mental processes (Reniers et al., 2011; Zhang et al., 2014). This distinction between affective and cognitive components of empathy has received a great deal of support from many researchers (Blair, 2005; Gini, Albiero, Benelli, & Altoe, 2007; Jolliffe & Farrington, 2006; Rankin, Kramer, & Miller, 2005; Young, Gudjonsson, Terry, & Bramham, 2008).

There seems to be a general consensus now that empathy is a multi-dimensional construct with cognitive and affective components (Kaukiainen, et al., 1999; Yeo, Ang, Loh, Fu, & Karre, 2011). Cognitive trait empathy is defined in the literature as the capacity to intellectually understand what others are feeling or thinking based on emotional and/or situational cues (Dadds et al., 2008). Cognitive empathy requires that visual, situational or auditory cues are held and manipulated in an individual's mind to draw various ideas about the other individual's mental processes (Reniers et al., 2011). Affective trait empathy, on the other hand, is defined as the ability to adopt an emotional state that is congruent to the affect of others (Dadds et al., 2008; Eisenberg & Fabes, 1990). There is a swift identification of another individual's emotions based on voice prosody, body gestures and facial expressions (Reniers et al., 2011). Research employs these working definitions/constructs in the creation of empathy measures.

Measuring Empathy

Due to the complex structure of empathy, the measurement of it has always been problematic (Zhang, Wang, Lui, Cheng, Neumann, Shum, & Chan, 2014). Self-report questionnaires are the most commonly employed instruments in empathy research, perhaps as they are economically feasible and convenient to administer (Reniers et al., 2011). Although this method has been criticised for its proneness to bias and subjectivity, it is still regarded as the most direct and appropriate way to measure psychological constructs such as empathy (Zhang et al., 2004). Over the years, several questionnaires including the Interpersonal Reactivity Index (IRI; Davis, 1983) and Empathy Quotient (EQ; Baron-Cohen, Richler, Bisarya, Gurunathan, & Wheelwright, 2003) have been commonly used to measure empathy. The Bryant's Index of Empathy is another frequently utilised self-report measure which has been extensively used in longitudinal studies examining childhood empathy, and has shown to have moderate reliability and validity (Dadds et al., 2008; Reniers et al., 2011).

Problems with Methods of Assessing Empathy in Young Children

Utilising self-report measures for children, however, is problematic due to limitations in verbal expression in children below the age of eight years (Dadds et al., 2008; Gerdes et al., 2010). This problem is further compounded by the effect of demand characteristics and experimenter dependent response variability. For example, an unpublished study conducted by Eisenberg and Lennon (1983) found that children between the ages of 4 and 5 years usually performed better with same-sex than opposite-sex experimenters, suggesting that they either were less fearful or more motivated to seek approval from same-sex experimenters. Furthermore, in the case of adolescents, performance on self-report measures was influenced by adolescents conforming to gender-role stereotypes and social desirability bias (Miller & Eisenberg, 1988).

In children and adolescents, observations of general response patterns may provide an alternative measure of empathic response when self-report cannot be relied upon. Identifying which behavioural response patterns reliably identify empathic behaviours in children thus remains an important focus of current research. Picture/story vignettes and films, and manipulation in experimental procedures are examples of techniques which have previously been applied to assess situational empathy in young children (Kaukiainen, et al., 1999; Lovett & Sheffield, 2007; Miller & Eisenberg, 1988; Strayer & Roberts, 2004). A major limitation of this research, however, emerges from a lack of standardization in methodologies between researchers, which makes findings difficult to interpret across studies (Gerdes et al., 2010).

In order to overcome difficulties associated with measuring childhood empathy, research proposes employment of multi-informant assessments. This should lead to more accurate and reliable results in various socio-economic and cultural settings (Dadds et al., 2008; Gerdes et al., 2010). However, only a small number of studies have utilised a combined index of teacher- and parent-reports along with other types of measures (Barnett, Howard, Melton, & Dino, 1982; Wied, Goudena, & Matthys, 2005). Furthermore, Dadds and colleagues (2008) found no parent-report measure existed in the literature.

As a result, Dadds and colleagues (2008) created the Griffith Empathy Measure (GEM), adapted from the Bryant Index of Empathy. The GEM is a parent-report measure of dispositional empathy (both affective and cognitive), and appears to be the most reliable measure to date (i.e., good internal consistency both overall and for the affective subscale). Reliability for the cognitive scale, however, was not optimal (Dadds et al., 2008).

To date, research investigating empathy in South African children is lacking aside from one recent pilot study, which employed the GEM as a measure of empathy (Woolley, 2012). What was found, however, was that this measure was not reliable and valid for the South African context: It had poor internal consistency and failed to correlate with any child empathy measures (Woolley, 2012).

A possible explanation put forth for the poor performance of the GEM in South Africa was the utilisation of a nine-point Likert scale with three fixed points (‘strongly disagree’, ‘neutral’ and ‘strongly agree’), which parents found difficult to understand. Parents tended to respond using either extreme or mid-range response patterns. These responses to the questionnaire appeared meaningless in statistical analysis, and if scores did differ they were not actually reflecting true differences in empathy. This made it difficult to compare across participant scores (Woolley, 2012).

A related explanation is linked to the fact that the GEM was originally tested on a population who came from a higher socioeconomic status (SES) compared to the South African population who fell into a lower SES (Dadds et al., 2008). Research suggests that low SES is associated with lower levels of literacy (Purcell-Gates, & Dahl, 1991). As a result, it is possible that in poorer communities, SES acts as a moderating variable, therefore leading to poor performance of the GEM. As a result, T. E. Moffitt (personal communication, February, 2014) suggested that a simplified scale may be required to address this. Replacing the Likert-scale and providing a 3-option response format (never, sometimes, always) may help to maximize parent comprehension and hence reliable reporting. This adaptation was assessed in the current study.

Summary and Conclusions

The literature suggests that reduced levels of empathy are associated with higher levels of aggression and antisocial behaviour. However, a primary failure in childhood aggression research is the lack of appropriate measures for different socio-economic and cultural settings such as South Africa. Research suggests that in order to obtain more reliable results for the identification of early childhood aggression, employment of multi-informant assessments is required. However, the GEM is the best parent-report measure used in international studies employing multi-methods, but it has produced inconsistent and unreliable results in a South African study conducted in Cape Town. Therefore, the GEM is affecting the overall reliability of the assessments conducted on South African children about childhood aggression. Consequently, this points to a growing need to investigate and develop applicable parent-report measures in order to continue research into violence and aggression in South Africa.

Specific Aims and Hypotheses

The primary objective of the present research was to investigate which parent-report measure is the more reliable measure of dispositional cognitive and affective empathy in parents/caregivers of Grade R/Grade 1 and Grade 6/Grade 7 children in South Africa. The following hypotheses were tested:

1. The Simplified 3-point GEM is a more reliable measure of dispositional cognitive and affective empathy than the original 9-point GEM.
2. A Comparison of the Simplified 3-point GEM, the original 9-point GEM and the QCAE, will reveal which is the more reliable measure of dispositional cognitive and affective empathy.

Another important aim of the study was to examine the gender differences for performance on the Simplified 3-point GEM. As females consistently score higher on self-reported empathic functioning than males (Baron-Cohen & Wheelwright, 2004; Jolliffe & Farrington, 2006). Furthermore, convergent validity was examined by looking at the Simplified 3-point GEM and the QCAE relationship, which are both measures of empathy. Theoretically, the Simplified 3-point GEM and the QCAE both measure cognitive and affective empathy and therefore, a positive association between these scales would be expected.

Method

Design and Setting

This study was part of a broader study investigating the influence of a number of risk factors on the development of childhood aggression in Cape Town, South Africa. This pilot study has served as the initial step towards establishing a reliable parent-report measure for the larger study investigating the prevalence and influences of a number of risk factors on the trajectories of childhood empathy development in Cape Town.

The three parent-report measures, the GEM, the simplified GEM and the Questionnaire of Cognitive and Affective Empathy (QCAE), all quantify cognitive and affective empathy. The study was a cross-sectional comparison of the three parent-report measures investigating the reliability of these measures. Internal consistency of the three parent-report measures was investigated to determine which parent-report was a more reliable measure of cognitive and affective empathy.

