Gender Differences in Empathy: Influences of parenting styles and attachment

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Abstract

The development of empathy is essential to the development of an emotionally healthy and socially well-balanced child. Empathy development tends to be influenced by the early interaction between parent and child through parenting style and attachment. Gender differences in empathy are found and may also be accounted for by the differences in parenting styles and attachment. This quantitative study aimed to identify whether gender differences in empathy were found in parent perceptions of their child's empathic behavior. Furthermore, the extent to which parenting style and attachment influence empathy across genders was also studied. A cross-sectional correlational study was conducted within two primary schools in the Western Cape, with 76 children aged between 9 and 12 and their parent/caregiver. Indirect assessment of empathy was conducted using the Questionnaire of Cognitive and Affective Empathy to measure parent-report of their child's dispositional, cognitive and affective empathy. Level of attachment was measured using the Attachment Style Classification Questionnaire and parenting style was measured using the short form Alabama Parenting Questionnaire. Results showed that gender was a significant predictor of parent-report of child's affective empathy (p =.014), with overall empathy leaning toward significance when modeled with SES (p =.075). Parenting style and attachment were not found to be predictors of empathy across gender. Parent reports indicated that parents reported higher empathic display in girls. This study thus indicates that gender does play a role in empathy development with regards to parent-reports and that attachment and parenting style are not predictors of empathy within the sample.

Keywords: empathy; gender; parenting style; attachment

Gender Differences in Empathy in relation to Parenting Style and Attachment

Background

The development of empathy from the first year of life is essential to the development of an emotionally healthy and socially well-balanced child (Knafo, Zahn-Waxler, Van Hulle, Robinson & Rhee, 2008; Thompson & Gullone, 2008). The development of empathy is influenced by the type of attachment and parenting styles experienced during childhood (Decety, Norman, Bernston, & Cacioppo, 2012). These parental influences are considered to be the cornerstone of empathy development, with much focus placed on maternal parenting and attachment formed during infancy (Fivush, Brotman, Buckner, & Goodman, 2000).

Defining Empathy

For the most part, researchers define empathy in terms of affective and cognitive aspects (Knafo et al., 2008; Volbrecht, 2007). Cognitive empathy refers to whether a person is able to understand others' emotional states whereas affective empathy is described as the ability to be emotionally responsive to others' emotions (Knafo et al., 2008; Volbrecht, 2007).

Attachment and Empathy

Attachment can be defined in biological terms as an innate system in which the infant seeks to form a bond with an attachment figure in order to survive (Decety & Syetlova, 2012). Bowlby (1988), the founder of attachment theory, found the type of attachment formed had a direct effect on the child's thoughts, feelings and how he/she behaves in outside settings and within relationships. The child internalizes the interaction with the parent, which affects the manner in which he/she relates to others (Bretherton, 1992; Pasalichi, Dadds, Hawes, & Brennan, 2012).

Studies have shown that attachment between parent and child impacts empathy in two ways. If a parent facilitates a child's development through connectedness (warmth) and autonomy support (reassurance) then a child is most likely to demonstrate secure attachment (Clark & Ladd, 2000). Formation of a secure attachment occurs through a caregiver's consistent sensitivity and responses to a distressed child's needs (Panfile & Laible, 2012). This attachment with caregiver leads to higher levels of empathy with regards to their peers (Carlo, Mestre, Samper, Tur, & Armenta, 2010). Secure attachment is thought to be the basis of relational competence, development of social skills and prosocial behavior (Carlo et al., 2010). Insecure

attachment, which occurs when caregivers do not respond to child's distress in a consistently sensitive manner, leads to reduced empathy development within child (Clark & Ladd, 2000).

The relationship between child and parent not only impacts on the development of empathy, but also on prosocial and antisocial behavior. Thompson and Gullone (2008), found that a secure attachment led to an increase in a child's confidence to relate to their peers in an empathic way. Securely attached children, who have a greater sense of security, are more likely to respond to the feelings of others and less likely to be preoccupied with their own needs (Thompson & Gullone, 2008).

Affect regulation also impacts empathy, and is impacted by attachment. Children learn to regulate emotion through continuous modeling of how the caregiver responds to their distress (Panfile et al., 2012). Secure children are then more likely than insecure children to be able to regulate their emotions effectively (Hojat, 2007). Having better emotion regulation skills leads to higher levels of empathy, because these individuals are better equipped to deal with their own emotions and can therefore more easily focus on another's emotions when a distressing situation arises (Panfile et al., 2012).

Parenting Styles and Empathy

Past studies have found that the style of parenting impacts directly on a child's development (Decety & Syetlova, 2012; Simons & Conger, 2007). Four main parenting styles were presented by Baumrind and Black (1967). Authoritative parenting style fosters a warm and supportive relationship where parents still enforce rules. Authoritarian parenting style occurs in a distant and unresponsive relationship which emphasizes obedience and strict discipline. Indulgent/permissive parenting style features tolerant parenting where much is accepted and little punishment and authority is displayed. Lastly, uninvolved parenting features a distant and cold interaction with the child.

Children are thought to learn empathic traits through the type of parenting style they experience. They learn how to interact by observing how parents interact with others and with them (Berkowits & Gryth, 1998). Furthermore, parenting styles may influence different empathy levels in boys and girls as parents may socialize their children for the role they are required to take within peer relationships.

The most positive developmental outcome for a child will stem from parents who both demonstrate authoritative parenting, which is the most optimal parenting style (Simons &

Conger, 2007). If one parent displays authoritative parenting and the other does not, then the authoritative parent may compensate for the other parent and still aid the child in positive development (Simons et al., 2007). It appears that permissive and authoritarian parenting lead to lower levels of empathy and pro-social development in children (Schaffer, Clark, & Jeglic, 2009).

Harsh forms of parenting and lack of warmth between parent and child thus affect a child's development negatively: such children are prone to develop conduct problems and callous unemotional traits (Barker, Oliver, Viding, Salekin, & Mayghan, 2011). Callous unemotional traits are characterized by low levels of guilt and decreased empathy (Barker, et al., 2011). This leads to antisocial behaviour, which has been found to differ between boys and girls. Girls evidenced antisocial behavior through removing themselves from social engagement, whereas boys evidenced this through fighting and more aggressive behaviour.

In addition to this, gender differences in parenting may impact empathy development. Fivush and colleagues (2000) found that mothers' parenting technique differed from fathers', in that they were more interactive, spoke about emotional aspects of experience and made use of emotional vocabulary more often than fathers. Girls were found to be more likely to model mothers by talking about how they felt after experiences. Mothers and fathers addressed boys and girls differently by using an emotional tone when speaking to their girls about sad events.

Gender and Empathy

Gender is regarded as an outcome of socialization, constructed through social norms of how a male and female are expected to act (Volbrecht, 2007). It is also biologically determined, as male and female genetic makeup differs. Biological constructs, such as temperament, may shape an individual's ability to display empathy as temperament affects emotionality as well as withdrawal and approach behavior (Volbrecht, 2007). Through social interaction, an individual's temperamental traits can be molded to 'fit' their gender. For example, males, through socialization, are expected to focus on competition, where females are socialized to focus on warmth (Fivush et al., 2000; Volbrecht, 2007).

Empirical studies have found that girls develop empathy earlier than boys (Van der Mark, Van Ijzenoorn & Bakermans-Kranenberg, 2002). By the end of the first year, girls present with more frequent displays of emotion (Fivush et al, 2000). This seems to be due to maternal

parenting, as mothers talk about emotion more often with girls (Fivush et al., 2000).

