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Moral self concept and children’s wellbeing at school

A thesis submitted in partial fulfilment of the requirements for the Degree of
Doctorate of Clinical Psychology/Masters of Science

Amy Hawker
School of Psychology
Faculty of Science
2013

The research reported in these studies was approved by the Human Research Ethics Committee of the University of Sydney
Statement of Originality

This thesis is submitted to the University of Sydney in fulfilment of the requirements for the Degree of Doctor of Clinical Psychology/Master of Science. The work presented in this thesis is, to the best of my knowledge and belief, original except as acknowledged in the text. I hereby declare that I have not submitted this material, either in full or in part, for a degree at this or any other institution.

__________________________  _________________________
Amy Hawker                        Date
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## Contents

Acknowledgements ................................................................................................. 3

Contents .................................................................................................................. 4

Table of Figures ...................................................................................................... 6

Table of Tables ....................................................................................................... 7

Abstract .................................................................................................................. 8

Chapter 1: Literature Review .................................................................................. 9

  Moral Self Concept and Moral Behaviour ............................................................. 14

  Social Cognitive Understanding .......................................................................... 16

  Temperament ........................................................................................................ 17

  Developmental trajectory of self concept and moral self concept ...................... 19

  Empathy ............................................................................................................... 23

  Measurement of self concept and moral self concept ......................................... 25

  Summary ............................................................................................................. 29

Chapter 2: ............................................................................................................... 30

  Method ............................................................................................................... 34

    Participants ...................................................................................................... 34

    Procedure .......................................................................................................... 34

    Materials .......................................................................................................... 35

Results .................................................................................................................... 43

  1. Child measures .............................................................................................. 43

  2. Teacher ratings of child behaviour ................................................................. 47

  3. Bivariate relations between child and teacher measures ............................... 50
4. Hierarchical regressions examining the influence of earlier behaviour on later moral self concept..............................................................51

Discussion ........................................................................................................56

Validity and reliability of self-report measures ...........................................56

Anchoring self-report measures using between construct relationships.........58

Nature of the moral self concept scale ............................................................60

Examining social cognitive understanding ...................................................62

Relationship between moral self concept and social conduct ....................63

Strengths and limitations of the current study ..............................................68

Chapter 3: Discussion and Conclusions .......................................................70

Stability and Development of Moral Self concept ........................................70

Measuring Social Engagement ......................................................................71

Internal Child Features and Moral Self concept Development ....................72

Machiavellian traits .......................................................................................75

Callous unemotional and psychopathic traits ..............................................77

Follow-up Research Project: Child Characteristics and Moral Self Concept ......80

References ......................................................................................................85

Appendix A: Ethics approval ........................................................................101

Appendix B: Materials ..................................................................................109

Appendix C: Assumption testing .................................................................116

Appendix D: SPSS analysis ..........................................................................119
Table of Figures

Figure 1: Relationships to be examined in study 1 .................................................................33

Figure 2. Relationships between Positive Social Conduct and MSC ..............................55

Figure 3. Relationships between Negative Social Conduct and MSC ..............................55
Table of Tables

Table 1. *Internal Consistency for Self Concept, Moral Self Concept, and Social Cognition* .......................................................... 44

Table 2. *Descriptive Statistics for Child Variables* .................................................. 45

Table 3. *Bivariate Correlations between Child Variables (Longitudinal Stability Denoted by Shading)* .......................................................... 46

Table 4. *Descriptive Statistics for Teacher Ratings and Combined Social Conduct Scales* .......................................................... 48

Table 5. *Relations Amongst Teacher Ratings$^a$ of Child Behaviour* ......................... 49

Table 6. *Bivariate Correlations between Child Variables and Combined (Teacher Rated) Social Conduct Scales* .......................................................... 51

Table 7. *Hierarchical Regression Analyses Predicting Moral Self Concept at Seven Years on Child Variables at Six Years* .......................................................... 53

Table 8. *Hierarchical Regression Analyses Predicting Moral Self Concept at Seven Years on Child Behaviour at Six and Seven Years* ................................. 54

Table 7: *Categories and Features of the MRS scale* .............................................. 82

Table 8: *Testing the Assumption of normality* ...................................................... 116

Table 9: *Examination of outliers* ........................................................................ 117
Abstract

Children's social cognitive understanding has been found to play a major role in shaping their social engagement and behaviour. It has been assumed that this understanding of the mind and emotion of others shapes the ways in which children go on to understand their own moral identity: their proclivities, sensitivities and responses to moral acts, but there appears to be a gap between the ways in which children talk about other people and the ways in which they talk about themselves. It was hypothesised that it is social engagement that shapes moral identity in young children rather than their understanding of other people. A longitudinal study of 115 six to seven year olds was run over two years examining these three features, self concept, socialisation and social cognition and their interactions over time. The study utilised child self-report measures and the validity and usefulness of such tools was also examined. It was found that as children progress through the first years of primary school their knowledge of the social world and their socialising agents is indeed related to behaviour concurrently and predicts positive social engagement one year later. However, there was no relationship found between social cognitive understanding and a child's developing moral self concept. It was found, in opposition with the traditional models of moral self concept, that children's social engagement at six shaped their moral self concept at seven rather than vice versa. These findings suggest that while children's skills in the domain of social cognition shape their pro-social behaviours this social engagement is influencing and shaping the ways in which these children view themselves as moral agents which may have important implications for children’s ongoing wellbeing.
Chapter 1: Literature Review

While much of literature dealing with moral identity implies that moral identity shapes action, it can also be argued that social action and the evaluations such action receives, also shape identity. It has been traditionally proposed that a well-developed conscience is played out in social conduct, rule compliance, and concern for others, while those who show limited moral focus within their developing identity have been found to display antisocial behaviours, limited compliance, and problems with adaptive social functioning. Such relationships between identity and behaviour have been explored predominantly within adult samples but relations between identity and behaviour in childhood are less well understood. In fact, during early childhood it has been argued that social engagement has a profound influence on children’s developing moral sensibilities and motives, their conscience, and that this in turn influences their social engagement (Grusec, 2006); which highlights bi-directional associations between these domains. When children enter a new social environment, for example school, they are confronted with many new sources of evaluation of their actions, which likely interacts with their emerging awareness of themselves as moral agents. By studying behaviour and identity formation within this transitional period, it is hoped that we can better understand the ways in which children’s environments provide experiences from which they build a sense of themselves as a moral actor, and how this sense of self feeds back into their socially competent interactions with peers.

In this thesis, I will examine how children's developing moral self concept is related to their social engagement at school, as reported by teachers. School is a critical environment in which children establish relationships, manage conflicts, and navigate novel social
interactions. It is a socialising environment in which they begin to experience the social consequences of their own behaviour and receive broader feedback on their conduct from peers and teachers; their actions are evaluated as good or bad, nasty or kind, generous or mean, thoughtless or considered. Given that children of early school age are aware of moral concerns (Turiel & Killen, 2010), and have some awareness of their own moral sentiments (e.g. de Rosnay & Fink, 2011; Kochanska & Aksan, 2004), it is plausible that relations between children’s social conduct and their developing moral self concept will undergo important changes during the early years of school. Indeed, the broader self concept literature suggests that the period between six and eight years of age is an important period in which children gain an ability to both combine previously separate aspects of self concept, as well as taking into account the opinions and beliefs of others in shaping this self concept (Harter, 2006; Lee & Hobson, 1998). Positive self concept, in turn, has been linked to improved social and emotional skills, mental health, adaptation, and coping skills (Damon & Hart, 1982; Davis-Kean & Sandler, 2011; Harter, 1998). Therefore, in this thesis, three questions will be examined in children between six and seven years of age: (1) Do children have a coherent sense of themselves as moral actors (i.e., moral self concept), such that they reliably identify their own responses to morally relevant situation over time?; (2) How is children’s moral self concept related to their social conduct both concurrently and longitudinally? (3) Are there other child factors (i.e., temperament, social cognitive understanding and verbal ability) which influence or underpin such relations?

The idea of a moral self concept is one that goes beyond conventional notions of moral understanding. When children are asked about their understanding of moral constructs (as they are in tasks that tap moral cognition), they are presented with opportunities to show their knowledge of moral rules or conventions, and show that they understand the
implications of such knowledge in determining actions and feelings (Nunner-Winkler, 2007; Rest, 1983). Moral self concept, however, is closely aligned with ideas of conscience, and measures of moral self concept ask children to reflect on or convey the thoughts and feelings they have about themselves as a moral actor. Thus, moral self concept research seeks to determine whether children see themselves as someone who behaves in ways that are good or bad, is sensitive to the needs of others or uncaring in the face of their distress, will steal desired items from others, or will experience guilt as a result of rule breaking (Narvaez & Lapsley, 2009). Defined as such, moral self concept serves as a motivator to moral action (Blasi, 1980; Emde, Biringen, Clyman, & Oppenheim, 1991; Malti, Gummerum, & Buchmann, 2007), and is inherently concerned with the others’ wellbeing.

Within Kohlberg’s conceptualisation of children’s moral thinking (Kohlberg & Hersh, 1977), he identified two important features of moral agency: the developing ability to make deontic judgements which reflect the understanding that an act is right or wrong; and the subsequent tendency to make responsibility judgements which reflect the motivation to act in accordance with initial deontic judgement (Krebs & Denton, 2005; Nunner-Winkler, 2007). The ways in which these judgements are made is dependent upon the developmental stage achieved by the child, and as children’s development progresses these judgements become more sophisticated. For Kohlberg, like Piaget (1997/1932), the motivation to act in moral ways is a direct product of moral thought and understanding; as moral understanding develops, so does moral action.

This model of conscience development is primarily a cognitive one based on a child’s developing understanding of rules, and the consequences of rule adherence or violation for emotions (i.e., feelings of pride or guilt). However, children’s understanding of moral constructs per se has not been shown to correspond very strongly with their socio-emotional
behavioural dispositions. Rather, children reveal more about their behavioural dispositions (e.g., prosocial and antisocial behaviour) when they are asked to make a personal identification with the unfolding events (De Rosnay & Fink, 2011; Krettenauer, Campbell, & Hertz, 2013; Malti & Krettenauer, 2013). Thus, the motivation to behave morally appears to require something over and above understanding; an emotional commitment or sense of obligation that is best tapped when children are asked about themselves, rather than a story protagonist (Keller, Lourenço, Malti, & Saalbach, 2003).