The QCAE and the simplified GEM data were collected from parents or caregivers. Data collection from parents took place either at their child's school or at home, whichever was more convenient for the parents/caregivers. Furthermore, the GEM data from the previous pilot study conducted in 2012 was utilised.

Participants

Ninety-two parents/caregivers of neurotypical children participated in the study. Children of the parents and caregivers were recruited from English-medium primary schools in Cape Town. Furthermore, the socioeconomic status of the participants varied only slightly between schools, and was comparable to participants from Woolley's (2012) study. The basic demographic characteristics of the included participants are presented in *Table 1* below.

Table 1. *Demographic Characteristics of Participants*

Demographic information	Participants (n = 92)
Age (Years)	
M (*SD*)	39.09 (9.28)
Gender	
Male: Female	11:81
Primary Caregiver	
Biological Parent: Grandparent: Aunt: Sibling	81:9:1:1
Socio-economic status[a, b]	
M (*SD*)	-.366 (2.022)
Ethnicity	
Coloured: Black	87:5

[a] SES = z (income) + [z (mother's education + father's education) /2] + z (assest index score).
[b] Composite Std. Score

Inclusion and exclusion criteria. Children (males and females) between the ages of 6-7 years (Grade R/Grade 1) and 11-13 years (Grade 6/ Grade 7) who attend English-medium schools were included. Furthermore, all races and only middle and low socioeconomic strata were included. Children were excluded from the study if they had a history of head injury, infantile meningitis, and/or a diagnosed neurological condition/s. Furthermore, children were also excluded if they had a history or diagnosis of a pervasive developmental disorder.

Parents or caregivers of children, who met the initial criteria, were included if proficient in English. However, any home language different from that was noted and matched across age groups. Parents/caregivers who did not complete questionnaires were also excluded. As a result, it is acknowledged that exclusion of many Xhosa and/or Afrikaans speaking children and parents/caregivers will affect generalizability of the findings to the total Western Cape population.

Measures

The study employed two parent-report measures to assess the cognitive and affective components of overall dispositional empathy, namely a simplified version of the GEM, and the QCAE. All measures were administered in English. To determine whether participants could be included in this study, general measures were utilized and will be discussed first, followed by a more in-depth description of the Griffith Empathy Measure, the Simplified Griffith Empathy Measure and the Questionnaire of Cognitive and Affective Empathy.

General measures. ***Basic demographic information***. Participants were selected for this study based on a demographic questionnaire that parents or caregivers were asked to fill out. The questionnaire asked a series of questions regarding participants' age, home language and medical history which was used to determine whether participants met the inclusion criteria or not (Appendix C).

Socioeconomic Status (SES). A questionnaire was used to estimate the participants' SES by enquiring information regarding (1) material resources and household financial, (2) parent or legal guardian education and (3) total annual income (Appendix C). The information from these three areas of the questionnaire allowed indices and a composite score of SES to be calculated for participant SES. Research suggests that in low and middle income countries, like South Africa, it is better to examine several indicators of SES. Rather than utilising only one monetary indicator as this allows for variation in SES to be illustrated more clearly (Barnes, Wright, Noble, & Dawes, 2007; Booysen, 2001; Cooper, Lund, & Kakuma, 2012).

Parent-report measures of dispositional empathy. ***Griffith Empathy Measure (GEM).*** The GEM (Dadds et al., 2008) is a 23-item parent-report measure (see Appendix D) of children's empathy that measures and calculates both a total score as well as subscale scores for the underlying components of empathy, Cognitive (e.g., "it's hard for my child to understand why someone else gets upset") and Affective (e.g., "seeing other child laugh makes my child laugh") empathy. The GEM was adapted from the Bryant Index of Empathy for Children and Adolescents (Bryant, 1982). The items were reworded in the third person in order to be suitable for use as a parent-report and respondents are asked to rate items by indicating to what degree the statement applied to their child using a nine-point Likert scale, which range from strongly disagree (-4) to strongly agree (4).

The GEM has been employed on an Australian sample and has shown acceptable convergent validity ($r = .412$, $p < .01$) with scores on the Bryant Index of Empathy. The GEM has also demonstrated adequate construct validity and been widely employed as a measure of empathy (Bryant, 1982; Dadds et al., 2008; Lovett and Sheffield, 2007). The GEM was used in a previous study conducted in South Africa which found the Cronbach's alpha for the overall GEM was very low ($\alpha = .466$). Furthermore, assessing the subscales separately, the alpha values were $\alpha = .675$ for the affective empathy subscale and $\alpha = .382$ for the cognitive empathy subscale. Two items were identified within the cognitive subscale as having particularly weak item-total correlations and once they were removed the cognitive subscale increased to .577. However, the GEM was found not to be reliable for the South African context, and also failed to correlate with any child empathy measures (Woolley, 2012).

Simplified Griffith Empathy Measure (SGEM). In order to address the problems associated with the GEM for a South African sample, T. E. Moffitt (personal communication, February, 2014) suggested that a simplified scale may be required. Re-structuring the format to a 3-option response format (never, sometimes, always) may help to maximize parent comprehension and hence reliable reporting. Consequently, the simplified GEM is a 23-item parent-report measure (see Appendix E) of children's empathy that measures and calculates both an total score as well as subscale scores for the underlying components of empathy, Cognitive and Affective (Dadds et al., 2008).

Questionnaire of Cognitive and Affective Empathy (QCAE). The Questionnaire of Cognitive and Affective Empathy (QCAE; Reniers et al., 2011) is 31-item questionnaire (see Appendix F) constructed to calculate and measure cognitive and affective empathy. The items for the QCAE were derived from the Hogan Empathy Scale (HES; Hogan, 1969), the EQ (Baron-Cohen et al., 2003), the IRI (Davis, 1983), and the Impulsiveness-Venturesomeness-

Empathy Inventory (IVE; Eysenck & Eysenck, 1978). The QCAE's reliability has been verified, furthermore the cognitive and affective empathy scales correlated moderately (r = .31, $p < .01$) demonstrating adequate construct validity. The QCAE is widely employed for assessing cognitive and affective empathy. For the broader study, known as the Moral Development study, the QCAE has been adapted from a self-report to a parent-report of child.

Procedure

Collection of parent data. The Western Cape Education Department and the UCT Department of Psychology granted the broader study ethical approval to collect data. Permission from schools to recruit participants and use their premises for interviews was also granted. Prior to the parent interviews, written informed consent was obtained from parents or caregivers of children who participated in the study (see Appendix B). Parents/caregivers were telephoned to organise a convenient time to meet with researchers and complete a series of parent-report questionnaires which included those used by the larger study. The set of questionnaires took approximately 60 to 90 minutes to complete. Researchers explained the questionnaires and these were completed in the presence of the researchers, to allow for any questions respondents may have had. Furthermore, tea, coffee and snacks were provided. Once parents/caregivers completed the set of questionnaires, they were thanked for their participation, debriefed and financially compensated.

Ethical Considerations

The thesis abided by the University of Cape Town's guidelines for ethical research with human subjects. The Western Cape Education Department granted the broader study ethical approval to collect data from specified schools within their jurisdiction (see Appendix H). Ethical approval for this study was granted from the Ethics Committee of the UCT Department of Psychology as it is a part of the broader study (see Appendix G). In addition, school permission to recruit and use their premises was granted.

Prior to participation in the study, written informed consent and assent (see Appendix A and B) was obtained from parents or caregivers and the child, respectively. All parents/caregivers and children were informed that participation in study was voluntary and they could withdraw at any point during the study, without consequence. Additionally all data collected were kept confidential. The parents/caregivers were informed that if their child were found to be at risk for a developmental disorder they would be provided with referrals to the appropriate services for assistance. These decisions were the responsibility of the principal investigators, Susan Malcolm-Smith and Catherine Ward.

There was no real risk to participation in the study. Parents and caregivers were offered a small monetary incentive (R150) for participating in the study and received refreshments during the filling out of questionnaires.

Data Analysis

For all statistical analyses, the Statistical Package for the Social Sciences (SPSS) version 22.0 for Windows was utilised. Descriptive statistics were computed to examine the central tendency and distribution of the data. Participants (n = 92) completed the 23-item version of the Simplified 3-point GEM and the QCAE along with other questionnaires as part of the broader study. The original GEM data from a previous study conducted in 2012 was used in the comparison of the three parent report measures. Item scores were examined for normal distribution and in case of any non-normal distribution, a binary correction was applied (Reniers et al., 2011).