Furthermore, fundamental differences in empathy between genders are found in psychopathic traits. Psychopathy features reduced affective empathy (i.e., decreased ability to care and feel what others feel), with intact cognitive empathy (i.e., the ability to understand others' feelings). Dadds et al. (2009), pointed out that males who have psychopathic traits display a lack of affective empathy, whereas females do not. Both males and females who have psychopathic traits do however display a lack of cognitive empathy in childhood, but males tend to develop cognitive empathy as they age (Dadds et al., 2009).

Studies indicate that both females and males are able to perceive when someone is in distress, but females are more aware of others' feelings. One explanation is that the reason for differences in empathy may be that females are more prone to put themselves in others' positions and therefore develop an 'expressive role' within the family, whereas males are considered more prone to develop an 'instrumental role' and act as an intermediary between the family and other institutions (Hoffman, 1977; Page & Bretherton, 2010). Volbrecht (2007) highlights that socialization plays an integral part in the differences seen in empathy across gender.

Rationale, Research Aim and Questions

Much research has looked at parenting styles and attachment as major predictors of a child's empathic development, but it has not examined the role these parenting factors play in predicting empathic ability across genders. Few studies have considered gender differences in empathy and how these are formed. Existing research on gender differences regarding empathy has focused on the biological and cultural explanation for these differences. As empathy is learned through parental influences, it is essential to address the question of whether parenting styles and attachment influence gender differences in empathy.

The aim of this study was to investigate whether different parenting styles (authoritative, authoritarian and permissive) and different forms of attachment (secure, anxious/ambivalent and avoidant) are related to gender differences in empathy. This study also investigated parents' perception of their child's empathy across dispositional, cognitive and affective measures. The latter question aimed to evaluate whether parents' perception of their child's empathic behavior varies across gender.

This study further provided significance by aiding in the explanation of male and female differences in empathy. As previous research identifies cultural and genetic factors as explanations for gender differences in empathy, this study looked at these differences from a parenting point of view.

The following hypothesis were tested:

H_1: Gender will predict parent-report of empathy, with girls being rated as more empathic.

H_2: Parenting styles will contribute to the association between gender and parent-report of empathy (either directly or by mediating the relationship between gender and empathy).

H_3: Attachment will contribute to the association between gender and parent-report of empathy (either directly or by mediating the relationship between gender and empathy).

Methods

Design and Setting

This study fell within a larger project examining development of empathy and moral reasoning conducted by the University of Cape Town. This study therefore made use of variables and measures employed in the larger study. Important to note is that the variables chosen for this study were a selected few from the total pool of variables, and that this study's objectives did not fall within the objectives of the larger study.

The study was cross-sectional and correlational in nature. This design allows for (1) the investigation of the relationship between parenting styles, attachment type and gender differences with regard to empathic behavior, and (2) comparison and evaluation of the difference between parents' perception of their child's overall, cognitive and affective empathy.

Data was collected from both parents and children. Testing for children was conducted at schools, in a room that has few distractions. Parents completed questionnaires telephonically or through interviews.

Participants

Out of a sample of eighty children (40 girls and 40 boys), seventy six children (36 girls and 40 boys; age range 9 - 12 years) and their parents participated in this study. An equal gender ratio was obtained, with gender balance across age. Child participants were recruited from two primary schools in the Western Cape; both schools serve low – middle socio-economic status communities. Purposive sampling was employed, as child participants were selected on the basis of specific age and gender.

Inclusion and exclusion criteria. Both females and males were included in the study; a close to equal number of female and male participants ensured that gender differences in empathy could be investigated. Furthermore, only children between the ages of 9 and 12 years were included, as this age group would better illustrate the long term effects of parenting styles and attachment on empathy than a younger age group. In addition to this, only children who were fluent in English and who are coloured were included. For the small project, this study aimed for a relatively homogenous sample thereby excluding the influence of other demographic variables such as race and language by only including coloured child participants. Expanding the

participant base to other racial groups was not possible given the time constraints for this study.

Children with a history of head injury, infantile meningitis, or any neurological condition were excluded. Furthermore, as this study relied on the participation of both parent and child, it was vital that consent for the participation of both informants was granted. Parents who did not consent to participating in the completion of the parenting style and attachment questionnaires, therefore excluded both themselves and their child from the study.

Measures

Demographic questionnaire. Parent participants completed a demographic questionnaire which included demographic information of both parent and child (see Appendix A). For example, child information included age, home language, sex and ethnicity, which was used for the exclusion and inclusion criteria. Parent information included level of education, type of employment and monthly income as well as household assets, which was used to determine the socioeconomic status (SES) of the household.

Child measures.

Dispositional cognitive, affective and overall empathy. The Questionnaire of Cognitive and Affective Empathy (QCAE) is originally a self-report questionnaire used to assess dispositional affective empathy (i.e., ones' ability to display emotions related to others emotional state) and dispositional cognitive empathy (i.e., to understand others' emotional state) (Lockwood, Seara-Cardoso & Viding, 2014) (see Appendix B). A parent-report version was completed in order to measure how the parent perceives their child's cognitive, affective and general empathic traits.

The QCAE has 31 items used to assess affective and cognitive empathy (Reniers, Corcoran, Drake, Shyrane & Vollm, 2011). The affective empathy questions measure how well the participant can regulate and match their own emotions to others, how participants respond emotionally to the emotions of individuals to whom they share a close relationship and individuals who are separated from the present context (Micheals, Horan, Ginger, Martinovich, Pinkham, & Smith, 2014). For example, "My child is happy when he/she is with a cheerful group and sad when others are glum". The cognitive empathy questions measure if the participant is able to view things from others' perspective, and how much effort the participant makes to

understand others' emotions. For example, "My child sometimes finds it difficult to see things from another's point of view". Each item or statement is answered by selecting one of four options i.e., "strongly disagree", "slightly disagree", "slightly agree" or "strongly agree".

The QCAE has been established as a reliable and valid measure of both dispositional, cognitive and affective dispositional empathy (Lockwood, Seara-Cardodo &Viding, 2014). 2014). This measure proved to be reliable in a similar sample within the Western Cape, by a study conducted with 92 participants, having Cronbach alpha's of 0.88 for cognitive empathy and 0.94 for effective empathy (Lockwood et al, 2014).

Attachment style.The Attachment style Classification Questionnaire (ASCQ), originally a self-report questionnaire, was employed to assess parent-child attachment style (Finzi, Cohen, Sapir & Weizman, 2000) (see Appendix C). This questionnaire was adapted from Hazan and Shaver's (1987) Attachment questionnaire for adults, and is suitable for children aged 7-14 years. A modified parent-report version was completed by parent participants.

The ASCQ consists of 15 items addressing Ainsworth's three types of attachment styles (i.e., secure, anxious/ambivalent, and avoidant). The questionnaire consists of questions such as, "My child sometimes feels that others don't want to be good friends with him/her as much as he/she does with them" or "My child finds it uncomfortable and gets annoyed when someone tries to get too close to him/her". Parents were asked to indicate whether the statement is "true", whether they are "unsure" or whether it is "untrue".

Validity and reliability for ASCQ was found by a study conducted by Finzi-Dottan, Manor and Tyano (2006), which found an internal consistency of $\alpha = .80$ for the anxious component and $\alpha = .70$ for the avoidant component.