Children who demonstrate a view of themselves as moral agents with moral concerns have been shown to act in more moral ways while those with a limited moral focus display problems with adaptive social functioning (Colby, 2002; Malti, Gasser, & Buchmann, 2009; Malti, Gasser, & Gutzwiller-Helfenfinger, 2010). Such findings support the long-standing assumption moral identity has a sustained and important influence on conduct, including moral choices, decisions, and experienced emotions. This is consistent with self concept theory, in which it has been argued that as children gain the ability to see the gap between ideal-self and actual-self, they use the ideal–actual differential to motivate action (Harter, 2006). As such, it has been proposed that moral understanding leads to moral action more readily when such actions are connected with personal responsibilities (Blasi, 1980, 1993).

Against this position of a unidirectional relation between moral identity and action, there is some recognition that children's moral development is influenced by their socialising environment and interactions (Dunn, 2006; Grusec, 2006). Specifically, it is argued that certain socialising experiences (particularly within the family context) are more likely to cultivate strong moral sensibilities (Groenendyk & Volling, 2007; Kochanska, Aksan, & Nichols, 2003; Kochanska, 1995, 2003; Reese, Bird, & Tripp, 2007). In fact, this is suggested, albeit under a different guise, within the work of Piaget (Turiel & Killen, 2010),
who ultimately reasoned that social interaction, and the conflicts encountered therein, pull the child away from a morality dominated by adult proscriptions and prescriptions, and lead him/her to the development of a personal moral understanding, wherein the child comes to realise that moral action often involves a compromise between two parties with different interests.

When children start school they are confronted by multiple novel sources of social engagement in the form of both teachers and peers. These new sources provide evaluations of their behaviours, informing them about their behaviour and contributing to their emerging moral identity (Grusec, 2006). This shift in social environment is complemented with increasing awareness of others’ psychological states, so-called theory of mind development, which enriches children’s awareness of others’ points of view. Indeed, Kohlberg raises this himself, noting that “schooling is a moral enterprise” (Kohlberg & Hersh, 1977, p. 53), implying that school related socialisation plays an important role in the development of conscience. By studying the interrelations between behaviour and identity during these first years of school, it is hoped that we can better understand the ways in which a child’s changing social environment provides the experience from which they build a sense of self, and perhaps also how this sense of self feeds back into their social conduct.

The remaining sections of this chapter present a more detailed exploration of moral self concept, and examine other child features that may be of relevance to moral self concept development. First, I describe the nature of moral self concept in childhood and examine possible relationships with moral behaviour. In doing so, I make connections with broader theories of children’s developing self concept. Second, I explore how child factors, such as temperament and social cognition, may be related to both the development of conscience and social conduct. Finally, I describe the rationale for the current research program.
Moral Self Concept and Moral Behaviour

Both self concept and moral self concept develop as a product of cognitive (Harter, 1986; Houck, 1999) and social forces (Kochanska, Aksan, & Joy, 2007; Kochanska, Koenig, Barry, Kim, & Yoon, 2010; Lee & Hobson, 1998). While Harter (2006) argues that the self is largely a cognitive construction and as such its development throughout childhood mirrors cognitive development, the trajectory of identity formation is also deeply integrated with social engagement (Houck, 1999) and the child’s observations of their own abilities and proclivities (Lindner-Müller, John, & Arnold, 2012). The development of self concept results in an understanding of self that is inherently defined by individual differences and it has been suggested that a stable self concept develops from continuities in significant social and personal experiences (Verschueren, Marcoen, & Schoefs, 1996).

Motivation to act in any situation presumes a belief in one’s ability to have influence in that situation (Bandura, Caprara, Barbaranelli, Pastorelli, & Regalia, 2001; Eccles, Wigfield, Harold, & Blumenfeld, 1993), and this is applicable not only to commonplace actions and routines, but also to moral actions. In order to initiate moral action, children need to believe they are capable of assisting others, preventing harm, or simply refraining from transgression. Further, children’s understanding of themselves as good or bad, just or mean, is different from their understanding of the rules and conventions that define good or bad behaviour, or fairness (Hardy & Carlo, 2005); there must be a desire to adhere to some kind of values.

Moral behaviour has been explained within the literature as behaviour motivated by a desire to do what is right, as opposed to avoiding punishment (Asendorpf & Nunner-Winkler, 1992). Moral behaviour has often been linked to such issues as fairness and protecting the welfare of others (Arsenio & Lemerise, 2001) but is by no means determined by a set of
concrete rules. Kochanska and Aksan define moral behaviour as “rule-compatible conduct without surveillance” (Kochanska & Aksan, 2004, p. 1590) thereby emphasising that an act is not moral if motivated by personal interest, desire for conformity, avoidance of harm, or even altruistic concern: such behaviour can only be considered moral if the actor understands the moral ought, and that the act is born out of this understanding (Nunner-Winkler, 2007). Put differently, both intentionality and the intention to do good is necessary for an action to be considered moral (Blasi, 1999).

An important feature of moral self concept is that it should directly impact moral behaviour in some ways. For example, Kochanska, DeVet, Goldman, Murray, and Putnam (1994) showed that children who felt affective discomfort after rule transgression (according to maternal report) were more likely to spontaneously display pro-social behaviours, such as confession. In a related study, Cimbora and McIntosh (2003) found specific links between guilt, the development of moral self concept, and pro-social behaviours. In contrast to the association between increased moral self concept and pro-sociality, it has been suggested that limited experience of moral emotions is linked to antisocial developmental trajectories (Aksan & Kochanska, 2005), and deficits in moral self concept in childhood may mark the origins of a trajectory towards antisocial personality and conduct problems in adolescence and adulthood (Frick et al., 2003). Blasi (1999) notes that moral rule understanding alone is not sufficient for moral behaviour and that the experience of moral emotions are vital for such behaviour to occur. Moral emotions include guilt and discomfort in response to rule transgression (Kochanska & Aksan, 2006), shame, contrition, embarrassment (Blair & Fowler, 2008), empathy (Groenendyk & Volling, 2007) and pride (Laible & Thompson, 2000). The precursors of some of these moral emotions appear as early as 18 months of age (Kochanska et al., 1994).
Children clearly need to have knowledge of moral rules to be able to abide by them (Asendorpf & Nunner-Winkler, 1992) but they also need to be motivated to do so. Kochanska and Aksan (2006) see anticipated moral emotions (specifically anticipated guilt) as the motivational force behind moral behaviour. According to Kochanska and her colleagues (Fowles & Kochanska, 2000; Kochanska, 1995, 2003) such motivation, along with temperamental characteristics (i.e., inhibition), shapes moral behaviour (see also Asendorpf & Nunner-Winkler, 1992). Motivational and temperamental aspects of moral conduct have been combined into a larger model by Rest, Narvaez, Bebeau, and Thoma (1999), in which moral sensitivity/understanding, judgment/reasoning, motivation, and character interact to determine conduct. This model emphasises the multi-dimensional determinants of moral conduct, features of which I discuss further below.

**Social Cognitive Understanding**

Social cognitive understanding refers to the understanding of the mental states of others (e.g., thoughts, desires, beliefs, intentions, feelings, etc), and the use of such knowledge to explain and predict the behaviour of others (Arefi, 2010; Blair & Fowler, 2008; Dunn & Hughes, 1998). This ability can also be understood as perspective-taking or theory of mind (Ali, Amorim, & Chamorro-Premuzic, 2009; Barr & Higgins-D’Alessandro, 2007). Whereas (moral) self concept refers to children’s self-understanding and self-evaluation, social cognitive understanding refers to a child’s understanding of the other (Malti & Keller, 2009).

In a defining meta-analysis, however, Wellman, Cross, and Watson (2001) compared children’s abilities to understand false-beliefs (Wimmer & Perner, 1983), a key feature of social cognition, in themselves and in others. They concluded that a child’s understanding of others develops significantly throughout the preschool years and is very closely linked to the
child’s developing self-understanding, if not reflecting the same core ability. Furthermore, Lane, Wellman, Olson, LaBounty, and Kerr (2010) have shown that early social cognition (false belief and emotion understanding) predict children’s moral reasoning in the sixth year. Social cognitive understanding has also been found to be linked to the development of a healthy moral self concept and social engagement (Oliver, Barker, Mandy, Skuse, & Maughan, 2011).

Together, these studies suggest that children’s social cognition may inform self-understanding in the moral domain, so it is important to establish whether moral self concept, as defined above, is in fact an extension of social cognition, or if it captures something different about the child. Specifically, in line with Blasi (1983) and Kochanska (2002), moral self concept can be construed as a window on moral motivation or conscience, which may draw on social cognition but need not be at all equivalent to the capacity to take another’s perspective. Therefore, in the study described herein, both moral self concept and social cognition are measured so that connections between them can be fully analysed.

Temperament

Other sources of individual differences also may impact upon the development of moral self concept. A focus on younger children has demonstrated that temperamental factors also have an important influence on the interaction between social engagement and moral development (Fowles & Kochanska, 2000; Grusec, 2006; Kochanska, Gross, Lin, & Nichols, 2002; Kochanska, Murray, & Coy, 1997). For example, children with fearful temperaments have been shown to develop higher levels of conscience in response to discipline (Grusec & Goodnow, 1994; Grusec, 2006; Kochanska et al., 1997).

Temperament provides the basic building blocks which, when combined with environmental factors, allow for a personality to be built. Temperament links individual
differences in behaviour to underlying neural networks, is observable from birth (Rothbart, 2007) and tends to be showing stability by three years of age (Fowles & Kochanska, 2000). A child’s temperament encompasses their emotional, motor and attentional reactivity as well as self-regulation (Rothbart, 2007).