For the main analyses, internal consistency of the Simplified 3-point GEM was assessed by using Cronbach's coefficient alpha (Cronbach, 1951) and compared to the original GEM and the QCAE. The factor structure of the Simplified 3-point GEM and the QCAE was analysed by an exploratory factor analyses (EFA) in order to investigate whether the two subscales do load onto the cognitive and affective factors. Principal component analysis (PCA) with scree plot examination for the number of factors extracted and direct oblimin rotation with Kaiser normalization was used.

Construct validity was examined by computing the correlations between the Simplified 3-point GEM and the QCAE scores.

Results

Reliability Analysis of Questionnaire Measures

Reliability of the SGEM. Cronbach's alpha was calculated to evaluate the internal consistency of the Simplified 3-point GEM. For this analysis, item scores were normally distributed. Cronbach's alpha values of between .70 and .80 are considered to demonstrate that a measure has high reliability and considered to be satisfactory (Cortina, 1993; Field, 2009; Schmitt, 1996). The Cronbach's alpha for the overall 23-item Simplified 3-point GEM was .726 for this sample.

The Simplified 3-point GEM is comprised of two subscales, which can be assessed independently. The alpha value for the affective empathy subscale was .541 and for the cognitive empathy subscale was .500. One item from the cognitive empathy subscale was identified as having a weak item-total correlation. When this item 21 (α = .107) was removed, the alpha value for the cognitive subscale increased to .541. The same process was applied to

the affective empathy subscale and one item with particularly weak item-total correlation was identified. When item 23 (α = -.121) was removed, the alpha value for the affective subscale increased to .616. Isolating the two subscales and removing the weakest item from both subscales of the Simplified 3-point GEM increased their alpha values substantially and also improved the overall alpha value for the scale (α = .767).

For the 21-item Simplified 3-point GEM the corrected item to total correlations ranged from .140 to .574, with only one exception for item 10, which was .105 and was subsequently removed. Removing item 10 did not affect the Cronbach's alpha of the two subscales but did increase the overall alpha to .775. The low value for the three items (item 10, 21 and 23) is likely to be due cultural differences and misunderstanding, and all items were deleted from the questionnaire in subsequent analyses. The final alpha value of .767 indicates that the Simplified 3-point GEM has good reliability.

The Cronbach's alpha for the overall 21-item original 9-point GEM was .466 which is remarkably low. The alpha value for the cognitive empathy subscale was .577 (after two items from the cognitive subscale were removed) and for the affective empathy subscale was .675 (Woolley, 2012). From these results, it is clear that the Simplified 3-point GEM is a more reliable measure of dispositional cognitive and affective empathy than the original 9-point GEM.

Comparison of the three parent-report measures reliability. To investigate the second hypothesis, Cronbach's alpha of the QCAE was calculated and compared to the Simplified 3-point GEM and the original 9-point GEM. The Cronbach's alpha for the overall QCAE was excellent (α = .952) for this sample. Corrected item to total correlations ranged from .190 to .788. The alpha value for the affective empathy subscale was .882 and for the cognitive empathy subscale was .935.

Hypothesis two aimed to assess which is the more reliable measure of dispositional cognitive and affective empathy by comparing the Simplified 3-point GEM, the original 9-point GEM and the QCAE. The results reveal that the QCAE is the most reliable measure of dispositional cognitive and affective empathy (α = .952), then the Simplified 3-point GEM (α = .767) has acceptable overall reliability. The original 9-point GEM (α = .466) has problematic psychometric features in our context.

Factor analyses of the SGEM and the QCAE. The factor analysis really is a preliminary examination of possible trends – the small sample means the results cannot be regarded as definitive. In order to examine whether the items of the Simplified 3-point GEM are loading onto the correct factors (cognitive and affective empathy), an exploratory factor

analysis was employed. Furthermore, a factor analysis was also conducted on the QCAE in order to investigate construct validity.

Inspection of the Simplified 3-point GEM correlation matrix revealed the presence of very few coefficients of .3 and above. The Kaiser–Meyer–Olkin value of sampling adequacy was .66. This is in line with the Kaiser (1974) recommendation; i.e. accepting values greater than 0.5. However, values between 0.5 and 0.7 are considered mediocre (Field, 2009). The Bartlett's Test of Sphericity (Bartlett, 1954) was statistically significant ($p < .001$). PCA was set to two fixed factors, to represent cognitive and affective components of empathy. The two eigenvalues exceeded 1 for both factors and explained 20.42% and 11.409% of the variance respectively. The scree test (Cattell, 1966) suggested that there were definitely two components representing non-random covariance in the data (Figure 1), however it also indicated the presence of other factors but to a lesser extent. The two factors were retained for rotation. Direct oblimin rotation was performed. Table 2 summarises the statistics of this two-factor model.

The first factor comprises eight items (namely, 5, 7, 8, 9, 12, 15, 16 and 22) and captures the affective component of empathy. The Cronbach's alpha for this factor was .616. The second factor comprises five items (namely, 3, 6, 13, 17 and 20) and captures the cognitive component of empathy. The Cronbach's alpha for this factor was .541, which was less satisfactory when compared to the other factor. This might be because it has one less item than the affective empathy subscale.

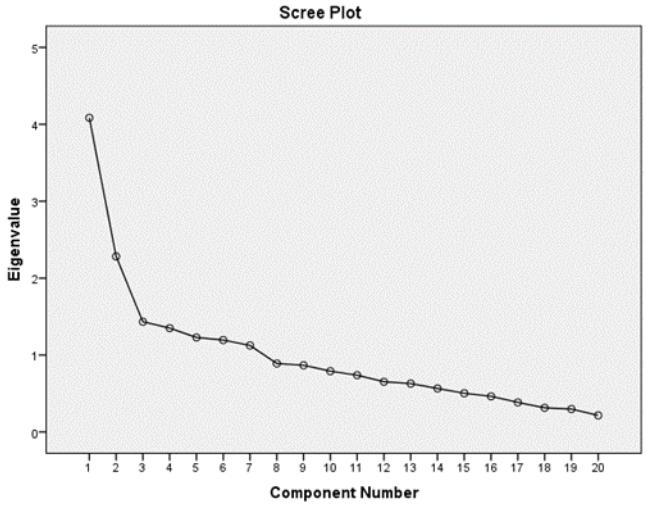

Figure 1. Scree Plot of the Two-factor Solution of the 20-item Simplified GEM

If only considering the loadings onto the correct subscales, then the Simplified 3-point GEM had 100% correct loadings for the cognitive subscale but only 50% of the items that supposedly tap affective empathy loaded onto the affective subscale.

A principal components analysis was done on the QCAE (Appendix I). The Kaiser–Meyer–Olkin value of sampling adequacy was.882. The Bartlett's Test of Sphericity (Bartlett, 1954) was statistical significance ($p < .001$). PCA was set to two fixed factors, to represent cognitive and affective dispositional empathy. The two eigenvalues exceeded 1 for both factors and explained 43.47% and 6.49% of the variance respectively. Direct oblimin rotation was performed. When compared with the findings of Reniers et al. (2011), one of the nine affective empathy items (item 1) did not load onto the affective factor. On the other hand, only four of the twenty-two cognitive empathy subscale (item 2, 7, 11 and 23) did not load onto the cognitive component. These are preliminary findings, however they show that the QCAE items were more in line with the loadings found in the original model (Reniers, 2011). If only considering the loadings onto the correct subscales, then the Simplified 3-point GEM had 100% correct loadings for the cognitive subscale but 50% correct loadings for the affective subscale. The QCAE had 88, 89% and 81.82% correct loadings for the cognitive subscale and the affective subscale, respectively. This therefore suggests that the QCAE has better construct validity than the Simplified GEM.