Parent measure.

Parenting style. The short form Alabama Parenting Questionnaire (APQ; Shelton, Frick, & Wootton, 1996; Elgar et al., 2006) was used to assess parenting style (see Appendix D). The APQ is a short and reliable measure of parenting practices, namely (1) "positive parenting", (2) "inconsistent discipline", (3) "poor supervision". The APQ consists of 9 items which include questions such as "You threaten to punish your child and then do not actually punish him/her" or "You compliment your child after he/she has done something well", which are rated on a 5 point scale ("never", "almost never", "sometimes", "often", or "always"). It assesses three styles of

parenting namely, authoritative, authoritarian and permissive.

The APQ proved to be valid and reliable when testing various racial groups. A study conducted by Clerkin, Marks, Policaro and Halperin (2007) found Cronbach alpha levels of 0.82 for positive parenting, 0.74 for inconsistent parenting, when assessing parents of children who were Asian, African American and mostly Caucasian. A similar study by Wells, Espstein, Hinshow, Conners, Klaric, Abramowitz., . . . Wigal (2012) found Cronbach alpha levels of 0.92 for positive parenting and 0.81 for inconsistent parenting, when conducted with Caucasian and African American participants.

Procedure

Recruitment. Participants were recruited via forms sent home with children for parents to complete. Three forms were sent home: (1) an information form (see Appendix E), which informed the parents about the larger study and what tests would be done, (2) a consent form (See Appendix F), asking parents for consent for both their child and their own participation and (3) the demographic questionnaire. These forms were collected by the researcher from the school via the child.

Collection of data from child. Children whose parents gave consent for them to partake in the study, were seen for two individual sessions with the researcher, on separate days. Written informed assent was obtained from the child on the first day of assessment. Session one included the Empathy for pain task which took between 5 and 10 minutes (within the 45-60 minute timeframe for data collection for the larger study). Session two included the ToM battery which took approximately 45-60 minutes. The child received breaks in between the tasks if needed. The child was adequately thanked and debriefed at the end of sessions.

Parent data collection. Only parents who consented for both their child and themselves to participate in the study were contacted by the researcher to set up a time and date where they completed the questionnaires. The full set of questionnaires took between 60 and 90 minutes to complete and a researcher was present throughout the completion so that any queries could be addressed. After completing the questionnaires, parents received R100 compensation and were adequately debriefed.

Ethical Considerations

This study fell within a broader study for which ethical approval has been granted by the University of Cape Town's Ethics Board (see Appendix H). Permission to recruit participants from the two schools within this study was approved by the Western Cape Educational Department as well as the principals of these schools. Ethical guidelines stipulated by the Health Professions Council of South Africa (HPCSA) and the University of Cape Town (UCT) for the use of human participants within research were adhered to within this study.

Before any tests were conducted, parents/caregivers received an information sheet informing them fully about the study. Parents/caregivers were also provided with an informed consent form on which they indicated whether they would like to be involved in the study as well as their child. The child was given an assent form (see Appendix G) before sessions commenced. Parents/caregivers were informed that even if they gave consent, they or the child could withdraw from the study at any time, without consequence.

Parents were assured that all data collected will be kept confidential during and after data collection. Confidentiality was adhered to as data will only be used for research purposes, data is kept safely on University premises and the names of schools and participants involved will not be disclosed. Furthermore, this study did not expose participants involved to any form of risk. During the session, the child was given intervals to rest if fatigued.

During both sessions, children were given stickers and sweets as part of the tests that were conducted. Parents received compensation of R100 upon completing all questionnaires. Thanks were given at the end of sessions with both child and parent. At the end of the year, schools and parents involved in the study will be given feedback on the results obtained.

Statistical Analysis

Statistical analysis was done using IBM SPSS Statistics (version 20) (IBM Cooperation, 2013). The first hypothesis was assessed by conducting a Hierarchical Multiple Regression Analysis with gender as the main predictor variable for parent-report of empathy (outcome variable) with the hypothesis that gender will predict parent-report of empathy (overall, cognitive and affective), with girls being rated more empathic. Control variables included age in months and SES. The second and third hypothesis were also investigated via the above mentioned hierarchical multiple regression which assessed whether (1) parenting styles (authoritarian,

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authoritative and submissive) and (2) attachment (secure, anxious/ambivalent and avoidant) are predictors of parent-report of empathy; gender was added to the model to examine its effects above those of these variables.

Gender Differences in Empathy in relation to Parenting Style and Attachment

Results

Sample Characteristics

The final sample of the study consisted of 76 children (age range: 9-12; 40 males and 36 females) and their care-giver/parent. The participants were roughly matched on gender, but numbers were not exactly equal due to exclusion criteria. Out of an original sample size of 80 participants, four were excluded on the basis of their home language. Only participants with a home language of English of Afrikaans or both were retained and those whose home language were isiXhosa were excluded as the assessment measures were in English or Afrikaans. All the participants were coloured.

Table 1

Demographic Characteristics of Sample

Sample Characteristic	Group			Signifcance Across Sex	
	Male	Female	Overall	*t*	*p*
	(*n* = 40)	(*n* = 36)	(*n* = 76)		
Age range (years)	9-12	9-12	9-12	-	-
Age (years)					
M (*SD*)	129.28 (15.70)	131.53 (14.68)	130.34 (15.17)	-.644	.522
Home language English: Afrikaans: English and Afrikaans[a]	30: 7: 3	32: 1: 3	62: 8: 6	-	-
SES					
Highest Level of Education	4.80 (.91)	4.97 (1.13)	4.88 (1.02)	-.733	.466
Total Family Income	119050 (126294)	138177.78 (137148.98)	128110.53 (131013.32)	-.633	.529

Note: Chi-square could not be run for home language as the numbers are too small in the non-English groups (expected value less than 5). Means and standard deviations presented in parentheses.

Socioeconomic status (SES). Two indices were used for SES, namely mother's level of education and total family income**.** As can be seen in Table 3 there is a small but significant negative correlation between mother's level of education and parent report of dispositional and cognitive empathy. Therefore as mother's level of education goes up, parents rate their children as less empathic on the QCAE with regards to cognitive and overall dispositional empathy.

Parenting style. For analysis parenting style was treated as a continuous variable. It was reverse coded across the two negative parenting practice styles namely; inconsistent discipline and poor supervision, while scores for positive parenting were doubled (to put them on the same scale as the negative scales). The coded data for these three styles were then totaled and put on a continuum with a higher positive score indicating positive parenting (adaptive) whereas increasing negative scores indicate poor parenting (maladaptive). This totaled continuous score was used when running analysis.

Attachment. For analysis the attachment between parent/caregiver and child was treated as a continuous variable. It was reverse coded across the two negative forms of attachment namely; anxious and insecure, while scores on secure attachment items were doubled (to put them on the same scale as negative scores). The scores were totaled and put on a continuum with a higher positive score indicating a more secure attachment and a higher negative score indicating a more insecure attachment. This totaled continuous score was used when running analysis.

Dispositional empathy. Each child's dispositional, or trait, empathy was measured using the Questionnaire of Cognitive and Affective Empathy (QCAE), a parent report measure of child's empathy. For descriptive analysis indirect empathy was treated as a continuous variable. The scale has two subscales, for cognitive and affective empathy. The data for these two forms of empathy was totaled in order to get a score for the parent's report of the child's overall dispositional empathy. The cognitive, affective and overall scores of parent reported empathy were used separately to make comparisons during analysis.