When self-regulation and moral motivation are considered in combination the ability to predict behaviour becomes particularly powerful. Children with higher levels of impulsivity (lower levels of self-regulation) have been found to make up a higher proportion of children referred clinically for behavioural problems (Ablow et al., 1999) and it has been found that the behavioural component of inhibition is a powerful predictor of delinquency (White et al., 1994). It has been found that youths with high impulsivity tend to be less caring (DeLisi et al., 2011) and in reverse, those scoring highly on measures of psychopathy, a possible indicator of lower levels of moral motivation, were found to be more impulsive (McHoskey, Worzel, & Szyarto, 1998).

Impulsivity, and its converse inhibitory control, has both cognitive and behavioural aspects (White et al., 1994) and can be seen as a subset of ‘extraversion’ in Rothbart’s (2007) three part conceptualisation of temperament. Impulsivity and inhibitory control alongside callous unemotional personality traits are seen to be a cornerstone of psychopathy and antisocial behaviour in adults and children (Blair, 2007; Dadds et al., 2009; Dadds, Whiting, & Hawes, 2006; Frick & Ellis, 1999; White et al., 1994). It has been suggested that this underlying disinhibition, when combined with environmental risk factors, is expressed via antisocial behaviours and maintains such behaviour across a lifespan (White et al., 1994). A possible underlying system to explain impulsivity is a reduced sensitivity to punishment in concert with an oversensitivity to reward (White et al., 1994). It has been found that males
tend to be more impulsive than females (DeLisi et al., 2011) and that impulsivity is fairly stable across a life span (White et al., 1994).

The links between temperament and behaviour suggest that children’s temperamental features, as measured via child self-reports of internal experience, may be linked to the development of child reported moral self concept and it is important to understand the ways in which this feature of child self concept interacts with the key features of the proposed study.

**Developmental trajectory of self concept and moral self concept**

This section will outline the three parallel but deeply interconnected trajectories of childhood self development: overall identity, moral self concept and social cognitive understanding. What is clear through the research and examination of these three streams is their influence upon one another. It can be seen that as children’s social engagement broadens, their understanding of themselves and others within the social sphere and as independent individuals also expands. As a child’s understanding of themselves as individuals with the power to affect the world and those around them grows, so does their understanding of the implications of their actions for others and themselves. As will become clear, a child’s self concept is intrinsically interwoven with their social experiences and their understanding of moral rules and oughts. There are excellent reviews regarding the developmental trajectory of self concept across childhood, here some essential aspects are highlighted in relation to the development of moral self concept and social cognitive understanding. For further detail please refer to Harter (1998, 1999, 2006) and Damon and Hart (1982, 1991).

Kochanska and Aksan (2006) report reliable moral emotions and behaviour by the age of two as supported by Emde and colleagues’ finding that children under two modify
behaviour in response to moral rules (1991) while Groenendyk and Volling (2007) and Laible and Thompson (2000) highlight the period between two and three years of age as critical for conscience development. Aksan and Kochanska (2005) locate the development of the capacity to regulate conduct and emotion in appropriate ways in the early preschool years and Blasi (1999) similarly suggests that children develop the ability to respond appropriately to moral emotions, moving from automatic impulses to intentional, meaningful actions and experiences at three or four years of age. It has been suggested however that young children from around three have consistent, coherent self concepts without the linguistic ability to express them (Brown, Mangelsdorf, Agathen, & Ho, 2008). By preschool moral self concept and moral motivation is being enacted via self-reported negative feelings after wrong doing, apology after transgression, and concern about others’ wrongdoing (Hardy & Carlo, 2011; Kochanska, 2002).

Self concept is continuing to develop through the interaction between emotional tendencies, temperament and their social environment; the latter of which is construed primarily in terms of the caregiver (Brown et al., 2008) and later the close social environment of the school, their peers and teachers (Lindner-Müller et al., 2012; Reis & Youniss, 2004). Around this age the links between a child’s social interactions and their creation of identity are increasingly evident. For example, the quality of the mother-child relationship at three has been linked to general self concept one year later, this effect covering multiple domains of the self concept (Verschueren, Doumen, & Buyse, 2012). There is evidence of associations longitudinally and concurrently between social competence and moral emotions including positive empathy (I feel happy when you appear happy) between the ages of three and five (Sallquist, Eisenberg, Spinrad, Eggum, & Gaertner, 2009).
The links between social engagement and self concept is also evident in the domain of moral self concept although children with behavioural problems at four and five were just as able to display concern and pro-social behaviour as children without such behavioural concerns, they do appear to experience less positive emotion as a result (Zahn-Waxler, Cole, Welsh, & Fox, 1995). It is suggested that these children may be less competent at regulating the emotions of others and less able to stay socially engaged in the presence of others’ distress. This in turn reducing children’s confidence in their ability to manage these situations which further impacts self concept development (Zahn-Waxler et al., 1995).

Between early and middle childhood a child’s self concept starts to combine previously separate concepts creating sets of characteristics (“I am a fast runner” becomes, “I am sporty”; Harter, 1998). This process does not result in a reduction of the over-differentiation of good and bad, a type of all-or-nothing thinking about both the self and others however. This shift also occurring within the moral domain, the child developing an understanding of others as good or bad via multiple acts (Harter, 1998).

Children in early childhood who are asked to comment upon the affective outcome of not acting pro-socially still respond in ways dependent upon the context, such as the presence of a teacher, demonstrating that pro-social behaviour is not yet seen as equivalent in importance and consequence as immoral behaviour (Sy, Demeis, & Scheinfield, 2003). Concurrently however it has been found that higher levels of moral reasoning at four and five is related to children’s pro-social behaviours (Miller, Eisenberg, Fabes, & Shell, 1996) and an understanding that apology, a social act, implies remorse for wrongdoing and can have a positive effect on the emotions of the victim (Smith, Chen, & Harris, 2010).

By around five years children recognise that moral and conventional transgressions result in different emotional consequences (Prinz, 2005) and they judge immoral behaviour as
morally wrong as a result of both aversive negative emotions elicited for the self and the other, but also due to a respect for the other and a desire for others to be free from harm (Turiel & Killen, 2010). Under the age of seven their moral motivation tends to be based on ideas of restraint – on not doing some behaviours rather than acting morally (Stilwell, Calvin, Kopta, & Padgett, 1998).

Brown and colleagues (2008) found that at five, with the right instruments, children can provide consistent reports of their own personalities and emotional dispositions that match up with reports from their mothers of those same features. In the first years of school children start demonstrating a multi-dimensional self concept across areas of academic ability, social conduct, internalising symptoms and aggression that can be reliably measured using a puppet style interview (see next section for description and analysis; Measelle, Ablow, Cowan, & Cowan, 1998; Measelle, John, Ablow, Cowan, & Cowan, 2005).

By eight children understand that a transgressor’s emotions will be based on the moral rule violation rather than achievement of goals – that is, they expect a transgressors to feel distress rather than happiness (Nunner-Winkler & Sodian, 1988). At this stage two separate aspects of moral self concept are becoming evident: preference for pro-social behaviour and avoidance of antisocial behaviour (Krettenauer et al., 2013). At six, children’s moral motivation centres on detection and punishment while by eight they are demonstrating the effects of internalised concern and justice (Thompson & Hoffman, 1980).

Children are, in these first years of schooling, showing the ability to reflect and comment upon their own social competence (Lindner-Müller et al., 2012) and internal psychological experiences (Hart & Damon, 1986). The internalisation of others’ opinions about the self, within this broadening social sphere, results in the creation of a more realistic sense of self (Leflot, Onghena, & Colpin, 2010).
By middle childhood the experience of moral emotions in response to transgression including guilt, shame and embarrassment are firmly established (Tangney, Stuewig, & Mashek, 2007). By twelve and thirteen rules have become more generalised and abstract, they have become values and virtues, these are less concrete and children are less able to comply with them with certainty and there is a growing recognition that virtues can work at cross purposes, increasing perspective taking skills allows children to see the effects of their actions from the other’s point of view (Stilwell et al., 1998). Children are taking into account private thoughts and intentions of others alongside actions to judge goodness (Stilwell et al., 1998).

Harter (2006) suggests that some individuals by this stage of development demonstrate relatively stable self concept but that this stability is not universal, that there exists for others a more situation-dependent identity. She puts forward that a stable self concept includes global self-worth and esteem, features developed in childhood via significant experiences (Verschueren, Marcoen, & Schoefs, 1996). Harter identifies instability within self concept as an indicator of individual differences in sensitivity to the evaluation of others (see also Cutting & Dunn, 2002), social support and the role of ideal self suggesting a role for interpersonal relations within the development and ongoing stability of self concept.

Empathy

The relationship between empathic responding and conscience varies within the literature. These two constructs have previously been conflated (Kochanska et al., 2010) but there is also the suggestion that empathy is in fact simply a necessary, but not sufficient, precursor of moral self concept (Eisenberg, Eggum, & Edwards, 2010).
Empathy can be understood as a vicarious emotional experience in response to the perceived internal experience of another (Arefi, 2010; Blair, 1995; Bryant, 1982). Empathy is widely considered to be a product of perspective- or role-taking, as outlined above a key aspect of social cognition, as is involved in the development of conscience. Empathy has also been understood as “an affective response more appropriate to someone else's situation than to one's own” (Hoffman, 1987, p. 48) a definition which draws attention to the contrast between this, affective empathy, and cognitive empathy or social cognition (Ali & Chamorro-Premuzic, 2010; Arefi, 2010).