Table 2. *Factor loadings of the Two-factor Solution for the 20-item Simplified GEM*

	Component	
	Affective	Cognitive
1. It makes my child sad to see another child who can't find anyone to play with.	**.642**	
2. My child treats dogs and cats as though they have feelings like people.	**.515**	
3. My child reacts badly when he/she sees people kiss and hug in public.	.310	**.445**
4. My child feels sorry for another child who is upset.	**.601**	.212
5. My child becomes sad when other children around him/her are sad.	**.609**	
6. My child doesn't understand why other people cry out of happiness.	.293	**.297**
7. My child gets upset when he/she sees another child being punished for being naughty.	.296	**.572**
8. My child seems to react to the moods of people around him/her.	.271	**.310**
9. My child gets upset when another person is acting upset.	.263	**.300**
10. My child gets upset when he/she sees another child being hurt.	**.573**	.517
12. Seeing another child who is crying makes my child cry or get upset.	**.676**	.248
13. When I get sad my child doesn't seem to notice.		**.652**
14. Seeing another child laugh makes my child laugh.		**.330**
15. Sad movies or TV shows make my child sad.	**.457**	.294
16. My child becomes nervous when other children around him/her are nervous.	.395	**.621**
17. It's hard for my child to understand why someone else gets upset.		**.615**
18. My child gets upset when he/she sees an animal being hurt.	**.601**	
19. My child feels sad for other people who are physically disabled (e.g, in a wheel-chair).	**.528**	
20. My child rarely understands why other people cry.		**.662**
22. My child acts happy when another person is acting happy.	**.218**	

Note. Blank entries are < .2, SGEM = Simplified Griffith Empathy Measure

Convergent validity between the SGEM and the QCAE. Table 3 presents the correlations between the Simplified 3-point GEM and the QCAE for the 92 participants who completed all the questions. Significant correlations were found between total scores of the Simplified 3-point GEM and the QCAE. The affective empathy scores on the Simplified 3-point GEM and the QCAE showed a significant positive correlation: $r(90) = .510$, $p < .01$. However, there was no significant correlation between the cognitive empathy subscale of the Simplified 3-point GEM and the QCAE, $r(90) = .091$, $p = .39$.

Table 3. *Correlations between the Simplified 3-point GEM and the QCAE*

		Simplified GEM			QCAE		
		Affective	Cognitive	Total	Affective	Cognitive	Total
Simplified GEM	Affective	1					
	Cognitive	.407**	1				
	Total	.886**	.648**	1			
QCAE	Affective	.510**	0.152	.468**	1		
	Cognitive	.291**	0.091	.315**	.626**	1	
	Total	.394**	0.12	.396**	.813**	.963**	1

Note. QCAE = Questionnaire of Cognitive and Affective Empathy; SGEM = Simplified Griffith Empathy Measure
** Correlation is significant at the 0.01 level (2-tailed).

Supplemental analyses. ***Sex difference***. In the sample of 92 participants who completed all questions of the Simplified 3-point GEM, females scored significantly higher than males. The males (M = 3.380; SD = 4.957) were found to have a significantly lower Simplified 3-point GEM total score than the females (M = 5.429; SD = 4.696); $t(90) = -2.022$, $p < .05$. Further, Cohen's effect size value (r = .208) is suggestive of a small association. Effect size is the quantitative measure of the strength of relationship between two variables. Cohen's (1992) conventions to interpret effect size are: correlation coefficient of .100 -.300 represents a small association; a correlation coefficient of .300 - .500 represents a medium association; and a correlation coefficient of >.50 or larger represents a large association.

On the affective empathy scale, females (M = 2.333, SD = 2.216) scored significantly higher than males (M = 1.040, SD = 2.611), $t(90) = -2.534$, $p < .05$. The Cohen's effect size value (r = .258) suggests that there is a small association. This is consistent with the results Dadds et al. (2008) found. On the other hand, there was no significant sex difference on the cognitive empathy subscale, $t(90) = -.557$, p = .579 between females (M = -.381; SD = 2.083) and males (M = -.600; SD = 1.690). Furthermore, the Cohen's effect size value (r = .059) suggests that there association is trivial.

Discussion

This study investigated which of three parent-report measures of empathy is the most reliable and valid measure to employ in a Western Cape context. Findings indicate that a simplified version of the Griffiths Empathy Measure (i.e., 3 point version) was more reliable than the original version (i.e., 9 point version). The Questionnaire of Cognitive and Affective Empathy, however, appears to be by far superior to both versions of the GEM. The following discussion will begin by summarising the findings of the reliability analysis of the three

measures then move to analysing the factor analysis. It will then conclude with addressing the initial hypotheses and the significance of these findings.

Reliability of the Questionnaire Measures

In order to answer the hypotheses that were set out an examination of the internal consistency of the scales was required. The findings revealed that the QCAE is the most reliable measure of dispositional cognitive and affective empathy (α = .952). The affective and cognitive subscales of the QCAE had a Cronbach's alpha of .882 and .935, respectively. However the overall Cronbach's alpha of the QCAE is a cause for concern because the alpha is greater than .900 which may indicate redundancy: that is, that some items may be measuring the same as other items on the scale (Ferketich, 1991). This may be due to redundant items measuring both dispositional cognitive and affective empathy in the scale. The QCAE has thirty-one items, which is lengthy, and therefore might be causing item redundancy which in turn results in high alphas (Boyle, 1991).

There are several possible reasons why the QCAE performed better than the original GEM and the Simplified 3-point GEM. The QCAE has 4-point Likert scale which is easy to understand and the phrasing and language of the items appears to be simpler and clearer. Items in the QCAE such as item 18, 'My child finds it easy to put him/herself in somebody else's shoes' or item 27, 'My child is good at predicting what someone will do' (Reniers et al., 2011).

The second most reliable parent-report measure was the Simplified 3-point GEM (α = .767) which had an acceptable overall reliability. The affective and cognitive subscales of the Simplified 3-point GEM had a Cronbach's alpha of .616 and .541, respectively. It should be noted that initially, the inter-item correlations for a few of the Simplified 3-point GEM items was less than .300, indicating that some items might not be measuring the underlying construct (Ferketich, 1991). Therefore, three items were identified as having item-total correlations less than .300 and removed from the Simplified 3-point GEM in order to obtain the alpha value .767.

Regarding the removed items in the Simplified 3-point GEM, items such as item 21 was 'My child would eat the last cookie in the cookie jar, even when he/she knows that someone else wants it' had a low item-total correlation. This may be due to the fact that the idea of cookie jar, which is a container that holds baked goods, is American. This is a culturally specific term, and the item is not widely found in the majority of South African houses. Therefore, this item is culturally inappropriate.

Notably, the final 20-item Simplified 3-point GEM still had a number of items with item-total correlations below .300, however removing these items did not increase the alpha significantly but rather started to decrease the overall Cronbach's alpha. It should be noted that the QCAE only had one item, item 1 with a low item-total correlation below .300, therefore the QCAE items appear to be measuring the underlying construct better than the Simplified 3-point GEM.

The original GEM utilised a nine-point Likert scale with three anchored points ('strongly disagree', 'neutral' and 'strongly agree'). The study conducted by Woolley (2012) found that the participants had a number of difficulties related to understanding and differentiating between the meanings of the unmarked response options. Furthermore, many parents and caregivers used only extreme response options or options close to the middle. Therefore, the differences in scores were found to be meaningless (Woolley, 2012). Research shows that low SES is associated with low levels of literacy (Purcell-Gates, & Dahl, 1991).Therefore the participants might have not been able to use this complex response format reliably. This appraisal appeared to be correct as the Simplified 3-point response format, utilised in this study, increased the Cronbach's alpha.

The original 9-point GEM ($\alpha = .466$) has problematic psychometric features in our context and had the poorest/weakest internal consistency compared to the other measures. The affective and cognitive subscales of the original 9-point GEM had a Cronbach's alpha of .675 and .577, respectively. The alphas of the GEM subscales are similar to the Simplified 3-point GEM subscales indicating that the two components of empathy are somewhat related and not entirely independent. The literature concurs with the assumption that there is an inherent connection between dispositional cognitive and affective empathy. This adds to the difficultly of measuring empathy (Duan & Hill, 1996). The overall findings point to the QCAE being the most reliable and valid based on the Cronbach's alpha.