Table 2
Descriptive Statistics for Parent Participant Measures

Measure	Group		Significance Across Sex	
	Male (*n*=40)	Female (*n*=36)	*t*	*p*
Dispositional cognitive empathy (QCAE)	3.97 (12.46)	5.07 (10.21)	-0.42	0.677
Dispositional affective empathy (QCAE)	3.98 (9.82)	8.97 (7.17)	-2.55	0.013*
Dispositional empathy (QCAE)	7.94 (18.73)	14.04 (13.72)	-1.63	0.108
Attachment (ASCQ)	8.33 (5.67)	7.92 (5.44)	0.32	0.751
Parenting style (APQ)	3.15 (5.77)	3.44 (4.68)	-0.24	0.809

Note: Means and standard deviations presented in parentheses.*Correlation is significant at the 0.05 level (2-tailed)

Gender differences. As we are interested in investigating differences across gender, descriptive statistics can be seen in Table 2. Furthermore, independent-samples t-tests were run to see if there were any significant differences across gender. As we can see, a gender difference was only found in parent-report of dispositional affective empathy, with girls' scoring significantly higher than boys. No significant differences were found on parent-report of dispositional cognitive or overall empathy, nor were there any significant gender differences in attachment or parenting style.

Table 3
Correlations between SES and Variables of Interest

Variables correlated with SES	Highest level of Income		Mothers Education	
	r	*p (2-tailed)*	*r*	*p (2-tailed)*
Gender	0.07	0.675	0.08	0.466
Dispositional cognitive empathy (QCAE)	-0.03	0.813	-0.28*	0.015
Dispositional affective empathy (QCAE)	-0.06	0.575	-0.09	0.446
Dispositional empathy (QCAE)	-0.05	0.644	-0.23*	0.039
Attachment (ASCQ)	-0.16	0.174	0.06	0.624
Parenting style (APQ)	-0.15	0.207	0.07	0.555

*Note:*Correlation is significant at the 0.05 level (2-tailed)

Gender and Parent-Report of Overall Empathy

A hierarchical multiple regression analysis was conducted to examine the relationship between parent report of child's overall empathy (QCAE) with various other factors with the main focus on gender. Age was entered in first as it was least likely to have a significant relationship with QCAE. SES was entered in as second and third steps with step 2 being, Total Family Income (TFI) and step 3 being Mothers Education. The fourth variable entered was attachment (ACSQ total), as this variable was hypothesized to have a significant relationship with QCAE reports. The fifth variable entered was parenting style (APQ total) as this variable was also hypothesized to have a significant relationship with QCAE, but was entered in after attachment as the association between parenting style and QCEA was expected to have a stronger significance. Gender was entered last, as it was expected that it whether the participant was male or female would have an effect over and above the control variables, attachment and parenting style.

Table 4
Intercorrelations between Potential Predictor Variables and QCAE (parent-report of empathy)

	1	2	3	4	5	6	7	8
Gender	.075	.073	.085	.183	.049	.28*	-.037	.028
1 Age in months		.071	-.034	-.010	.041	-.07	-.068	.023
2 SES (TFI)			.049	-.054	-.028	-.065	-.158	-.146
3 SES (Mothers Education)				-.238*	-.279*	-.089	.057	.069
4 QCAE (overall)					.863**	.768**	-.104	.080
5 QCAE (Cognitive)						.34	-.066	.031
6 QCAE (Affective)							.110	.110
7 ASCQ (Attachment)								-.054
8 APQ (Parenting style)								

Note: *Correlation is significant at the 0.05 level (2-tailed), **Correlation is significant at the 0.01 level (2-tailed)

Table 4 summarizes the results of the correlation between potential predictors and QCAE report. SES (mother's education) was found to have a definite but small significant correlation with QCAE total score as well as cognitive empathy scores, indicating that as mothers education increases, parent report of cognitive and total empathy decreases. Furthermore, gender was found

to significantly correlate with QCAE affective empathy reports, indicating that whether the child is male or female affected the parent's report of the child's affective empathy.

Table 5 and 6 summarize the results of the 6 step multiple regression analysis. The results of the regression indicated that the inclusive model was not significant, $F(6,75) = 1.528, p = .182, R^2 = .117$. SES (mothers education) was identified as the only significant predictor of QCAE total scores, $\beta = -.254, p = .029$ (see Table 5). Furthermore, gender seemed to be leaning towards significance, $\beta = .206, p = .075$ (see Table 5). From the Model Summary table (Table 6) it is evident that the addition of SES (mothers education and TFI) as well as Gender to the regression model created a shift towards significance, $p = .075$, with Gender uniquely explaining 0.41% of variance in QCAE. Even though this explained variance is not substantially high, gender does seem to explain the second most variance in QCAE and follows SES explained variance, which was uniquely 0.59%. Therefore, a two variable hierarchical model, with SES and gender as predictors of overall QCAE would be better than the original inclusive model.

Table 5
Coefficients Table for Inclusive Regression Model

Variables	Standardized Coefficient β	t	p (2-tailed)
Age in months	-.04	-.33	.740
SES (Total Family Income)	-.06	-.48	.632
SES (Mothers Education)	-.25	-2.22	.029*
ASCQ (Attachment)	-.09	-.77	.443
APQ (Parenting style)	.08	.69	.493
Gender	.21	1.8	.075*

Note: Dependent variable is QCAE (parent-report) for overall empathy.
*indicates noteworthy values

Table 6
Model Summery for 6 Step Multiple Regression

Predictor Included	R^2	Sig. F Change
1. Age in months	.000	.931
2. SES (Total Family Income)	.003	.65
3. SES (Mothers Education)	.059	.043*
4. ASCQ (Attachment)	.069	.387
5. APQ (Parenting Style)	.076	.468
6. Gender	.117	.075*

Note: QCAE (parent-report) of overall empathy is the dependent variable. Each number (1, 2, 3, 4, 5, and 6) represents each model in the 6 step multiple regression analysis with each predictor variable that was included in the model next to it. *indicates noteworthy values

Hierarchical multiple regression analysis (model best fit). A multiple regression using SES (mother education and TFI) and Gender as predictors of QCAE total score was run, and yielded an almost significant result, $F(3,75)= 2.709, p = .051$ (see Table 7). Independently, gender was not significantly correlated with QCAE, p = .060. However, when gender is included with SES as predictors of QCAE, $p = .051$, it tends to make the model more significant than if SES was included independently, $p = .112$. This indicates that gender along with SES (mother's education and HLOE) has some marginal impact on parent report of their child's overall dispositional empathy in this sample; however the lack of significance indicates we cannot infer that this relationship exists in the population.

Table 7

Best Predictors of QCAE (overall) Empathy

	Test of Significance ANOVA	
Predictor Variable	F	*p*
1. SES (Mothers Education and Total Family Income)	2.261	.112
2. Gender	2.709	.051

Note: QCAE (parent-report) is the dependent variable. Numbers (1 and 2) indicate the model with the predictor variable being the variable added to the model.

Gender and Parent-Report of Cognitive and Affective Empathy

Simple regression. From the best fitted multiple regression model it is clear that there might be a relationship between gender and QCAE, even though it was not a directly significant one. Therefore, two simple regression analyses were conducted to firstly examine the relationship between gender and QCAE cognitive empathy and secondly to examine the relationship between gender and QCAE affective empathy.