Some studies have found that moral self concept is best achieved through the experience of empathy (Blair & Fowler, 2008; Blair et al., 2001; Eisenberg et al., 2010). Empathic distress in children predicts, to a degree, internalized rules (Aksan & Kochanska, 2005) and pro-social conduct (Barr & Higgins-D’Alessandro, 2007; Eisenberg & Fabes, 1990) and is important for the control of antisocial behaviour and the development of moral reasoning (Blair & Fowler, 2008). Arsenio and Lemerie (2001) reported that adolescents diagnosed with conduct disorder, often linked to a poorly developed conscience, were less able to recognise the emotions of others and less likely to report that they shared those emotions. Both Miller and Eisenberg (1988) and Lovett and Sheffield (2007) found, in their meta-analyses of empathy and behaviour, mixed results when considering the relationship between empathy and antisocial conduct (Anastassiou-Hadjicharalambous & Warden, 2008). Arefi (2010) found a positive correlation between scores on the Bryant Empathy Index (Bryant, 1982) and pro-social behaviour as well as negative correlations with measures of aggression suggesting that empathy is related to helping behaviours as well as the cessation of behaviour that causes distress but the role of empathy within moral self concept is still not clear.
Measurement of self concept and moral self concept

One of the key challenges cited time and time again within the literature is the development of a measure that meaningfully accesses children’s self concept and internal experience (Ablow et al., 1999; Anastassiou-Hadjicharalambous & Warden, 2008; Arseneault, Kim-Cohen, Taylor, Caspi, & Moffitt, 2005; Brown et al., 2008; Davis-Kean & Sandler, 2011; Measelle et al., 1998). A common solution is the child self-report, these have been found to be good predictors of behaviour (Brinthaupt & Erwin, 1992). However, the nature of this challenge is multifaceted, any tool must take into account children’s cognitive abilities and access to their own internal experience, the effects of social cues, expectations and individual differences (Brinthaupt & Erwin, 1992) as well as the ability for the tool to be integrated with and, compared to, adult measures of the same construct.

Measures of self concept have covered individual differences in such areas as self confidence, genuineness, goals, personality (Blasi & Glodis, 1995), self efficacy, assertiveness, social skills, academic skills (Andreou, 2004), typical behaviour and internal states (Eder, 1989). It has been demonstrated (Brown et al., 2008; de Rosnay & Fink, 2011) that children between four and six years of age, with the right instruments, can provide consistent reports of their own personalities, emotional dispositions and moral experiences that match parental reports and behavioural measures. These studies, and others (e.g. Eder, 1989), suggest that from an early age children are, at the very least, able to recognise, and comment upon, consistencies within their internal dispositions and feelings. It is suggested that children may in fact be able to give much more accurate descriptions of their own internal experiences and than adults as they have unfettered access to such things ((Brown et al., 2008; Marsh, Debus, & Bornholt, 2005).
Two types of tool have been developed in response to the challenges of accessing self concept in children; reactive and spontaneous measures (Brinthaupt & Erwin, 1992). Spontaneous measures include open ended, non-prompting questions such as “tell me about yourself” whereas reactive measures include researcher-provided items within which the participant locates them self. Examples of reactive measures include the Piers-Harris Children’s Self concept Scale, the Self Description Questionnaire (Brinthaupt & Erwin, 1992; Verschueren et al., 1996) and the Coopersmith Self-Esteem Inventory (Harter, 1982). It has been shown that when attempting to access children’s self concept open ended questions produce very limited information and tend to focus predominantly on physical traits (Brown et al., 2008; Harter, 2006). Brinthaupt and Erwin (1992) report that forced choice measures were more likely to access the more evaluative aspects of self concept and open ended questions tap into descriptive aspects of self.

An examination of whether children and adults report consistently upon the same constructs is primary, to build an understanding of whether a child’s experience of these constructs differs from the ways in which key adults interpret and understand these constructs via their behaviour. This also raises the problem that the subjective experience, of for example empathy, may be very different from the observed related behaviours. The way in which child-report measures are spoken about within the literature implies that these measures tap into the same construct as parent- and teacher-reports (Damon & Hart, 1982). It has been found however that the correspondence between reports from different respondents has varied (Renk & Phares, 2004; Roberts & Strayer, 1996).

Moral self concept has been measured in a number of different ways. For example, the mishap paradigms in which a child is led to believe they have broken something of value to the experimenter while gaze, bodily tension and facial affect is measured (Aksan &
Kochanska, 2005). Similarly the distress paradigm has been used in which the experimenter feigns pain and distress in front of the child and again, gaze, bodily tension and displayed affect are measured (Kochanska, Forman, & Coy, 1999; Kochanska et al., 2010; Koenig, Cicchetti, & Rogosch, 2004; Zahn-Waxler, Robinson, & Emde, 1992). Other-report questionnaires have also been developed to access child conscience such as the guilt sub scale of the My Child parent-report measure (Cornell & Frick, 2007; Kochanska et al., 1994) as well as child self-reports (De Rosnay & Fink, 2011; Kochanska et al., 2002). The attribution of (moral) emotions to story characters after conflict or rule transgression has been used widely and it is thought that correct moral emotion attribution is a good indicator of a child’s own motivation to behave morally. Rule-compatible conduct and internalized compliance has also been measured by examining the internalisation of maternal/experimenter prohibition and request directly in the home or in the lab setting (Callender, Olson, Kerr, & Sameroff, 2010; Kochanska et al., 2002, 2010).

Another commonly used measure of moral self concept, particularly rule internalization, is a task targeting the moral/conventional distinction (Blair, Monson, et al., 2001). These tasks involve children deciding whether an action is always wrong (a moral rule) or only wrong in the presence of a rule defining it as such, (a conventional rule; Smetana, 1993). Moral transgressions tend to be defined by their impact on the rights and welfare of other people (e.g. hitting others; Blair et al., 2001), that is, the existence of a victim. Conventional rules, on the other hand, include socially endorsed patterns of behaviour and protocol which do not necessarily prevent direct harm to another person, they guide behaviour that, without the rule, would not be considered wrong (e.g. boys wearing dresses; Royzman, Leeman, & Baron, 2009).
A puppet interview format was originally designed as an interactive interview featuring both structured and clinical interviewing techniques (Ablow et al., 1999). The Berkley Puppet Interview, a puppet based symptomatology interview was shown to be a reliable and valid method of engaging children between four and eight and obtaining their perceptions of their own well-being (Arseneault et al., 2005; Measelle et al., 1998) independent of their cognitive abilities. It should be noted that these self-report measures do not measure abilities but the child’s perception of these abilities and tendencies (Brown et al., 2008; Harter, 1998).

In an attempt to address some of the measurement challenges Eder (1990) developed a puppet-style interview about self concept and succeeded in showing that three to seven year old children are capable of describing their self concept in meaningful and longitudinally stable ways using this format (Brown et al., 2008; Kochanska et al., 2010; Kochanska, 2002; Verschueren et al., 1996). Puppet-style interviews are structured around forced-choice items and encourage the child to identify with one of two puppets who have provided the two choices. This structure was designed to address both children’s limited attention and language skills and the findings have demonstrated that children show a coherent self concept and can communicate this much earlier than previously assumed. Measelle and colleagues (1998) have also shown that children’s results on puppet interview scales showed reasonable relationships with parent and teacher-reports regarding these constructs. The method has been reported to be both reliable and valid (Ablow et al., 1999). Anastassiou-Hadjicharalambous and Warden (2008), de Wied et al. (2007) and Arefi (2010) have all found that the items within the Bryant Empathy Scale, a child self-report measure of felt empathy, provide a valid and reliable measure with meaningful relationships to other measures of empathy.
Summary

Why study moral self concept? One reason is the relationship between moral understanding and motivation and behaviour, both positive and negative in children, adolescents and adults. There appears to be however a clear link between moral identity and moral behaviour both positive and negative (Perugini & Leone, 2009), later socialisation and social competence also positively influenced by a well developed moral self concept (Kochanska et al., 2010).

Conduct disorder is one of the most common childhood disorders (Anastassiou-Hadjicharalambous & Warden, 2008) and has been found to predict criminal behaviour in adolescence (Babinski, Hartsough, & Lambert, 1999), antisocial behaviour in adults (Blair, 2006) and future psychosocial problems (Hofvander, Ossowski, Lundström, & Anckarsäter, 2009). Children diagnosed with conduct disorder are characterized by persistent antisocial conduct, aggression towards people/animals or the destruction/violation of property (American Association Psychiatric, 1994) – that is, moral rule violations (Anastassiou-Hadjicharalambous & Warden, 2008).

To better provide school environments for children in which they can develop a healthy moral self concept we must first understand the forces which influence its development. As we have seen there is a strong suggestion that moral self concept, in younger children, is being shaped and influenced by their social engagement, much of this occurring within the school environment. Not only this, but there are other child features which may be influencing this developmental trajectory (e.g. social cognitive understanding and temperament). This literature review has provided the impetus to design a study to examine in more depth these relationships as will be outlined within the next chapter.
Chapter 2:

Socialisation is the process by which a child, who is acting in the environment, gathers beliefs and attributions from socialising agents (e.g., parents, siblings, teachers, peers), which can be appropriated and incorporated into the child’s identity. Internalisation processes, however they may occur, and resulting behaviours, stem from the relationships children have with others (Kochanska et al., 1999) and have been argued to be vital for the development of moral self concept or conscience (Grusec, 2006). While the adult literature on moral identity strongly suggests that an individual’s moral self concept acts as the source of motivation for moral action (Blasi, 1983), there are grounds to suppose that during childhood, as children enter school, moral self concept is still in an important stage of development and may be very open to external influences from the social environment and the child’s changing capacity to understand the world (Grusec, 2006).

This study aims to explore how children’s social experience, as rated and assessed by teachers, is related to their burgeoning moral self concept. In keeping with the conventional view that moral identity informs moral motivation and action, it was predicted that moral self concept would be concurrently related to children’s social competence, such that a strong sense of moral obligation and experience of moral sentiments would be positively associated with positive social conduct, and poor moral self concept would be related to behaviour problems and impulsivity. Longitudinally, conventional views suggest that early moral self concept should predict social competence, but the reverse relationship was also of interest: that is, would children’s social track record influence their moral self concept formation between six and seven years of age?
The logic behind this latter prediction was simple. Given that socialisation factors have been shown to influence children’s growing moral orientation in domains of compliance, guilt, and conscience (Grusec, 2006; Kochanska, 1991), teacher evaluations of children in the school environment should provide a window on behaviours, and reactions to such behaviour, that is relevant for children’s view of themselves as morally acting social participants. For example, children constantly in trouble for impulsive behaviour should, under this view, perceive the evaluations of themselves as poorly behaved and, perhaps, bad. By contrast, children praised for good behaviour and recognised as helpful/reliable community members should, all things being equal, derive an image of themselves as good or responsible.