Factor Analyses of the SGEM and the QCAE

In order to assess psychological constructs, factor analysis is employed to explain a larger set of measured variables with a smaller set of latent constructs (Henson & Roberts, 2006). Hopefully, the constructs will be able to explain a good portion of the variance so that the constructs, also known as factors, can then be utilized to embody the observed variables (Henson & Roberts, 2006). The two general uses for an exploratory factor analysis are explanation and data reduction (Floyd & Widaman, 1995). The first use is to help identify the factor structure which is the underlying dimensions of a construct assessed by a particular measure. These dimensions serve as subscales for the instrument. (Fabrigar, Wegener,

MacCallum, & Strahan, 1999; Floyd & Widaman, 1995). Factor analysis assists researchers in developing scales of items with clean loading. Secondly, factor analysis assists in reducing data so that the set of measured variables are combined into summary indices, which maximises variability and reliability (Floyd & Widaman, 1995).

Dadds et al. (2008) conducted an exploratory factor analysis to determine the number of latent factors in their scale. They found that their measure included two non-random dimensions; a cognitive and an affective factor. These factors accounted for 22.32% and 15.03% of the variance respectively. The two factors were found to be uncorrelated, $r = .068$. However, they also found that their scale, although based on items that were designed to capture the affective aspects of empathy, contained three distinct item sets: two distinct subscales for affective and cognitive items and a set that loaded onto both. This is in line with the literature indicating that cognitive and affective empathy are overlapping and interactive processes of empathy (Duan & Hill, 1996).

Research has suggested that there are possibly a number of other factors involved in empathy that could be added to the theoretical construct of empathy (Decety, 2010; Zhang et al., 2014).Recent research, validating the GEM in a Chinese population, performed an exploratory factor analysis on the GEM and what emerged was a three factor model: affective, cognitive and behavioural. Each factor accounted for 20.18%, 11.8% and 12, 95% of total variance, respectively. When they compared their results to the two-factor model of Dadds and colleagues (2008), the cognitive items loaded perfectly onto the cognitive subscale. However, the affective items did not all load onto the affective factor but also onto the behavioural factor. The behavioural factor included items that loaded onto both cognitive and affective factors in the original GEM (Dadds et al., 2008). The explanation given for the inconsistent findings between Dadds et al. (2008) and Zhang et al. (2014) was the adoption of different methods of analysis regarding identification of factors. Dadds et al. (2008) employed the Velicer's minimum average partial and Parallel Analysis (O'Connor, 2000) while Zhang et al. (2014) utilised the scree plot method.

However, may be that the GEM taps three forms of empathy. The behavioural component was defined as overt behaviour that people display, which reflects empathy (Zhang et al., 2014). For example item 2, 'I treat cats and dogs like they have feelings' is an item that a taps behavioural manifestation of empathy. Examining the findings in this study of the Simplified 3-point GEM, it is clear to see items that did not load onto the correct factor such as item 2 'My child treats dogs and cats as though they have feelings like people' and item 9, 'My child gets upset when another person is acting upset' have a behavioural

component to them. Compared to the findings of Zhang and colleagues (2014) affective items that loaded onto the behavioural factor were items 15 (‘I feel sad when watching sad movies or TV’) and item 22 (‘I act happy when another person is acting happy’) which in the Simplified 3-point GEM loaded onto the affective factor. The majority of the loadings of the Simplified 3-point GEM were below .500 which is problematic (Field, 2009), indicating that the scale’s items may have to be reviewed.

For this study a scree plot examination was done and it showed that there were definitely two factors; cognitive and affective. When compared with the two-factor model of Dadds et al. (2008), the cognitive items loaded perfectly onto the cognitive factor, which was also found in the findings of Zhang et al. (2014). However, in this study, only half of the affective items loaded onto the affective factor suggesting that another factor might be involved. Note that the results of the exploratory factor analysis can only be considered as a preliminary examination of possible trends because of the small sample size. However, because of the strong presence in the literature and in the original GEM of the two subscales, it was important to give some consideration of whether the items load onto these factors.

In conclusion, the preliminary findings of the factor analysis were inconsistent with those of Dadds et al. (2008), suggesting that the factor loadings of the items were more variable than expected. One possibility is that this may be due to the intricate connection between affective and cognitive empathy (Duan & Hill, 1996).

The original QCAE derived a two-factor model from a five-factor solution, which looked at incorporating items that covered components of cognitive empathy like perspective taking and online simulation, which is the ability to consider the situation from someone else’s perspective and imagine what they are feeling (Reniers et al., 2011). For affective empathy, the items had to cover components like: emotion contagion, which refers to the ability to mirror of the feelings of others; peripheral responsivity, which refers to the detached response someone has when witnessing the mood of others; and proximal responsivity, which is similar to peripheral but referring to the affective response (Reniers et al., 2011).

The two-factor model of the QCAE was examined in this study by conducting a factor analysis and found that only four of the thirty-one items did not load onto the correct factors. This suggests that the QCAE is better designed with items that are clearer to understand than the Simplified 3-point GEM. Furthermore, the majority of the QCAE factor loadings were above .5 compared to the Simplified 3-point GEM (Appendix I). The QCAE’s latent structure fitted with the theoretical separation of cognitive and affective components of dispositional

empathy. Taking this into consideration and the examination of the construct validity of the two measures it is clear to see that the QCAE is better than the Simplified 3-point GEM.

To further examine validity, gender differences in empathy and convergent validity were examined for the Simplified 3-point GEM.

Sex differences in Empathy

Females scored significantly higher on affective empathy and overall empathy scores than males; however differences found between genders on the cognitive subscale were not significant. These results are consistent with the literature in that, in general, females appear to be more empathic than males (Baron-Cohen & Wheelwright, 2004; Hoffman, 1977; Jolliffe & Farrington, 2006; Lennon & Eisenberg, 1987). The findings from the Simplified 3-point GEM are thus consistent with the commonly reported sex differences of empathy.

Relationship between the Simplified 3-point GEM and the QCAE

Theoretically, both the Simplified 3-point GEM and the QCAE measure cognitive and affective empathy and therefore, a strong positive relationship between those scales would be expected (Dadds et al., 2008; Reniers, 2011). There was a positive correlation between the overall Simplified 3-point GEM and the QCAE scales' total scores suggesting acceptable convergent validity. The Simplified 3-point GEM's affective subscale did have a significant correlation with the affective subscale of the QCAE which is in line with the theoretical assumption. However, the Simplified 3-point GEM's cognitive subscale did not have a significant correlation with the cognitive subscale of the QCAE indicating that there might be a problem with the Simplified 3-point GEM cognitive scale.

The correlation between the affective subscales of the two measures had a small association while the correlation between the cognitive subscales had a trivial association. This is notable, given that in the factor analysis, the factor loadings of the affective subscale of the Simplified 3-point GEM performed worse than the factor loadings of the cognitive subscale. The difficulty with the cognitive subscale may be due to the possibility that parents may be less able to accurately report on what their children think than on what they feel as it may be easier to see affective responses. However, the cognitive subscale on QCAE performed well making this less likely. Again, some cause for concern regarding the SGEM is noted.

Limitations and Future Directions

The first limitation of the study was the small sample size which was not large enough to draw conclusive results from the factor analyses. Furthermore, because of the sample size a

confirmatory factor analyses could not be conducted in order to examine the construct of empathy (Floyd & Widaman, 1995). A potential direction for future research would be to investigate and scrutinize the Simplified 3-point GEM items by conducting a confirmatory factor analysis in order to provide stronger findings regarding the latent constructs. This would require the recruitment of a larger sample of participants as this was not possible in this study because of time constraints. Additionally, time constraints prevented assessment of test-retest reliability.

This study recruited participants based on particular demographic characteristics (i.e. participants had to be proficient in English) within a particular region in this case being Cape Town, Western Cape. The findings from this study are not generalizable to other population groups as the majority of the participants were coloured and recruited from a specific socioeconomic bracket (see Table1). This study thus has limited external validity and it is therefore necessary to replicate this research in different population groups and socioeconomic brackets. This would require a revised version of the Simplified 3-point GEM that incorporates culturally appropriate items. Furthermore, translating the Simplified 3-point GEM into other widely spoken local languages such as isiXhosa, Afrikaans and isiZulu could be an area to explore. These findings may provide an opportunity for further cross-cultural studies of empathy.