The results of the first simple regression indicate that gender was not a significant predictor of parents report of their child's cognitive empathy, $F(1,75)= .175, p = .677$. The

results of the second simple regression indicate that gender was a significant predictor of parents report of their child's affective empathy, *F(1,75)= 6.291, p = .014*. The significant definite but small relationship between Gender and QCAE affective, *r = .280, p = .014*, explained 0,7% of variance in QCAE affective empathy reports. Parents did tend to have a bias toward female children and reported that female children *(M = 8.97, SD = 7.17)* had higher affective empathy than male children *(M = 3.98, SD = 9.82)*.

Therefore, hypothesis one being that gender will predict parent-report of empathy with girls being more empathic was proven to be partially correct. There seemed to be some marginal impact of SES and gender on overall dispositional empathy but the model was not significant. Gender was a significant predictor of parent-report of affective empathy and not cognitive empathy. Parents reported that girls display more affective empathy than boys.

Parenting Style and Parent-Report of Empathy

Parenting style was investigated with regard to its relationship with gender and parent-report of their child's overall dispositional empathy. Table 4 representing the results of the zero-order correlations for the first multiple regression model indicates that parenting style did not have any correlation with gender, *r = 0.02*. Table 5 representing the regression results for the first hierarchical multiple regression model indicated that parenting style was not a significant predictor of parent report of their child's overall dispositional empathy, *F(1,75)= .47, t = .690, p = .492*. Therefore, the second hypothesis that parenting style would contribute to the association between gender and parent-report of empathy was proven to be false. Thus, within this sample parenting style plays no significant role in parent report of their child's dispositional empathy across gender.

Attachment and Parent-Report of Dispositional Empathy

Attachment was investigated with regards to its relationship with gender and parent-report of their child's overall dispositional empathy. Table 4 representing the zero-order correlations for the first multiple regression model indicates that attachment did not have any correlation with gender, *r = -0.03*. Table 5 representing the multiple regression results for the first hierarchical multiple regression model indicated that attachment was not a significant predictor of parent report of their child's overall dispositional empathy, *F(1,75)= .44, t = -.772, p = .443*. Therefore the third hypothesis that attachment would contribute to the association

between gender and parent-report of empathy was proven to be false. Thus, within this sample attachment plays no significant role in parent report of dispositional empathy across gender.

Discussion

This study aimed to investigate gender differences in empathy and whether parenting styles and attachment play a role in any empathy differences between boys and girls. Differences in empathy between boys and girls were investigated by examining parent perception of their child's empathic behavior, both cognitively and affectively. It was firstly hypothesized that gender would predict parent-reports of empathy, with girls being rated as more empathic than boys. Furthermore, it was hypothesized that parenting styles would contribute to the association between gender and parent-report of empathy (either directly or by mediating the relationship between gender and empathy). Attachment was also hypothesized to contribute to the association between gender and parent-report of empathy. Data gathered from coloured pupils and their parent/caregivers, in two schools in the Western Cape, proved to not provide full support for all the above mentioned hypotheses.

Gender and Empathy

Firstly, gender did not significantly predict parent-report of overall empathy (cognitive and affective combined), however this relationship was tending toward significance. When parent-report of the separable components of cognitive and affective empathy was examined, gender was found to be a significant predictor of affective empathy whereas relationship with cognitive empathy was non-significant. This indicated that gender was a predictor of parents-report of their child's ability to display feelings in response to someone else's emotions. However, gender did not predict parents-report of their child's ability to understand someone else's emotions. These results thus indicate that it is important to investigate empathy not as a holistic way of behaving, but to investigate the two components of empathy (cognitive and affective) as independent forms of behavior. Furthermore, with a focus on gender and empathy, only affective empathy seems to be dependent on gender with regards to parents' perceptions.

Previous literature supports the result that gender significantly predicts affective empathy, both directly and through parent-reports. Studies have strongly supported the notion that girls, through biologically inherent traits, socialization and specific parenting, are more

likely to have higher affective empathy than boys (Volbrecht, 2007). Females are proven to be the more emotional being when compared to males and therefore can more easily relate to others emotions than males (Hoffman, 1977; Fivush et al., 2000). These studies then support the finding that gender is a predictor of affective empathy.

These findings then further support previous literature, as most studies point toward girls having greater empathic behavior than boys. Girls were found to display a consistency in affective empathy even when psychopathic traits were present (Dadds et al, 2009). These differences in empathy between genders were found to be facilitated through maternal parenting (Volbrecht, 2007). Findings in this study suggests that this gender difference in empathy is very much cohesive with parents' perception of their child's empathic behavior across gender.

SES and Empathy

Gender was found to be a better predictor of parent-report of overall empathy once SES was added as a predictor, but still did not quite reach significance. SES (mothers education) was found to be a significantly correlated with both overall and cognitive empathy, indicating that parents were more likely to report lower overall and cognitive empathy as mothers education increases. Therefore, the level of education of the mother plays an important role as a SES variable in indirect empathy scoring. SES (Total Level of Income) was found to yield no significant results with parent-report of overall, cognitive or affective empathy.

The results pertaining to SES and empathy and the significant correlation between the two seems to correlate with previous studies, even though none of these studies have looked at individual variables of SES or its specific correlation with cognitive and affective empathy as this study has done. Nevertheless, empirical studies have suggested that the higher the SES of the parent and child, the higher the empathic traits within the child (Jolliffe & Farrington, 2003). However, the results tend to contradict previous studies with regards to parents report of their child's overall and cognitive empathy, which was lower with an increase in mother's education.

Parenting Style and Empathy

Secondly, parenting style was investigated by using one measure (the short form Alabama Parenting Questionnaire) where a continuous score was created based on the three variables measured by the APQ namely; positive parenting, inconsistent discipline and poor supervision. Parenting style did not significantly predict parent-report of empathy for either

overall, cognitive or affective empathy empathy. Parenting style also did not act as a significant mediator of the relationship between gender and empathy as it was found to have no correlation with gender. These findings then indicate that for this sample, parenting style does not aid or shape empathy development in children. Studies investigating this relationship do however point out that an association does exist. A large part of empathy is learnt and constantly develops predominantly during childhood. These empathic traits were found to be learnt through the child's interaction with their parents or main caregiver, where the type of parenting style elicited was found to affect the development of the child's empathic behavior (Berkowits & Gryth, 1998).

Furthermore, studies have also indicated that parenting style differs between boys and girls, with girls being given more emotional rearing than boys, specifically from mothers (Fivush & Brotman & Buckner & Goodman, 2000). The non-significant result of this study could be accounted for by the factors used to measure parenting. As most of the above mentioned studies have attained their results by the use of the four main parenting styles, being authoritative, authoritarian, permissive and uninvolved (Baumrind, 1973), the use of a continuum based on three parenting behaviors might have not been an adequate representation of the parents' parenting style. A second prohibitive factor could be that parenting style was limited by only assessing three factors namely; positive parenting, inconsistent discipline and poor supervision as a means to measure a comprehensive factor such as parenting style. A better measure of this factor could have been obtained if more factors were taken into account with regards to parenting. A third consideration could be that only one parent or caregiver was used within the study, varying from mother, father to grandparent. As a child is most likely to be parented by a father and mother, both parents' parenting style should have been taken into account as parenting styles tend to differ between parents (Fivush et al., 2000).