Harter (2006) has highlighted the changes in child moral self concept around this age, suggesting that these changes are caused by both ongoing cognitive development and social interaction. In keeping with this dual focus, I also aim to examine the proposed interactions of social cognition and moral self concept on behaviour, with the aim of finding evidence supporting the view that moral self concept is more than sophisticated social cognition.

To do this, it is first essential to establish whether self concept and moral self concept domains can be reliably measured and differentiated in a typical sample of children using a puppet interview tool. It is predicted that, despite an expected increase in self-reported moral sentiments with age, children, by seven years, will have a stable and measurable moral self concept. It is also expected that children’s self-reported negative affect, agreeableness and timidity, features of self concept, will also be stable.

To further anchor our understanding of moral self concept, a within-network method will be used to examine the relationships between moral self concept and other domains of self concept (Marsh et al., 2005). Although this is an exploratory aspect of the study, some
specific predictions can be made. First, it is suggested that a relationship between timidity and moral self concept will be evident (Kochanska, 1991) as indicated by the suggestion that timidity is an expression of executive control, a child’s ability to control their own behaviour.

It is also hypothesised that, by seven years of age, moral self concept will show a reasonable degree of stability via a clear, but not complete, longitudinal relationship with moral self concept at six encompassing its ongoing development.

Further, the nature of moral self concept will be examined and the role of empathic sadness will be explored. Specifically, it will be tested whether empathic sadness and moral self concept should be combined into a unified construct or kept as separate yet related features of personal identity. It is hypothesised that these two sets of items will emerge as related but not identical as it is understood that moral self concept is shaped by underlying propensity for empathic responding.

Finally, it is hypothesised that social cognitive understanding will play an important role in children’s identity formation. Specifically, it is predicted that social cognition will have some influence on the formation of moral self concept, such that children with more advanced social cognition will be more likely to have a developed moral self concept. By contrast, there is little basis to predict that moral self concept will affect the social cognitive understanding and, therefore, an asymmetrical relationship is predicted between them.

To summarise the primary goals of the study a diagram is useful (see Figure 1). First, to examine the concurrent relationships between moral self concept and social behaviour at each time point as well as the longitudinal stability of these constructs. Second, to differentiate between the classical view that moral self concept influences moral action and the hypothesised view in which social engagement is still playing a major role in influencing the development of moral self concept.
Figure 1: Relationships to be examined in study 1
Method

Participants

Data were collected from children at two time points, once at six years of age (year 1) and again when the children were seven years old (year 2). Previously, at five years of age, a total of 115 children (59 boys) were recruited from three schools in Sydney which serviced lower-middle to middle class families. The current study, however, only concerns those children retained in the study at six \((n = 106)\) and seven \((n = 96)\) years. Not all children could attend each assessment session, and some children moved schools prior to six and seven years of age, which is normal in inner-city schools. There were no exclusion criteria and no child was reported to experience severe economic disadvantage. Children came from a mixture of ethnic backgrounds and all had English as a native language. In year 1, mean age was 79.87 months \((SD = 4.79 \text{ months}; \text{Range} = 70 – 90 \text{ months})\), and, in year 2, mean age was 92.72 \((SD = 4.63 \text{ months}; 80 – 102 \text{ months})\). Children were recruited via whole class invitation, this resulted in uptake rates of between 55% and 82% per classroom \((M = 68\%)\).

Procedure

At each age, children were individually interviewed on two occasions of approximately 30-45 minutes. Interviews took place in a small room adjacent to the classroom or a spare space during class time. The order of procedure administration was randomised across children. In addition to the measures described below, children were given assessments of emotional self-regulation and social understanding. These additional materials are outside the scope of this study and are not discussed further.

Teacher questionnaires were all completed by teachers at the end of the school year so that each teacher had spent an entire school year with the child to be rated. For each child different teachers completed the questionnaires at six and seven years.
Materials

**Self concept.** Based on Eder’s (1990) measure of self-concept (CSVQ; appropriate for administration to young children), Brown, Mangelsdorf, Agathen, County and Ho (2008) describe three conceptually and empirically independent dimensions of self-concept: timidity, agreeableness and negative affect. *Timidity*, describes children who are risk averse and avoid harm. *Agreeableness* refers to a combination of sociability, extraversion, and conscientious behaviour. *Negative affect* describes children who are neurotic, stress reactive, and worry-prone. Using factor analytic methods, these three constructs were found to be orthogonal and independent (Brown et al., 2008).

On the self concept scale derived by Brown et al. (2008) there were eight timidity response items, 14 agreeableness response items, and nine negative affect response items. As there was no a priori reason to retain all these items (which were taken directly from Eder’s CSVQ), the 8 timidity items were retained and the 8 items loading most strongly on each of the agreeableness and the negative affect dimensions were also retained; resulting in a 24 item scale. Some of these items were subtly changed for Australian children (e.g., ‘jungle gym’ was changed to ‘monkey bars’), and the agreeableness item referring to ‘show and tell’ was omitted because it was not culturally appropriate. The 24 selected items were presented as bi-polar statements delivered by a pair of video recorded hand puppets (described in detail below, see *moral self concept*). Items were randomized and presented in a fixed order, and each puppet made equal number of statements strongly endorsing the dimension or repudiating it. The items are presented below with the original factor loadings described by Brown et al. Children received a total score for each domain between 0 and 7.

**Timidity:** I don’t climb up on things that are high (.65); It’s not fun to scare people (.70); I don’t think that it would be fun to hang upside-down on the monkey bars (.48); I
don’t like to tease people (.50); When I hear lightning and thunder, I would never run to look out the window (.55); I don’t like to watch other people fight (.65); When I see something scary on TV, I cover my face (.50); It’s not fun riding in a fast car (.51).

Agreeableness: I like to do what my friends tell me to do (.46); I care about doing a really good job on everything I do (.54); When new people come to my house, I show them my toys (.69); I like to have people look at me (.81); People want to be around me (.49); I share toys with kids I don’t know (.60); I’m a good kid (.48); I would play with a new kid in my school (.90).

Negative Affect: I get scared a lot (.68); I get mad a lot (.90); Some days everything makes me grumpy (.63); People always say mean things to me (.55); A lot of things make me upset (.63); I like to boss people around (.63); I get sad a lot (.71) I cry when I get upset (.60).

Moral self concept and empathic sadness. Based on maternal reports of children’s morally relevant behaviour, Kochanska and colleagues (Kochanska et al., 1994, 2010) also adapted Eder’s CSVQ puppet interview to examine children’s moral self-concept. Their interview was structured around theoretical subcomponents of conscience derived from maternal reports, which yielded two broad dimensions: Affective Discomfort, including indications of child guilt, proclivity to apologize, concern about good feelings with parents and empathy; and Active Moral Regulation/Vigilance, including a tendency to confess following wrongdoing, attempt at reparation, internalized conduct, and concern about others wrongdoing.

The original moral self concept child self-report (puppet) scale (see Kochanska, 2002) consisted of 37 items covering nine domains identified by Kochanska et al. (1994); including six items for guilt and four items for empathy. The moral self concept scale has not been analysed by sub-domain, instead being treated as a wide-ranging assessment of children’s
thoughts and feelings about their own responses to morally relevant situations. Measured as such, Kochanska and colleagues have reported acceptable reliabilities for a 37-item version of the scale ($\alpha = .75$; Kochanska, 2002) and 31-item version ($\alpha = .65$; Kochanska et al., 2010). Personal correspondence with the scale’s author indicated that there is no ideal number of items, and that shorter versions are acceptable. Therefore, a 23 item version was developed that covered seven of the original nine domains (see de Rosnay & Fink, 2011):

*apology* and *sensitivity to violations of standards* were omitted. However, unlike Kochanska’s original scale, empathy was assessed using items directly from the affective sadness dimension of the Bryant Empathy Index (Bryant, 1982; de Wied et al., 2007). This approach was taken because the Bryant scale is widely used and validated, and has very similar items to those used by Kochanska et al. (2002). Furthermore, empathy was initially analysed separately because of important theoretical distinctions between empathy, which is construed as an affective resonance with someone else’s predicament, and the other moral domains specified by Kochanska, which concern duties and obligations for one’s own conduct, and, particularly for guilt, emotional evaluations of one’s own actions. The domains and specific items are presented below.

**Confession (2 items):** I tell someone if I break something (*versus* I hide it if I break something); When I do something wrong, I tell someone (*versus* When I do something wrong, I keep it a secret.)

**Reparation (2 items):** If I spill something on the floor, I clean it up (*versus* If I spill something on the floor, I don’t clean it up); If I broke a friend’s toy, I would give them one of mine (*versus* If I broke a friend’s toy, I wouldn’t give them one of mine).

**Internalized conduct (2 items):** If my parents tell me not to do something, I won’t do it (*versus* If my parents tell me not to do something, I still sometimes do it); I usually follow
the rules even if my mum can’t see me (versus I sometimes break the rules when my mum can’t see me).

**Concern about others’ wrongdoing (2 items):** It upsets me when other people do something wrong (versus I don’t mind when other people do something wrong); I try to stop other kids from getting in trouble (versus I don’t care if other kids get in trouble).

**Guilt and affective discomfort after transgressions (6 items):** I usually feel bad when I break something or spill something (versus I don’t feel bad when I break something or spill something); When I do something bad, I worry about it for a long time (versus When I do something bad, I don’t really worry that much); It upsets me when someone tells me I make a mistake (versus It doesn’t really bother me when someone tells me I make a mistake); When I remember a time I got in trouble for doing something wrong, I feel bad all over again (versus When I remember a time I got in trouble for doing something wrong, I don’t feel bad anymore); When I do something bad, I get really upset (versus I don’t care when I do something bad); When I do something wrong, sometimes I get a funny feeling in my tummy (versus When I do something wrong, I don’t get a funny feeling in my tummy.

**Concern about good feelings with parents (2 items):** If my mum is mad at me because I did something wrong, I hate it (versus If my mum is mad at me because I did something wrong, I don’t really care); When I do something bad and my mum is upset, I really want us to make up (versus When I do something bad and my mum is upset, I don’t mind).