Significant statistical evidence for strengthening validity of the Simplified 3-point GEM could be acquired by comparing the predictive value of the Simplified 3-point GEM for criteria such as aggression to that of an alternative parent-report measure. Alternatively, comparison of parent-report measures to observational or child-based measures would be valuable, as research has shown that parent-report measures are susceptible to social bias and therefore may not accurately reflect their child's actual behaviours (Lennon & Eisenberg, 1987). Future research should aim to determine whether other types of empathy measures correlate with parent-reported levels of cognitive and affective empathy in children as measured by the Simplified 3-point GEM. Despite these limitations and the preliminary nature of this study, the results suggest acceptable psychometric properties of the Simplified 3-point GEM.

Future studies are required to examine the definition and how to operationalise empathy in order to create more concise measures. The Simplified 3-point GEM should be refined so the items are culturally appropriate and understandable in order to create a measure that can accurately gauge childhood empathy. It is important to develop an appropriate measure especially in terms of intervention where it is important to be able to identify and

target problematic areas. Therefore, high reliability and validity is required. Once we have a reasonably reliable measure, we can start to address the problems present in South Africa such as empathy-related risk factors for violence and crime.

Conclusion

The generally accepted definitions of cognitive and affective empathy were utilised in line with previous research and an adapted version of the GEM assessing these empathic components was employed in a Western Cape population. Reliability and factor structure of the Simplified 3-point GEM were examined. Girls showed significantly higher levels of affective and overall empathy than boys. Furthermore, construct and convergent validity were examined and compared with the QCAE. The Simplified 3-point GEM seems to be an acceptable tool for screening cognitive and affective empathy as it is easy to administer with only 20-items. However, the QCAE is the better parent-report measure to use in the Western Cape but it is a longer questionnaire than the Simplified 3-point GEM, and therefore more time consuming to administer. This study showed there are two usable parent-report measures for the Western Cape (Simplified 3-point GEM and QCAE) and this is an important contribution to research in childhood empathy as parent-report measures are an important part of any multi-method study of empathy.

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Appendix A

UNIVERSITY OF CAPE TOWN

DEPARTMENT OF PSYCHOLOGY

The Development of Empathy

Assent Form

Hello! We want to tell you about a research study we are doing. A research study is a way to learn more about something. We would like to find out more about how people understand what other people are feeling and thinking.

If you agree to join this study, you will be shown some pictures on the computer and we will ask you how you feel about them. You will also be asked to do some other tasks, like tell us the meaning of some words, play a game of cards, and we will also ask you to answer questions about short stories we will read to you.

Together these tasks will take about 90 minutes. We will take a break after you've done some of the tasks, and complete the rest of the tasks on a different day. We can take other short breaks too if you get tired.

You do not have to join this study. It is up to you. No one will be angry with you if you don't want to be in the study or if you join the study and change your mind later and stop.

Do you have any questions about the study? If you think you can do it and you don't have any more questions about it, will you sign this paper? If you sign your name below, it means that you agree to take part in this study.

Child's Signature: _____ Date: _____

Researcher's Signature: _____ Date: _____

Appendix B

Study Description and Consent Form

UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

The Development of Empathy

Dear Parent/Legal guardian,

You and your child are invited to participate in a research study investigating the development of empathy in children. This study focuses on how children of different ages share what other people are feeling and understand what others feel and think.

Principal Researchers:

Dr Susan Malcolm-Smith
Senior Lecturer
Department of Psychology
University of Cape Town

Lea-Ann Pileggi
Doctoral candidate
Department of Psychology
University of Cape Town

What is involved in this study?

Approximately 240 Grade 1 and Grade 7 children will participate in this study. If your child participates, a researcher will guide her/him through several tasks. For example, in one task, children will be asked to view pictures of hands or feet in neutral situations (e.g. a hand opening a door) or in situations that could be painful (e.g. a hand getting stuck in a door). After viewing these pictures, children will be asked how sorry they feel for the person, and how much pain they think that person might be feeling. All pictures are appropriate for children as young as 3 years of age and have been taken from situations children readily observe in every-day life.

Additionally, children will complete a number of pencil and paper tasks. In one such task, your child will answer questions about short stories. These questions will look at their ability to take another person's point of view. Children will also play a game of cards and will be asked how they felt during that game when they won and when they lost. Altogether this study will take about 90 minutes of your child's time. Two sessions (45 minutes each) will take place during the school day. We will take a break after completing some of the tasks, and take additional short breaks if your child gets tired.

We also have a number of questionnaires (aside from the Demographics questionnaire) that will ask you questions about your own views and questions about your child's views. Your completion of these documents is completely voluntary. Should you agree to completing

these additional questionnaires, we will contact you to arrange a time to meet at your child's school, for you to complete them.

Are there any benefits to taking part in the study?

Your child will receive some sweets for her/his participation, as well as some stickers of her/his choice, and you will receive R150 if you complete all questionnaires. More importantly, should we identify any behavioural or learning difficulties that are likely to affect your child's capacity to learn, we will provide you with written feedback, and referrals to appropriate service providers where necessary. Furthermore, the results of this research could provide essential information about how children process emotional information and this may be helpful in planning effective educational programs for children with social difficulties.

What are the risks of the study?

There are no risks to you or your child through participating in this research. However, if any child does become at all upset, or tired, she or he may stop participating at any point. We would like to emphasise that participation in this study is entirely voluntary, and will not affect your child's education. All results will be securely stored, and kept strictly confidential. If you would like your child to participate in the study, please complete the consent form, as well as the demographics survey, and return to your child's school. Please answer all the questions as accurately and truthfully as possible. We understand that some of this information may be sensitive, but be assured that all information will be kept strictly confidential.

Should you have any questions or queries about the research or your participation, please do not hesitate to contact Lea-Ann Pileggi: (email) leapileggi@gmail.com, or Susan Malcolm-Smith: (phone) 021 650 4605, (email) Susan.Malcolm-Smith@uct.ac.za.

Thank you for your participation.

CONSENT FORM

The research project and the procedures associated with it have been explained to me. I hereby give my permission for my child to participate in the above-described research project.

Child's name: _____ Parent/guardian's name: _____

Date: _____ Signature of parent/guardian: _____

Please provide a contact number below should you be willing to complete the additional questionnaires (for which you will be compensated with R150 upon completion), and indicate which time/s would be most convenient to receive a phonecall to arrange a time for you to meet with the researcher to complete the questionnaires.

Phone: _____ Time/s: _____

Appendix C

DEMOGRAPHICS QUESTIONNAIRE

International research guidelines suggest that researchers report some attributes of all research participants (e.g., children's gender, parents' educational background, etc.). To help us collect this information, we are asking you to complete this brief questionnaire. All your answers are kept private, and won't be used in a way that identifies you or your child. If you are uncomfortable answering any of the items, feel free to ignore them.

Today's Date: _____

Who is completing this questionnaire? (Please √)

☐ Biological parent ☐ Grandparent ☐ Nanny
☐ Foster parent ☐ Aunt/Uncle ☐ Friend
☐ Other: _____
☐ Stepparent ☐ Sibling

Are you the child's primary caregiver? (Circle one) Y / N

Your gender: M / F

Child's Information

Child's date of birth (including the year): _____

Child's gender: M / F

Child birth order: Child number _____ out of _____ children.

Ages of siblings: Boy / Girl Age: _____

Boy / Girl Age: _____

Boy / Girl Age: _____

Child's height (in cm):_____ Child's weight (in kg): _____

Child's home language: _____

Child's race (Please √):

☐ Black South African ☐ Coloured ☐ Indian
☐ Other:
☐ Black African (Other) ☐ White/Caucasian

(Please

Please list any serious health problems this child has had:

_____

_____

_____

Was this child born more than two weeks early? Y / N

Please list any medications this child is taking for behaviour issues, attention difficulties, or issues related to moods and feelings:

_____

_____

_____

_____

Does this child currently attend (Please √):

☐ Daycare/Crèche
☐ Preschool
☐ Grade R
☐ Primary school (Grade: _____)

Household Information

Who does this child currently live with? (Please √ **all** that apply)

☐ Biological parent
☐ Foster parent
☐ Stepparent
☐ Grandparent
☐ Aunt/Uncle
☐ Sibling
☐ Nanny
☐ Friend
☐ Other: _____

Who is this child's primary caregiver?