Attachment and Empathy

Thirdly, attachment was investigated by using one measure (the Attachment Style Classification Questionnaire) where a continuous score was created from three variables from the ASCQ being secure, anxious and insecure. Attachment was not found to be a significant predictor of parent-report of their child's empathic behavior. Attachment was also not found to be a significant mediator of the relationship between gender and empathy, either cognitively or

affectively as it was not found to correlate with gender. Various studies over time however, tend to find that the attachment formed between parent and child affects the child's behavior in relationships as well as their thoughts and feelings (Bowlby, 1988; Bretherton, 1992; Pasalichi et al., 2012). Furthermore, secure attachment formed through warmth and reassurance was found to elicit more empathic behavior from the child, as the child is better able to emotionally regulate themselves and is also better able to understand and emotionally relate to others by incorporating the parents' behavior into their own (Clark & Ladd, 2000; Panfile & Laible, 2012).

Reasons for attachment not displaying any relation with gender and parent-report of dispositional empathy could be that the Attachment Style Classification Questionnaire (ASCQ) used did not directly measure early attachment patterns formed between parent and child, which seemed to be the relationship this study was most focused on measuring. The ASCQ questionnaire however focused on the child's current relationships, friendships and ways of engaging/ interacting with peers thereby not be able to sufficiently measure the attachment formed between mother and child, which could be the reason the results were insignificant. However, the ASCQ was used to measure attachment within this study regardless of its limitation, as the most sufficient way to measure attachment is in infancy via direct observation and this was clearly not possible within the given study. The ASCQ was used as it was the best measure of other relationship styles (friendship) with regards to the age range of the children within the sample, being 9 to 12.

Limitations and Directions for Future Research

The first limitation to the study was that it only focused on children within lower to middle income schools and communities. As was found, SES plays a role in predicting empathy in children. Studies confirm this result, as children with parents who have low SES were found to have lower empathic traits and were more likely to display delinquent behavior (Jolliffe & Farrington, 2006). This was found to be a result of a higher prevalence of poor parenting and parent-child interaction amongst parents with low SES than parents with higher SES (Jolliffe & Farrington, 2006). Girls' empathic traits were also found to be more negatively affected when having parents with lower SES (Jolliffe & Farrington, 2006). Based on the results of the study and empirical research, the inclusion of children whose parents have higher SES would be beneficial in obtaining a more comprehensive sample that reflects a more general population.

However, as this study was conducted in South Africa where most of the population is

low to middle SES, focusing on this population would be beneficial within its context. With findings indicating that a lower SES is most likely to result in lower empathic traits in children, South Africa's low SES is worrisome. This then could be a possible reason for some empathic delays in children within the South African context when compared to the international norm. This study further elaborates this point when looking at SES, with an increase in maternal education leading parents to report lower cognitive empathy amongst their children. Interestingly, the study indicated that Total Family Income (TFI) had no effect on parents' perception of their child's empathy in general. These results then seem to contradict previous studies to some extent as higher levels of education amongst mothers were found to be the result of lower reports of cognitive empathy, which does not hold true for previous studies that suggest that an increase in SES results in an increase in empathy amongst children. Furthermore, TFI did not aid in this regard as it was found to have no effect. This thereby empathizes the importance of looking at SES variables in isolation rather than as a whole.

The second limitation to the study was that it only included coloured children and their parents. The reason for this inclusion was that the aim of the study was to keep a homogenous sample by excluding the influence of other demographic variables such as race and language. However, in order to generalize results the study was limited by only including one racial group. To get a more comprehensive result of the relationship between attachment, parenting style and gender with regards to empathy within South Africa, including a full range of races, languages, ages and SES would be needed.

As the study excluded other racial groups on the bases of their home language as the measures are only available in English and Afrikaans, future research will do well to incorporate other racial groups within South Africa when the measures could be conducted within the language they best understand.

The third limitation to the study was that like much other research, this study relied heavily on questionnaire measures for key variables such as parenting style and attachment. Apart from the difficulties mentioned above with regard to these variables, it is always preferable to have a direct measurement of these factors rather than parent-report or self-report forms of measurement. However, it is important to note that directly measuring parenting style and attachment would be very difficult to implement in a study of this nature as direct measurement

of those variables would require extensive observation from an early stage between mother and child.

Study Contributions

Regardless of the shortcomings, this study has provided a more precise investigation into empathy and its relations to attachment and parenting style. Not many studies have tackled the relationship between empathy development with regards to attachment and parenting style, with these being facilitators of empathic development during childhood. Even though this study did not provide significant results with regards to attachment and parenting style, it has highlighted that these factors are worth further investigation in relation to empathy development based on empirical studies that support both claims that attachment and parenting styles do affect empathic development in children.

This study further unpacked empathy and looked at its cognitive and affective components in relation to gender, parenting style and attachment. Thereby, emphasizing the importance of not measuring empathy as a unitary construct, but looking at all its distinct parts. Furthermore, the study provided an objective view of empathy, from the parent/caregivers perspective of their child's behavior. Findings from these results then proved to be highly relevant in unpacking the controversies surrounding empathy development and gender differences in empathy.

Conclusion

Empathic traits are learnt, predominantly at a young stage through one's interaction with parents or primary caregiver, most often the mother figure. Research has found distinctions in empathy across gender. As most research has studied the effects of parental interaction with the child and the child's empathic development, not many studies have touched on the influence of attachment and parenting styles on empathic development across genders. Research has also only investigated the differences in empathy between genders from the empathic traits of the child and not much research has focused on cognitive and affective empathy independently in relation to these aspects. This study has investigated gender differences in parents' report of empathy at a dispositional, cognitive and affective level, with emphasis placed on the overall dispositional

empathic traits. It then went further to investigate the influence attachment and parenting style have on parent's report of empathy in relation to gender.

Findings indicated that gender was not a significant predictor of parent report of overall empathy, however with the addition of SES, gender tended to lean toward significance. Mother's education also proved to have an effect on parent report of child's overall and cognitive empathy, where an increase in mother's education indicated a decrease in parent's perception of their child's overall and cognitive empathy. Furthermore, gender was a significant predictor of affective empathy. Parenting style and attachment did not prove to have any relation with empathy. This study has added to existing research by identifying the importance of parental empathic measuring across genders. It has also signified the importance of measuring cognitive and affective empathy independently with regards to gender, parenting style and attachment. It has also highlighted importance of the effect SES has on empathic development, especially in South Africa which has a large proportion of low to middle SES households. In addition, this study proves to be a stepping block in further investigating empathy and gender across races within South Africa and taking into account the role of the parent-child relationship and interaction in the development of empathy across genders.

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Appendix A

DEMOGRAPHIC 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

☐ Stepparent   ☐ Sibling   ☐ Other: _____

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

☐ Black African (Other)   ☐ White/Caucasian   ☐ Other: _____

                                                     (Please specify)

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 behavior issues, attention difficulties, or issues related to moods and feelings: _____

_____

Does this child currently attend (Please √):

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

Household Information

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

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

Who is this child's primary caregiver?

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

Total family/household income last year:

☐ Less than R35 000   ☐ R176 000-R225 000   ☐ R376 000-R425 000

☐ R36 000-R75 000   ☐ R226 000-R275 000   ☐ R426 000-R475 000

☐ R76 000-R125 000   ☐ R276 000-R325 000   ☐ R476 000-R525 000

☐ R126 000-R175 000   ☐ R326 000-R375 000   ☐ More than R525 000

Total family/household income last year:

0-35000:_____ 36000-75000:_____ 76000-125000:_____ 126000-175000:_____

176000-225000:_____ 226000-275000:_____ 276000-325000:_____ 326000-375000:_____

376000-425000:_____ 426000-475000:_____ 476000-525000:_____ more than 526000:_____

Highest level of education reached for mother, father, and/or guardian (please circle appropriate number):

	Biological mother	Biological father	Guardian
1) 0 years (No Grades / Standards) = Never went to school	1.	1.	1.
2) 1-6 years (Grades 1-6 / Sub A-Std 4) = Didn't complete primary school	2.	2.	2.
3) 7 years (Grade 7 / Std 5) = Completed primary school	3.	3.	3.