**Empathic Sadness (7 items):** It makes me sad to see a boy who can’t find anyone to play with (versus It doesn’t make me sad to see a boy who can’t find anyone to play with); I get upset when I see a boy being hurt (versus I don’t get upset when I see a boy being hurt); When I see a boy who is crying, it makes me feel like crying (versus When I see a boy who is crying, it doesn’t make me feel like crying); When I see a girl who is crying, it makes me feel
like crying (*versus* When I see a girl who is crying, it doesn’t make me feel like crying); It
makes me sad to see a girl who can’t find anyone to play with (*versus* It doesn’t make me sad
to see a girl who can’t find anyone to play with); Some songs make me so sad I feel like
crying (*versus* I don’t ever feel like crying when I hear a song); I get upset when I see a girl
being hurt (*versus* I don’t get upset when I see a girl being hurt).

As for the self concept interviews (see above), children were presented with a pre-
recorded puppet interview in which each puppet declared one of the bi-polar statements listed
above. Items were randomized and presented in a fixed order, and each puppet made equal
number of strongly moral statements and non-moral statements.

For puppet interviews (self concept and moral self concept), there was a brief
introduction section in which the two gender neutral puppets, Sam and Alex, introduced
themselves and the task to the child with neutral items (e.g., Sam: I like pizza – Alex: I don’t
like pizza), and then presented the items. For half the statements Sam spoke first. The first-
speaking puppet occurred in a random order, with the exception that neither puppet could
start more than twice in a row (to reduce bias towards one puppet).

Puppet interviews were presented on a laptop, and children were instructed to indicate
which puppet they identified with most. During the video, the experimenter noted down
which puppet the child chose for each item. Children were encouraged to point at a puppet of
choice; however any indication of preference was accepted. If the child hesitated, this was
noted and they were encouraged to indicate which puppet they were most like. Hesitation was
in fact very rare and therefore scores were calculated by assigning a point for each item:
higher scores indicating higher levels of self-reported moral self concept, empathic sadness,
timidity, negative affect or agreeableness. *Moral self-concept* (0 – 14) and *empathy* (0 – 7)
total scores were created separately.
**Social skills at six and seven years (SSRS).** To assess children’s social skills at both time points, teachers completed the Social Skills Rating System Questionnaire (SSRS; Gresham & Elliott, 1990). The social skills sub scale of the SSRS is 30-items measuring the frequency of various socially skilled and adaptive behaviours within the classroom environment (0 = never, 1 = sometimes, 2 = very often) with a focus on pro-sociality (Cassidy, Werner, Rourke, Zubernis, & Balaraman, 2003). Items include ‘makes friends easily’, ‘helps you without being asked’ and ‘invites others to join in activities’. High scores on the total social skills indicated children were more socially skilled (Whiteside, McCarthy, & Miller, 2007). The SSRS has been shown to be both reliable and a valid measure of social skills (Cassidy et al., 2003) and has been shown to be related to peer problems and social skills (Whiteside et al., 2007).

**Social maturity with peers at six and seven years (SMat).** Teachers completed the Social Maturity Rating Scale at both time points (SMat; Peterson, Slaughter, & Paynter, 2007); a seven-item scale tapping a child’s social maturity relative to other children of the same age. Each item is rated on a seven-point likert scale (1 = very much less mature than the average child of this age to 7 = very much more mature than the average child of this age). Peterson and colleagues (2007) found that ratings were effectively reflecting individual differences in social maturity in children independent of age or verbal abilities. A total social maturity score was calculated and showed good reliability (α = 0.96) comparable to Peterson et al.’s (2007) findings (α = 0.96).

**Problem behaviours at six years (SSRS-problem behaviours).** Teachers also completed the problem behaviours sub scale of the SSRS, consisting of 18 items assessing the frequency of externalising, internalising and hyperactivity behaviours (see above regarding reliability of the SSRS tool).
**Conduct problems at seven years (SDQ).** To further assess social behaviours, teachers completed the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997). This is a behavioural screening questionnaire for children and comprises five sub scales: emotional problems, conduct problems; hyperactivity/inattention, peer relationship problems and prosocial behaviour. Each of the scales includes five items, rated on a three point likert scale (0 = not true, 1 = somewhat true and 2 = certainly true). The SDQ has been shown to be a reliable measure of children’s social behaviour (Goodman, 2001) and is comparable to other comprehensive child behavioural screening questionnaires, such as the Child Behaviour Checklist (Goodman & Scott, 1999). Only the conduct problems scale (e.g. often fights with other children) was used within the current study as an age appropriate tool comparable to the SSRS problem behaviours scale.

**Impulsivity at six and seven years (TRIS).** At both time points teachers completed the Teacher-Rated Impulsivity Scale (TRIS; Gomes & Livesey, 2008; White et al., 1994). The TRIS assesses children’s impulsive behaviours in the classroom. The scale includes six items all rated on a three point scale (0 = rarely, 1 = sometimes, 2 = always) these include four items from the Child Behaviour Checklist (CBCL; Achenbach & Edelbrock, 1983) and two items from the Self-Report Delinquency questionnaires (Elliott et al., 1985 as cited by Gomes & Livesey, 2008). Items assess such behaviours as impatience, acting without thinking and waiting one’s turn. Internal consistency for the six items was high ($\alpha = 0.92$). A total impulsivity score was created by summing all items so that a higher score indicates greater impulsivity.

**Social Cognitive Understanding.** At both time points, four advanced belief-based emotion items were administered, assessing children’s understanding of emotions resulting from false beliefs (Harris, Johnson, Hutton, Andrews, & Cooke, 1989). Two of these items,
the nice and nasty surprise tasks (De Rosnay, Pons, Harris, & Morrell, 2004; Hughes et al., 2000) require children to assign an appropriate emotion to a protagonist in a story on the basis of the character's incorrect belief. To pass the nice surprise task, children were required to attribute sadness to the protagonist on basis of his mistaken belief that he will receive a disliked snack, when he will actually receive a pleasant snack. The nasty surprise task follows this procedure but exchanges the pleasant and disliked snacks. The other two tasks were unexpected contents tasks and assessed children’s attribution of happy and sad emotions when a protagonist is faced with a false-belief about the contents of an object. Children’s scores could range between 0 and 4 for these tasks.

**Verbal Ability.** The Test of Early Language Development-3 (TELD; Hresko, Reid, & Hammill, 1999) was used with six year olds to assess children’s verbal mental ability while the Test of Language Development (TOLD; Newcomer & Hammill, 1988) was used at seven due to age recommendations for these two tests. These tests measure both expressive and receptive language ability and for both measures sub scales were summed to create a total score. Raw, unstandardised scores were used to allow interpretation across the sample independent of age. These were used to index children's language development as such measures have been shown to have stronger relationships with children's social cognition than more specific tests of verbal ability such as vocabulary tests (Milligan, Astington, & Dack, 2007).

**Demographic Information.** A short demographics questionnaire was included in the parent measures booklet to access information regarding socio-economic status, family structure and educational background.
Results

The results are presented in four parts. First, child measures are examined, including an analysis of the reliability of the self concept and moral self concept puppet interviews, and an examination of longitudinal relations between all child measures. Second, teacher ratings of children’s social behaviour are examined, and steps are taken to reduce the data where appropriate. Third, bivariate relations are examined between self concept, moral self concept, social cognition, and children’s social conduct; both concurrently and longitudinally. Finally, hierarchical regression models are used to determine whether child variables at six years of age make a unique contribution to children’s moral self concept at seven years of age.

1. Child measures

Table 1 shows the reliabilities for social cognition, self concept, moral self concept and empathy. The internal consistency of children’s responding in both the moral self concept scale (MSC) and the empathic sadness scale (henceforth empathy) was good, and suggests that these measures are tapping into fairly unified constructs, which is impressive given the breadth of the items. Regarding self concept measures, both timidity and negative affect had moderate but, given the dichotomous response format, acceptable reliability at both six and seven years of age. The agreeableness subscale showed poor reliability, however, and is not analysed further. Assumptions of normality and skewness were analysed (see Appendix C: Assumption testing) and, despite some moderate skewness, all measures remained in their original form. Indeed, Table 2 shows that for each self report measure children used the full distribution of response scores and there was clearly adequate variation to tap individual differences. Only social cognition approached ceiling, with seven year old children clearly finding the tasks relatively easy. Therefore, some caution is needed in interpreting this measure at seven years. Table 2 also shows that, whereas children’s social cognition
improved significantly between six and seven years, $t(95) = -4.34, p < .001$, self-reported measures of self concept, empathy and moral self concept remained essentially constant, $t < 1.7, ps > .10$. Verbal ability is presented as a raw score and, giving the change in assessment instruments, cannot be compared in terms of growth, which is not, in any case, of relevance to this study.

Table 1. *Internal Consistency for Self Concept, Moral Self Concept, and Social Cognition*

<table>
<thead>
<tr>
<th></th>
<th>Cronbach $\alpha$ at 6yrs</th>
<th>Cronbach $\alpha$ at 7yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social cognition</td>
<td>.78</td>
<td>.65</td>
</tr>
<tr>
<td>Self concept</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timidity</td>
<td>.59</td>
<td>.60</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>.34</td>
<td>.35</td>
</tr>
<tr>
<td>Negative Affect</td>
<td>.51</td>
<td>.53</td>
</tr>
<tr>
<td>Empathy</td>
<td>.74</td>
<td>.76</td>
</tr>
<tr>
<td>MSC</td>
<td>.71</td>
<td>.74</td>
</tr>
</tbody>
</table>

*Note. MSC = moral self concept*

Table 3 shows bivariate correlations between child variables within and between both ages. Various features of Table 3 are noteworthy. First, each of the child variables showed significant and moderate to robust stability over time (indicated in Table 3 by shading). Second, girls reported significantly more negative affect and empathy at both time points, and higher moral self concept at seven years. Third, verbal ability was associated with social cognition, as is typical in the literature, both concurrently and longitudinally. By contrast, child measures of self concept, empathy and moral self concept were virtually unrelated to verbal ability. Fourth, there was no evidence, either concurrent or longitudinal, of a relation
between social cognition and children’s moral self concept (or self concept or empathy).