☐ Biological parent
☐ Foster parent
☐ Stepparent
☐ Grandparent
☐ Aunt/Uncle
☐ Sibling
☐ Nanny
☐ Friend
☐ Other: _____

Languages currently spoken at home:

Home language:_____

Other: _____

Religion(s) practiced in the home: _____

Primary Caregiver Information

Current age: _____

Marital Status:

☐ Married ☐ Divorced ☐ Widow/Widower
☐ Single ☐ Remarried ☐ Separated

Current job title:

Mother: _____

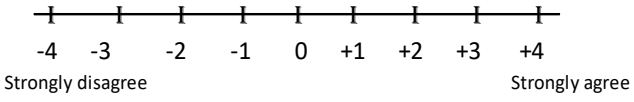
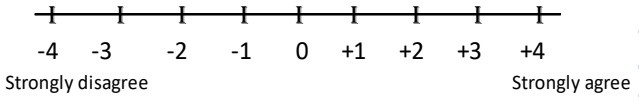
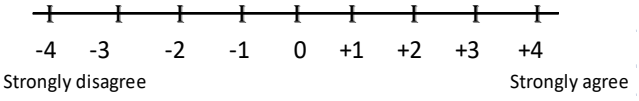
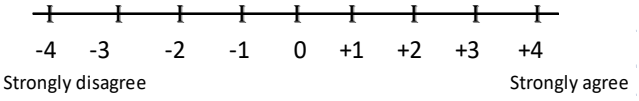
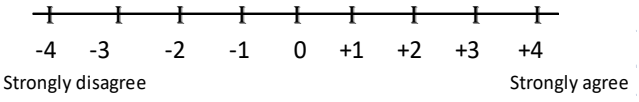
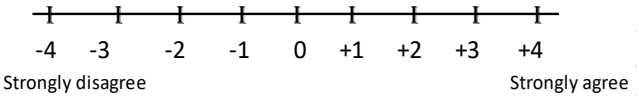
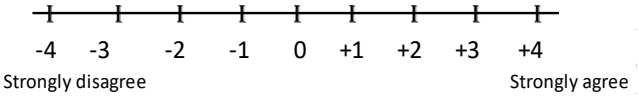
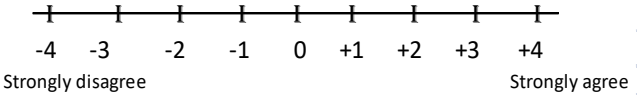
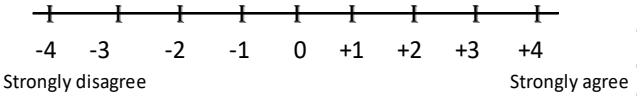
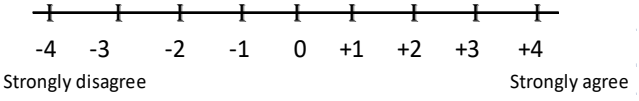
Father: _____

Primary caregiver: _____

Appendix D

The GEM

The Griffith Empathy Measure		Page 1/2
1	It makes my child sad to see another child who can't find anyone to play with.	-4 -3 -2 -1 0 +1 +2 +3 +4 Strongly disagree Strongly agree
2	My child treats dogs and cats as though they have feelings like people.	-4 -3 -2 -1 0 +1 +2 +3 +4 Strongly disagree Strongly agree
3	My child reacts badly when he/she sees people kiss and hug in public.	-4 -3 -2 -1 0 +1 +2 +3 +4 Strongly disagree Strongly agree
4	My child feels sorry for another child who is upset.	-4 -3 -2 -1 0 +1 +2 +3 +4 Strongly disagree Strongly agree
5	My child becomes sad when other children around him/her are sad.	-4 -3 -2 -1 0 +1 +2 +3 +4 Strongly disagree Strongly agree
6	My child doesn't understand why other people cry out of happiness.	-4 -3 -2 -1 0 +1 +2 +3 +4 Strongly disagree Strongly agree
7	My child gets upset when he/she sees another child being punished for being naughty.	-4 -3 -2 -1 0 +1 +2 +3 +4 Strongly disagree Strongly agree
8	My child seems to react to the moods of people around him/her.	-4 -3 -2 -1 0 +1 +2 +3 +4 Strongly disagree Strongly agree
9	My child gets upset when another person is acting upset.	-4 -3 -2 -1 0 +1 +2 +3 +4 Strongly disagree Strongly agree
10	My child likes to watch other people open presents, even when he/she doesn't get one themselves.	-4 -3 -2 -1 0 +1 +2 +3 +4 Strongly disagree Strongly agree
11	Seeing another child who is crying makes my child cry or get upset.	-4 -3 -2 -1 0 +1 +2 +3 +4 Strongly disagree Strongly agree
12	My child gets upset when he/she sees anther child being hurt.	-4 -3 -2 -1 0 +1 +2 +3 +4 Strongly disagree Strongly agree
13	When I get sad my child doesn't seem to notice.	-4 -3 -2 -1 0 +1 +2 +3 +4 Strongly disagree Strongly agree

14	Seeing another child laugh makes my child laugh.	
15	Sad movies or TV shows make my child sad.	
16	My child becomes nervous when other children around him/her are nervous.	
17	It's hard for my child to understand why someone else gets upset.	
18	My child gets upset when he/she sees an animal being hurt.	
19	My child feels sad for other people who are physically disabled (e.g., in a wheelchair).	
20	My child rarely understands why other people cry.	
21	My child would eat the last biscuit on the plate, even when he/she knows that someone else wants it.	
22	My child acts happy when another person is acting happy.	
23	My child can continue to feel okay even if people around are upset.	

Appendix E

The Simplified 3-point GEM

Please read each statement below and indicate the extent to which you agree or disagree. Mark your answers by placing a cross on the appropriate point on the line. Please complete all questions.

Example: If you somewhat agree with the statement, you would place a cross as indicated below.

Never	Sometimes	Always
✕		

1. It makes the child sad to see another child who can't find anyone to play with.

Never	Sometimes	Always

2. My child treats dogs and cats as though they have feelings like people.

Never	Sometimes	Always

3. My child reacts badly when he/she sees people kiss and hug in public.

Never	Sometimes	Always

4. My child feels sorry for another child who is upset.717 1158

Never	Sometimes	Always

5. My child becomes sad when other children around him/her are sad.

Never	Sometimes	Always

6. My child doesn't understand why other people cry out of happiness.

Never	Sometimes	Always

7. My child gets upset when he/she sees another child being punished for being naughty.

Never	Sometimes	Always

8. My child seems to react to the moods of people around him/her.

Never	Sometimes	Always

9. My child gets upset when another person is acting upset.

Never	Sometimes	Always

10. My child likes to watch other people open presents, even when he/she doesn't get one themselves.

Never	Sometimes	Always

11. Seeing another child who is crying makes my child cry or get upset.

Never	Sometimes	Always

12. My child gets upset when he/she sees another child being hurt.

Never ☐ Sometimes ☐ Always ☐

13. When I get sad my child doesn't seem to notice.

Never ☐ Sometimes ☐ Always ☐

14. Seeing another child laugh makes my child laugh.

Never ☐ Sometimes ☐ Always ☐

15. Sad movies or TV shows make my child sad.

Never ☐ Sometimes ☐ Always ☐

16. My child becomes nervous when other children around him/her are nervous.

Never ☐ Sometimes ☐ Always ☐

17. It's hard for my child to understand why someone else gets upset.

Never ☐ Sometimes ☐ Always ☐

18. My child gets upset when he/she sees an animal being hurt.

Never ☐ Sometimes ☐ Always ☐

19. My child feels sad for other people who are physically disabled (e.g, in a wheelchair).

Never ☐ Sometimes ☐ Always ☐

20. My child rarely understands why other people cry.

Never ☐ Sometimes ☐ Always ☐

21. My child would eat the last cookie in the cookie jar, even when he/she knows that someone else wants it.

Never ☐ Sometimes ☐ Always ☐

22. My child acts happy when another person is acting happy.

Never ☐ Sometimes ☐ Always ☐

23. My child can continue to feel okay even if people around are upset.

Never ☐ Sometimes ☐ Always ☐

Completed by: ☐ Mother ☐ Father ☐ Other _____

Appendix F

QCAE (Child)