4) 8-11 years (Grades 8-11 / Stds 6-9)
    = Some secondary education
    (didn't complete high school)
	4.	4.	4.

5. 12 years (Grade 12 / Std 10) = Completed high school	5.	5.	5.
6. 13+ years = Tertiary education Completed university / technikon / college	6.	6.	6.
7. Don't know	7.	7.	7.

Parental employment (please circle appropriate number):

	Biological mother	Biological father	Guardian
1. Higher executives, major professionals, owners of large businesses	1.	1.	1.
2. Business managers of medium sized businesses, lesser professions (e.g. nurses, opticians, pharmacists, social workers, teachers)	2.	2.	2.
3. Administrative personnel, managers, minor professionals, owners / proprietors of small businesses (e.g. bakery, car dealership, engraving business, plumbing business, florist, decorator, actor, reporter, travel agent)	3.	3.	3.
4. Clerical and sales, technicians, small businesses (e.g. bank teller, bookkeeper, clerk, draftsperson, timekeeper, secretary)	4.	4.	4.
5. Skilled manual – usually having had training (e.g. baker, barber, chef, electrician, fireman, machinist, mechanic, painter, welder, police, plumber, electrician)	5.	5.	5.
6. Semi-skilled (e.g. hospital aide, painter, bartender, bus	6.	6.	6.

	7.	7.	7.
driver, cook, garage guard, checker, waiter, machine operator)			
7. Unskilled (e.g. attendant, janitor, construction helper, unspecified labour, porter, unemployed)	7.	7.	7.
8. Homemaker	8.	8.	8.
9. Student, disabled, no occupation	9.	9.	9.

Material and financial resources (please circle appropriate number):

Which of the following items, in working order, does your household have?

Items	Yes	No
1. A refrigerator or freezer	1.	1.
2. A vacuum cleaner or polisher	2.	2.
3. A television	3.	3.
4. A hi-fi or music center (radio excluded)	4.	4.
5. A microwave oven	5.	5.
6. A washing machine	6.	6.
7. A video cassette recorder or dvd player	7.	7.

Which of the following do you have in your home?

Items	Yes	No
1. Running water	1.	1.
2. A domestic servant	2.	2.
3. At least one car	3.	3.
4. A flush toilet	4.	4.
5. A built-in kitchen sink	5.	5.
6. An electric stove or hotplate	6.	6.
7. A working telephone	7.	7.

Do you personally do any of the following?

Items	Yes	No
1. Shop at supermarkets	1.	1.
2. Use any financial services such as a bank account, ATM card or credit card	2.	2.
3. Have an account or credit card at a retail store	3.	3.

Appendix B

Questionnaire of Cognitive and Affective Empathy (Parent report of child version)

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 his/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 a conversation.				
16. My child can pick up quickly 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 fellow'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.				

Questionnaire of Cognitive and Affective Empathy (Parent self-report version)

People differ in the way they feel in different situations. Below you are presented with a number of characteristics t**hat may or may not apply to you.** 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.	I sometimes finds it difficult to see things from "another's" point of view.				
2.	I am usually objective when I watch a film or play, and don't often get completely caught up in it.				
3.	I try to look at everybody's side of a disagreement before I make a decision.				
4.	I sometimes tries to understand my friends better by imagining how things look from their perspective.				
5.	When I am upset at someone, I will usually try to "put his/herself in the person's shoes" for a while.				
6.	Before criticizing somebody, I try to imagine how I would feel in their place.				
7.	I often get emotionally involved in my friends' problems.				
8.	I am inclined to get nervous when others around me seem nervous.				
9.	People I am with have a strong influence on my mood.				
10.	It affects me very much when one of my friends seems upset.				
11.	I often get deeply involved with the feelings of a character in a film, play, or novel.				
12.	I get very upset when I see someone cry.				
13.	I am happy when I am with a cheerful group and sad when others are glum.				
14.	It worries me when others are worrying and panicky.				
15.	I can easily tell if someone else wants to enter a conversation.				
16.	I can pick up quickly if someone says one thing but means another.				

17.	It is hard for me to see why some things upset people so much.				
18.	I find it easy to put myself in somebody else's shoes.				
19.	I am good at predicting how someone will feel.				
20.	I am quick to spot when someone in a group is feeling awkward or uncomfortable.				
21.	Other people tell me I am good at understanding what others are feeling and what others are thinking.				
22.	I can easily tell if someone else is interested or bored with what I am saying.				
23.	Friends talk to me about their problems as they say that I am very understanding.				
24.	I can sense if I am intruding, even if the other person does not tell me.				
25.	I can easily work out what another person might want to talk about.				
26.	I can tell if someone is masking their true emotion.				
27.	I am good at predicting what someone will do.				
28.	I can usually appreciate the other person's viewpoint, even if I do not agree with it.				
29.	I usually stay emotionally detached when watching a film.				
30.	I always try to consider the other fellow's feelings before I do something.				
31.	Before I do something, I try to consider how my friends will react to it.				

Appendix C

ASCQ (Parent)

How true is each of these sentences of your child?

	Not true	Unsure	True
1. My child makes friends with other children easily.	0	1	2
2. My child doesn't feel comfortable trying to make friends.	0	1	2
3. It is easy for my child to depend on others, if they're good friends of his/hers.	0	1	2
4. Sometimes others get too friendly and too close to my child.	0	1	2
5. Sometimes my child is afraid that other kids won't want to be with him/her.	0	1	2
6. My child would like to be really close to some children and always be with them.	0	1	2
7. It's all right with my child if good friends trust and depend on him/her.	0	1	2
8. It's hard for my child to trust others completely.	0	1	2
9. My child sometimes feels that others don't want to be good friends with him/her as much as he/she does with them.	0	1	2
10. My child usually believes that others who are close to him/her will not leave him/her.	0	1	2
11. My child is sometimes afraid that no one really loves him/her.	0	1	2
12. My child finds it uncomfortable and gets annoyed when someone tries to get too close to him/her.	0	1	2
13. It's hard for my child to really trust others, even if they're good friends of his/hers.	0	1	2

14. Children sometimes avoid my child when he/she wants to get too close and be a good friend of theirs.	0	1	2
15. Usually when anyone tries to get too close to my child, it does not bother him/her.	0	1	2

Appendix D

APQ – SHORT FORM

Instructions: The following are a number of statements about your family. Please rate each item as to how often it typically occurs in your home. Please answer all items.

	NEVER	ALMOST NEVER	SOMETIMES	OFTEN	ALWAYS
You let your child know when he/she is doing a good job with something.					
You threaten to punish your child and then do not actually punish him/her.					
Your child fails to leave a note or to let you know where he/she is going.					
Your child talks you out of being punished after he/she has done something wrong.					
Your child stays out in the evening after the time he/ she is supposed to be home.					
You compliment your child after he/she has done something well.					
You praise your child if he/she behaves well.					
Your child is out with friends you don't know.					
You let your child out of a punishment early (like lift restrictions earlier than you originally said).					