Thus, children’s self understanding appeared to be entirely independent, at these ages, from individual differences in their understanding of mind (as measured on the social cognition variable). Finally, children’s responses on the empathy and moral self concept scales were very similar at both time points. It should be recalled that Kochanska and colleagues incorporated empathy into moral self concept and these findings support such an approach. However, we maintain them separately to independently evaluate relations with teacher ratings of child behaviour.

Table 2. Descriptive Statistics for Child Variables

<table>
<thead>
<tr>
<th></th>
<th>Six years of age</th>
<th>Seven years of age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Range</td>
</tr>
<tr>
<td>Age (months)</td>
<td>106</td>
<td>70–90</td>
</tr>
<tr>
<td>Verbal ability</td>
<td>104</td>
<td>53–75</td>
</tr>
<tr>
<td>Social cognition</td>
<td>106</td>
<td>0–4</td>
</tr>
<tr>
<td>Self concept</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timidity</td>
<td>105</td>
<td>0–8</td>
</tr>
<tr>
<td>Negative Affect</td>
<td>105</td>
<td>0–8</td>
</tr>
<tr>
<td>Empathy</td>
<td>103</td>
<td>0–7</td>
</tr>
<tr>
<td>MSC</td>
<td>103</td>
<td>1–16</td>
</tr>
</tbody>
</table>

Note. MSC = moral self concept
Table 3. *Bivariate Correlations between Child Variables (Longitudinal Stability Denoted by Shading)*

<table>
<thead>
<tr>
<th></th>
<th>Six years of age</th>
<th>Seven years of age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Verbal ability</td>
<td>SCU</td>
</tr>
<tr>
<td>SEX</td>
<td>.03</td>
<td>.12</td>
</tr>
<tr>
<td>6yrs Verbal ability</td>
<td>–</td>
<td>.40**</td>
</tr>
<tr>
<td>6yrs social cognition</td>
<td>–</td>
<td>-.07</td>
</tr>
<tr>
<td>6yrs Timidity</td>
<td>–</td>
<td>-.02</td>
</tr>
<tr>
<td>6yrs Negative Affect</td>
<td>–</td>
<td>.11</td>
</tr>
<tr>
<td>6yrs Empathy</td>
<td>–</td>
<td>.55**</td>
</tr>
<tr>
<td>6yrs MSC</td>
<td>–</td>
<td>.07</td>
</tr>
<tr>
<td>7yrs Verbal ability</td>
<td>–</td>
<td>.29**</td>
</tr>
<tr>
<td>7yrs social cognition</td>
<td>–</td>
<td>.09</td>
</tr>
<tr>
<td>7yrs Timidity</td>
<td>–</td>
<td>.04</td>
</tr>
<tr>
<td>7yrs Negative Affect</td>
<td>–</td>
<td>.16</td>
</tr>
<tr>
<td>7yrs Empathy</td>
<td>–</td>
<td>.48**</td>
</tr>
<tr>
<td>7yrs MSC</td>
<td>–</td>
<td></td>
</tr>
</tbody>
</table>

*Note. MSC = Moral self-concept. SCU = social cognitive understanding. * p < .05, ** p < .01*
2. Teacher ratings of child behaviour

Tables 4 and 5 summarise teacher ratings of children’s social conduct. It should be recalled that different teachers rated children’s behaviour at six and seven years of age, so the extent of stability documented in Table 5 between time points is, again, impressive. Indeed, Table 5 shows that there were high to very high associations between all of the teacher rated behaviour domains, which warranted the creation of global scores for Positive Social Conduct (PSocC: social skills + social maturity) and Negative Social Conduct (NSocC: behaviour/conduct problems + impulsivity) at each age. These scores were created by standardising children’s scores for each scale, and summing standardised scores (which were then, again, standardised to yield z-scores). The lower section of Table 4 presents these standardised combined scores for positive and negative social conduct at each age. It is noteworthy that negative social conduct, in particular shows a strong positive skew, which is to be expected in a cohort of typically developing children who should not have excessive levels of behaviour/conduct problems. Nevertheless, there was sufficient variation in negative social conduct to warrant further analyses, and the scores were not transformed. Correlations between PSocC and NSocP were, as expected, all significant, $ps < .001$, and (absolute) correlations ($|r_s|$) were between .47 and .75.
Table 4. Descriptive Statistics for Teacher Ratings and Combined Social Conduct Scales

<table>
<thead>
<tr>
<th></th>
<th>Six years of age</th>
<th>Seven years of age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Range</td>
</tr>
<tr>
<td>SSRS-social skills</td>
<td>106</td>
<td>12–60</td>
</tr>
<tr>
<td>Social maturity</td>
<td>106</td>
<td>7–49</td>
</tr>
<tr>
<td>TRIS</td>
<td>106</td>
<td>6–18</td>
</tr>
<tr>
<td>SSRS-problem behaviour</td>
<td>106</td>
<td>0–28</td>
</tr>
<tr>
<td>SDQ-conduct problems</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Combined scales</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSocC (z-score)</td>
<td>106</td>
<td>-2.4–2.1</td>
</tr>
<tr>
<td>NSocC (z-score)</td>
<td>106</td>
<td>-1.0–2.8</td>
</tr>
</tbody>
</table>

Note. SSRS = Social Skills Rating System. TRIS = Teacher Rated Impulsivity Scale. SDQ = Strengths and Difficulties Questionnaire. PSocC = positive social conduct. NSocC = Negative social conduct.
Table 5. Relations Amongst Teacher Ratings\(^a\) of Child Behaviour

<table>
<thead>
<tr>
<th></th>
<th>Six years of age</th>
<th></th>
<th>Seven years of age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SSRS Social Skills</td>
<td>Social Maturity</td>
<td>Problem Behaviours</td>
</tr>
<tr>
<td>6yrs SSRS Social Skills</td>
<td>-</td>
<td>.69***</td>
<td>-.78***</td>
</tr>
<tr>
<td>6yrs Social Maturity</td>
<td>-</td>
<td>-.61***</td>
<td>-.55***</td>
</tr>
<tr>
<td>6yrs SSRS Problem Behaviours</td>
<td>-</td>
<td>.84***</td>
<td>-.59***</td>
</tr>
<tr>
<td>6yrs TRIS</td>
<td>-</td>
<td>-.50***</td>
<td>-.28**</td>
</tr>
<tr>
<td>7yrs SSRS Social Skills</td>
<td>-</td>
<td>.59***</td>
<td>-.70***</td>
</tr>
<tr>
<td>7yrs Social Maturity</td>
<td>-</td>
<td>-.34**</td>
<td>-.30**</td>
</tr>
<tr>
<td>7yrs SDQ Conduct Problems</td>
<td>-</td>
<td></td>
<td>.80***</td>
</tr>
<tr>
<td>7yrs TRIS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. MSC = Moral self-concept. SSRS = Social Skills Rating System. TRIS = Teacher Rated Impulsivity Scale. SDQ = Strengths and Difficulties Questionnaire.

\(^a\) Different teachers rated child behaviour at six and seven years of age.

\(** p < .01, *** p < .001.\)
3. Bivariate relations between child and teacher measures

Table 6 shows bivariate correlations between child measures and social conduct at six and seven years of age. Importantly, Table 6 reveals that, as expected, moral self concept was concurrently related to social conduct (both positive and negative). However, longitudinally, there was specificity in prediction between these domains: earlier behaviour predicting later moral self concept. There was no evidence that children’s moral self concept predicted their social conduct. These findings can be contrasted with social cognition, which was again concurrently related to (positive) social conduct but, longitudinally, showed the reverse pattern: that is, social cognition at six years moderately predicted positive social conduct at seven years but the reverse relation did not entail. Taken together, in conjunction with the independence of social cognition and moral self concept (see Table 3), no further analyses are made of the relation between these domains.

Table 6 also shows that empathy and moral self concept cleave with respect to their relation with teacher rated social conduct; only moral self concept was predicted by earlier social conduct and, therefore, a distinction is maintained between these domains. In subsequent analyses only the moral self concept scales are used.

Finally, Table 6 showed a concurrent and longitudinal association between timidity and social conduct; in particular, negative social conduct. Given the theoretical significance of timidity for moral self concept, as discussed in the Introduction, timidity is included in subsequent hierarchical models because of its relevance for moral development.
Table 6. *Bivariate Correlations between Child Variables and Combined (Teacher Rated) Social Conduct Scales*

<table>
<thead>
<tr>
<th></th>
<th>Six years of age</th>
<th>Seven years of age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PSocC</td>
<td>NSocC</td>
</tr>
<tr>
<td>Sex: 0-male, 1-female</td>
<td>.32**</td>
<td>-.19*</td>
</tr>
<tr>
<td>6yrs verbal ability</td>
<td>.16</td>
<td>.01</td>
</tr>
<tr>
<td>7yrs verbal ability</td>
<td>.21*</td>
<td>-.01</td>
</tr>
<tr>
<td>6yrs social cognition</td>
<td>.26**</td>
<td>-.18</td>
</tr>
<tr>
<td>7yrs social cognition</td>
<td>.10</td>
<td>-.02</td>
</tr>
<tr>
<td>6yrs Negative Affect</td>
<td>-.12</td>
<td>.10</td>
</tr>
<tr>
<td>7yrs Negative Affect</td>
<td>-.17</td>
<td>.23*</td>
</tr>
<tr>
<td>6yrs Timidity</td>
<td>.22*</td>
<td>-.26**</td>
</tr>
<tr>
<td>7yrs Timidity</td>
<td>.09</td>
<td>-.24*</td>
</tr>
<tr>
<td>6yrs Empathy</td>
<td>.22*</td>
<td>-.14</td>
</tr>
<tr>
<td>7yrs Empathy</td>
<td>.19</td>
<td>-.10</td>
</tr>
<tr>
<td>6yrs MSC</td>
<td>.28**</td>
<td>-.29**</td>
</tr>
<tr>
<td>7yrs MSC</td>
<td>.38**</td>
<td>-.37**</td>
</tr>
</tbody>
</table>

*Note. MSC = moral self concept. PSocC = positive social conduct. NSocC = Negative social conduct.  
* $p < .05$, ** $p < .01$*

4. Hierarchical regressions examining the influence of earlier behaviour on later moral self concept

On the basis of the theoretical considerations outlined in the Introduction and the pattern of bivariate relations documented above, a series of hierarchical regression models were constructed to examine whether behaviour at six years of age (PSocC and NSocC) in fact made a unique contribution to the development of children’s
moral self concept (models 1 to 3), once the influences of continuity in moral self concept and children’s earlier timidity were accounted for (see Table 3). The final two models (4 & 5) then asked if this relationship was genuinely longitudinal, or whether it merely reflected profound stability in children’s social conduct between six and seven years of age.