People differ in the way they feel in different situations. Below you are presented with a number of characteristics that ***may or may not apply to your child***. Read each characteristic and indicate how much you agree or disagree with the item by selecting the appropriate box. Answer quickly and honestly.		Strongly agree	Slightly agree	Slightly disagree	Strongly disagree
1.	My child sometimes finds it difficult to see things from another's point of view.				
2.	My child is usually objective when he/she watches a film or play, and doesn't often get completely caught up in it.				
3.	My child tries to look at everybody's side of a disagreement before he/she makes a decision.				
4.	My child sometimes tries to understand his/her friends better by imagining how things look from their perspective.				
5.	When my child is upset at someone, he/she will usually try to "put him/herself in the person's shoes" for a while.				
6.	Before criticizing somebody, my child tries to imagine how he/she would feel in their place.				
7.	My child often gets emotionally involved in his/her friends' problems.				
8.	My child is inclined to get nervous when others around him/her seem nervous.				
9.	People my child is with have a strong influence on his/her mood.				
10.	It affects my child very much when one of his/her friends seems upset.				
11.	My child often gets deeply involved with the feelings of a character in a film, play, or novel.				
12.	My child gets very upset when he/she sees someone cry.				
13.	My child is happy when he/she is with a cheerful group and sad when others are glum.				
14.	It worries my child when others are worrying and panicky.				
15.	My child can easily tell if someone else wants to enter into a conversation.				
16.	My child can quickly pick up if someone says one thing but means another.				
17.	It is hard for my child to see why some things upset people so much.				
18.	My child finds it easy to put him/herself in somebody else's shoes.				
19.	My child is good at predicting how someone will feel.				
20.	My child is quick to spot when someone in a group is feeling awkward or uncomfortable.				
21.	Other people tell my child he/she is good at understanding what others are feeling and what others are thinking.				
22.	My child can easily tell if someone else is interested or bored with what he/she is saying.				
23.	Friends talk to my child about their problems as they say that my child is very understanding.				
24.	My child can sense if he/she is intruding, even if the other person does not tell him/her.				
25.	My child can easily work out what another person might want to talk about.				
26.	My child can tell if someone is masking their true emotion.				
27.	My child is good at predicting what someone will do.				
28.	My child can usually appreciate the other person's viewpoint, even if he/she does not agree with it.				
29.	My child usually stays emotionally detached when watching a film.				
30.	My child always tries to consider the other person's feelings before he/she does something.				
31.	Before my child does something, he/she tries to consider how his/her friends will react to it.				

Appendix G

UCT Ethics Approval

UNIVERSITY OF CAPE TOWN

Department of Psychology

University of Cape Town Rondebosch 7701 South Africa
Telephone (021) 650 3414
Fax No. (021) 650 4104

5 March 2013

Dr. Susan Malcolm-Smith
Department of Psychology
University of Cape Town
Rondebosch 7701

Dear Dr Malcolm-Smith,

I am pleased to inform you that ethical clearance has been given by an Ethics Review Committee of the Faculty of Humanities for your project:

The development of moral reasoning

Please use the reference PSY2013-001 if required. I wish you all the best for your study.

Yours sincerely,

Johann Louw PhD
Professor
Chair: Ethics Review Committee

Appendix H

WCED Approval

Directorate: Research

Audrey.wyngaard2@pgwc.gov.za
tel: +27 021 467 9272
Fax: 0865902282
Private Bag x9114, Cape Town, 8000
wced.wcape.gov.za

REFERENCE: 20130315-8009

ENQUIRIES: Dr A T Wyngaard

Dr Susan Malcolm-Smith
Department of Psychology
UCT
Rondebosch

Dear Dr Susan Malcolm-Smith

RESEARCH PROPOSAL: THE DEVELOPMENT OF MORAL REASONING

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.
5. The Study is to be conducted from **29 January 2014 till 30 September 2014**
6. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December).
7. Should you wish to extend the period of your survey, please contact Dr A.T Wyngaard at the contact numbers above quoting the reference number?
8. A photocopy of this letter is submitted to the principal where the intended research is to be conducted.
9. Your research will be limited to the list of schools as forwarded to the Western Cape Education Department.
10. A brief summary of the content, findings and recommendations is provided to the Director: Research Services.
11. The Department receives a copy of the completed report/dissertation/thesis addressed to:

The Director: Research Services
Western Cape Education Department
Private Bag X9114
CAPE TOWN

8000

We wish you success in your research.
Kind regards.
Signed: Dr Audrey T Wyngaard
Directorate: Research
DATE: 30 January 2014

Appendix I

Factor Analysis of the QCAE

Table 4. *Factor loadings of the Two-factor Solution for the 31-item QCAE*

		Component	
		Affective	Cognitive
1.	My child sometimes finds it difficult to see things from another's point of view.		**0.408**
2.	My child is usually objective when he/she watches a film or play, and doesn't often get completely caught up in it.	**0.336**	0.311
3.	My child tries to look at everybody's side of a disagreement before he/she makes a decision.	**0.711**	0.327
4.	My child sometimes tries to understand his/her friends better by imagining how things look from their perspective.	**0.646**	0.562
5.	When my child is upset at someone, he/she will usually try to "put him/herself in the person's shoes" for a while.	**0.494**	
6.	Before criticizing somebody, my child tries to imagine how he/she would feel in their place.	**0.696**	0.318
7.	My child often gets emotionally involved in his/her friends' problems.	**0.594**	0.489
8.	My child is inclined to get nervous when others around him/her seem nervous.	0.269	**0.698**
9.	People my child is with have a strong influence on his/her mood.	0.306	**0.65**
10.	It affects my child very much when one of his/her friends seems upset.	0.68	**0.695**
11.	My child often gets deeply involved with the feelings of a character in a film, play, or novel.	**0.639**	0.524
12.	My child gets very upset when he/she sees someone cry.	0.516	**0.642**
13.	My child is happy when he/she is with a cheerful group and sad when others are glum.	0.44	**0.823**
14.	It worries my child when others are worrying and panicky.	0.615	**0.744**
15.	My child can easily tell if someone else wants to enter into a conversation.	0.796	0.373
16.	My child can quickly pick up if someone says one thing but means another.	0.783	0.353
17.	It is hard for my child to see why some things upset people so much.	0.383	**0.43**
18.	My child finds it easy to put him/herself in somebody else's shoes.	**0.834**	0.419
19.	My child is good at predicting how someone will feel.	**0.718**	0.451
20.	My child is quick to spot when someone in a group is feeling awkward or uncomfortable.	**0.807**	0.402
21.	Other people tell my child he/she is good at understanding what others are feeling and what others are thinking.	**0.786**	0.296
22.	My child can easily tell if someone else is interested or bored with what he/she is saying.	**0.714**	0.446
23.	Friends talk to my child about their problems as they say that my child is very understanding.	**0.779**	0.404
24.	My child can sense if he/she is intruding, even if the other person does not tell him/her.	**0.78**	0.459
25.	My child can easily work out what another person might want to talk about.	**0.793**	0.332
26.	My child can tell if someone is masking their true emotion.	**0.707**	0.24
27.	My child is good at predicting what someone will do.	**0.743**	0.327
28.	My child can usually appreciate the other person's viewpoint, even if he/she does not agree with it.	**0.672**	0.359
29.	My child usually stays emotionally detached when watching a film.	0.285	**0.346**
30.	My child always tries to consider the other person's feelings before he/she does something.	**0.744**	0.294
31.	Before my child does something, he/she tries to consider how his/her friends will react to it.	**0.748**	0.454

Note. Blank entries are < .2, QCAE = Questionnaire of Cognitive and Affective Empathy.

PLAGIARISM DECLARATION

1. I know that plagiarism is wrong. Plagiarism is using another's work and to pretend that it is ones own.

2. I have used the American Psychological Association (APA) as the convention for citation and referencing. Each significant contribution to, and quotation in, this essay/report/project/… from the work, or works of other people has been attributed and has cited and referenced.

3. This essay/report/project… is my own work.

4. I have not allowed, and will not allow, anyone to copy my work with the intention of passing it off as his or her own work.

Name: Michelle Louw

Student Number: LWXMIC016

Signature: _____

Date: _03/11//2014_