Appendix E

University of Cape Town – Department of Psychology
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   Lea-Ann Pileggi

Senior Lecturer   Doctoral candidate

Department of Psychology   Department of Psychology

University of Cape Town   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.

Appendix F

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 G

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 H

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

UNIVERSITY OF CAPE TOWN

DEPARTMENT OF PSYCHOLOGY

APPLICATION FOR ETHICAL APPROVAL TO CONDUCT PSYCHOLOGICAL RESEARCH

Section A	Proposal Identification Details	To be completed by all applicants
Section B	Study Information	To be completed for all studies
Section C	Financial and Contractual Information	To be completed by all applicants
Section D	Declaration on Conflict of Interest	To be completed by all applicants
Section E	Ethical and Legal Aspects	To be completed by all applicants
Section F	Checklist	To be completed by all applicants

Section A: Proposal identification details (submit a detailed proposal to accompany the application, including as a second page, a 200-word abstract)

1. Title of the proposal/protocol:

   Gender Differences in Empathy: Influences of parenting styles and attachment

2. Has this protocol been submitted to any other Ethical Review Committee?	Yes		No √
2.1 If so, list which institutions and any reference numbers.			
2.2 What was/were the outcome/s of these applications?			
3. Is this proposal being submitted for ethical approval for an amendment to a protocol previously approved by this committee?	Yes		No √
3.1 If so, what was the previous protocol's reference number?			

Gender Differences in Empathy in relation to Parenting Style and Attachment

Investigator details

3.2 Principal Investigator (if a student project, the student is the principal investigator):

Title	Initials & Last Name	Department and Institution	Phone	Email	Signature	Date
Miss	L. Fourie	Psychology	0833199654	Laurenfourie896@gmail.com		20/04/2015

3.2.1 (If different to 4.1 above) UCT Principal Investigator

Title	Initials & Last Name	Department and Institution	Phone	Email	Signature	Date

3.3 Co-investigators: (if a student project, add the supervisor's name here)

Title	Initials & Last Name	Department and Institution	Phone	Email
Dr	S. Malcolm-Smith	Dept. of Psychology, UCT	021 650 4605	susan.malcolm-smith@uct.ac.za

4. Is the study being undertaken for a higher degree?	Yes		No
	√		
If yes:			
4.1 What degree? Honours Psychology			

4.2   Student name: Lauren Fourie
4.3   Supervisor name: Dr Susan Malcolm-Smith
4.4   In what department is the degree? Psychology

Section B: Study Information (attach a separate document if answers are too lengthy).

5. Who will act as participants in the study?

   80 grade 4 to 7 children (stratified according to age, sex and socioeconomic status) from public and private schools in Cape Town, and their parents/legal guardians.

6. Estimated number of participants: 80 children and 80 parents

7. Estimated duration of study: 1 year

8. Location of study (e.g. UCT, school, hospital, etc.): School premises

9. Recruitment: Please describe how and from where the participants will be recruited. Attach a copy of any posters or advertisements to be used.

   Participants will be recruited from two public and private primary schools in Cape Town. Schools will be contacted to obtain permission to recruit via their school, as well as use their premises. Information regarding the study, demographics questionnaires, and consent forms will be sent to parents/legal guardians via children. All children who meet inclusion criteria, and whose parents agree to participate (i.e., come in to complete additional questionnaires), will be seen.

10. Vulnerable groups: Are there pre-existing vulnerabilities associated with the proposed participants, e.g., relating to pre-existing physiological or health

conditions, cognitive or emotional factors, and socio-economic or legal status?

| Yes | No √ |

If yes, explain briefly what vulnerability would entail in the study, and how you propose to safeguard participants' wellbeing.

11. Risks: Briefly describe the research risk associated with your study, i.e. the probability and magnitude of harms participants may experience. Minimal risk means that the probability and magnitude of harm due to participation in the research are no greater than that encountered by participants in their everyday lives.

This study poses no risk to participants. If the child participant does become at all upset or tired, the researcher will provide a short break. Similarly, parents/legal guardians may discontinue completion of questionnaires at any point. Participation in the study is entirely voluntary – children and parents are able to withdraw from the study at any point without negative consequences. All results will be securely stored, and kept strictly confidential.

12. Costs: Give a brief description of any costs or economic considerations for participants.

There are no costs for participants.

13. Benefits: Discuss any potential direct benefits to the participants from their involvement in the project.

Child participants will receive some sweets and stickers of their choice for their participation and parents will receive R150 should they complete all questionnaires.

Furthermore, should we identify any behavioural or learning difficulties that are likely to affect the child's capacity to learn, we will provide parents/legal

guardians with written feedback, and referrals to appropriate service providers where necessary.

14. Compensation: If participants are to receive compensation for participation, please provide details.

Child participants will receive sweets and stickers.

Parent/legal guardian participants will be compensated with R150 upon completion of all questionnaires (PERC grant has sufficient funds).

15. Consent. Describe the process to be used to obtain informed consent. Where applicable, attach a copy of the information letter and consent form.

Once the school has given permission, parents/legal guardians will be sent an information letter and consent form via children. Written informed consent will therefore be obtained from parents/legal guardians (i.e., consent for them and their child).

Child participants will also complete an Assent form, which includes information regarding the study (this will also be explained to children) on the days of testing.

16. Confidentiality. Please describe the procedures to be used to protect confidentiality of the data.

All data collected will remain confidential and will be used for research purposes only. All data will be securely stored, and will be kept strictly confidential.

| 17. Does the protocol comply with UCT's Intellectual Property Rights Policy (including ownership of the raw data)? | Yes √ | | No |

Section C: Financial and contractual information

18. Is the study being sponsored or funded? PERC grant	Yes		No	
If yes: 18.1 Who is the sponsor/funder of the study?				
18.2 Are there any restrictions or conditions attached to publication and/or presentation of the study results?	Yes		No √	
18.3 Does the contract specifically recognize the independence of the researchers involved? N/A	Yes		No	
(Note that any such restrictions or conditions contained in funding contracts must be made available to the Committee along with the proposal.)				
19. Will additional costs be incurred by the department?	Yes		No √	
19.1 If yes, specify these costs: N/A				

Section D: Statement on Conflict of Interest

The researcher is expected to declare to the Committee the presence of any potential or existing conflict of interest that may potentially pose a threat to the scientific integrity and ethical conduct of any research in the Department. The committee will decide whether such conflicts are sufficient as to warrant consideration of their impact on the ethical conduct of the study.

Disclosure of conflict of interest does not imply that a study will be deemed unethical, as the mere existence of a conflict of interest does not mean that a study cannot be conducted ethically. However, failure to declare to the Committee a conflict of interest known to the researcher at the outset of the study will be deemed to be unethical conduct.

Researchers are therefore expected to sign **either** one of the two declarations below.

a)   As the Principal Researcher in this study (name:_Lauren Fourie _____), I hereby declare that I am **not aware** of any potential conflict of interest which may influence my ethical conduct of this study.

Signature: _____   Date: ___20/04/2015_____

b)   As the Principal Researcher in this study (name: _ ___), I hereby declare that I am **aware** of potential conflicts of interest which should be considered by the Committee:

Signature: _____   Date:_____

Section E: Ethical and legal aspects

20. Have you read the UCT Code for Research involving Human Subjects (available from the UCT website)?	Yes √		No