The first two models examined, separately, the influence of PSocC and NSocC on children’s later moral self concept, whereas the third model included both indices of earlier behaviour to determine if one was of particular importance. Thus, at the first step, children’s sex, their six year verbal ability and their six year moral self concept were entered as predictors of seven year moral self concept. (The first and second steps were the same for models 1 through 3.) The overall model was significant at the first step, \( F(3,90) = 14.71, p < .001, R^2 = .34 \), and both sex (\( \beta = .26, p < .01 \)) and six year moral self concept (\( \beta = .47, p < .001 \)) significantly contributed to children’s seven year moral self concept. At the second step, with the addition of timidity into the model, there was only a marginal improvement in the model (\( p = .06 \)), and both sex and six year moral self concept remained significant predictors of seven year moral self concept. The final (third) steps for each of the first three models are summarised in Table 7. Table 7 clearly shows that both six year PSocC and NSocC made significant independent contributions to children’s seven year moral self concept (models 1 & 2 respectively), but that when these behaviour domains were entered together neither positive nor negative social conduct independently predicted improvement in seven year moral self concept, despite the fact that the third step was significant. Figures 2 and 3 show how six year PSocC and NSocC were related to moral self concept and confirm their dual, overlapping influence.
### Table 7. Hierarchical Regression Analyses Predicting Moral Self Concept at Seven Years on Child Variables at Six Years

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th></th>
<th>Model 2</th>
<th></th>
<th>Model 3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\Delta R^2$</td>
<td>$\beta$</td>
<td>$\Delta R^2$</td>
<td>$\beta$</td>
<td>$\Delta R^2$</td>
<td>$\beta$</td>
</tr>
<tr>
<td>Step 3</td>
<td>.06**</td>
<td>.05**</td>
<td>.07**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>.19*</td>
<td></td>
<td>.23**</td>
<td>.20*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6yrs verbal ability</td>
<td>-.06</td>
<td></td>
<td>-.02</td>
<td>-.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6yrs MSC</td>
<td>.36***</td>
<td></td>
<td>.35***</td>
<td>.35***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6yrs timidity</td>
<td>.14</td>
<td></td>
<td>.13</td>
<td>.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6yrs PSocC</td>
<td>.27**</td>
<td></td>
<td></td>
<td>.19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6yrs NSocC</td>
<td>-</td>
<td></td>
<td>-.25**</td>
<td>-.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total $R^2$</td>
<td>.43***</td>
<td>.42***</td>
<td>.43***</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the final two models children’s six year verbal ability and their timidity were dropped as predictors/control variables. There was no evidence that they were contributing to children’s seven year moral self concept and, furthermore, these final two models were designed to disentangle the contributions of earlier (six year) and later (seven year) behaviour to seven year moral self concept. Thus, at the first step, children’s sex and their six year moral self concept were entered as predictors of seven year moral self concept. (The first step was the same for models 4 and 5.) The overall model was significant at the first step, $F(2,88) = 22.09$, $p < .001$, $R^2 = .34$, and both sex ($\beta = .29$, $p < .01$) and six year moral self concept ($\beta = .45$, $p < .001$) significantly contributed to children’s seven year moral self concept. Table 8 summarises the second and third steps of models 4 and 5. Results show that,
particularly for NSocC, six year behaviour was in fact stronger predictor of seven year moral self concept than concurrent measures of social behaviour.

Table 8. Hierarchical Regression Analyses Predicting Moral Self Concept at Seven Years on Child Behaviour at Six and Seven Years

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 4</th>
<th></th>
<th>Model 5</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\Delta R^2$</td>
<td>$\beta$</td>
<td>$\Delta R^2$</td>
<td>$\beta$</td>
</tr>
<tr>
<td>Step 2</td>
<td>.08**</td>
<td>.07**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>.22*</td>
<td>.26*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6yrs MSC</td>
<td>.39***</td>
<td>.38***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6yrs PSocC</td>
<td>.30**</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6yrs NSocC</td>
<td>–</td>
<td>-.28**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td>.01</td>
<td>.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>.22*</td>
<td>.27**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6yrs MSC</td>
<td>.41***</td>
<td>.39***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6yrs PSocC</td>
<td>.21*</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6yrs NSocC</td>
<td>–</td>
<td>-.24*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7yrs PSocC</td>
<td>.14</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7yrs NSocC</td>
<td>–</td>
<td>-.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total $R^2$</td>
<td>.43***</td>
<td>.42***</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 2. Relationships between Positive Social Conduct and MSC

Figure 3. Relationships between Negative Social Conduct and MSC
Discussion

This study aimed to compare the traditional model of the relationships between moral self concept and social conduct with the hypothesised socialisation model (see Figure 1). The traditional model, founded on research into older children and adults, suggests that moral self concept is a major guiding force behind behaviour, specifically social behaviours while the alternative model takes into account the ongoing influence of social interaction on shaping moral self concept within younger children. Evidence was found to support the proposed model suggesting that social conduct predicts the developmental trajectory of a child’s moral self concept highlighting the ongoing development of this aspect of identity. The steps used to reach these conclusions will be discussed below.

Validity and reliability of self-report measures

One of the major aims of this project was to assess the validity of child self-report measures for accessing the internal experiences of children at six and seven years of age. This would provide support for previous findings that have suggested that the ways in which children comment upon their own internal experiences is meaningful and useful in ways that other measures are not.

Both moral self concept and empathic sadness showed good reliability at both time points suggesting that these measures were successfully tapping into unified structures as has previously been found (de Rosnay & Fink, 2011). The guilt sub scale, as well as timidity and negative affect from the self concept scale, all showed lower, but still acceptable, levels of reliability which may suggest that the measures are not as successfully differentiating between aspects of children’s self-identified
characteristics or, that these constructs are, at this age, perhaps less unified highlighting their ongoing developmental changes.

Agreeableness showed poor reliability at both time points and, despite its potential usefulness and its use in previous studies, when its corresponding lower levels of stability were considered, this sub scale was removed from all further analysis. This contrasted with the findings of Brown and colleagues (2008) and de Rosnay and Fink (2011) who found acceptable internal validity for all three sub scales of the self concept puppet interview. It is suggested that within this sample of slightly older children we are seeing a feature of self concept that is undergoing a shift, that perhaps further sub scales need to be extracted from this set perhaps separating sociability (e.g. “people want to be around me”) from conscientiousness (e.g. “I care about doing a really good job on everything I do”). Although this cannot be done using the current sample, it is suggested that within future research factor analytic techniques are used to explore this feature.

It was hypothesised that moral self concept would only be demonstrating stable relationships within and between measures in the second year of the study however it was evident that this stability was already evident in children as young as six. This was supported by the demonstration of acceptable levels of longitudinal stability for moral self concept and empathic sadness as well as the two self concept sub scales, timidity and negative affect. By six and seven years of age children appear to be able to consistently comment upon their own internal experience of self: their propensities for behaviour, both moral and conventional and their characteristics. It also appears that these tendencies and characteristics are reaching some level of stability themselves as demonstrated by stability of teacher-reports of child
characteristics and behaviours despite these teachers changing from one year to the next.

These findings suggest that we are able to access, to some degree, the internal lived experiences of children between six and seven years of age as understood by these children. Young children are able to report meaningfully upon the ways in which they see their own proclivities, tendencies and behaviours. This also opens the door to developing and using a wider range of self-report measures for children using the puppet interview technique to access more than self concept.

**Anchoring self-report measures using between construct relationships**

The next stage of analysis was born out of a need to validate child-report measures by using both other child-report measures and teacher-report measures. The use of the moral self concept and self concept scales was supported via their relationships with other measures. For example, the lack of relationship between verbal skills, as measured directly, and moral self concept suggests that children are using this tool to comment upon their own internal states independent of their language development. It does not matter how verbally skilled these children are they are still able to comment reliably upon their internal lived experience of self. This finding responds directly to the oft quoted problem of child self-reports being limited by their developing verbal ability, and demonstrates that this, the puppet interview, may be a useful and informative tool.

Relationships at six years of age between timidity and teacher-reported social conduct were found suggesting that children who self-reported as more timid were seen by teachers to be more socially mature, less impulsive and less likely to exhibit
problem behaviours. Brown and colleagues (2008) define timidity as a tendency towards harm and risk avoidance as well as greater control. The relationships between timidity and social conduct, both positive and negative, suggest that children who avoid risky situations may also tend towards greater levels of inhibitory control alongside this limited stimulus seeking behaviour. Social maturity in this case may be viewed as refraining from acting upon impulse; these are children who can stop long enough to understand the appropriate (safe or ‘right’) course of action in a given situation before acting upon it. This finding is supported by previous findings linking control and child behaviour (e.g. Callender et al., 2010; Kochanska, Barry, Jimenez, Hollatz, & Woodard, 2009; Kochanska et al., 1997). This view of timidity as control as well as risk-aversion is further supported by the negative relationship found between timidity and teacher rated problem behaviours. Children need to be able to understand the rules, be motivated to follow them (Bergman, 2002) and have the inhibitory control required to follow through with the appropriate behaviour (Reese et al., 2007).

The relationship between timidity and social maturity disappears by the age of seven suggesting possible internalisation leading to a reduction in the outward signs of inhibitory control. Perhaps, by seven, these children are following social guidelines more fluidly than they had the previous year without the external signs of effortful control. A suggestion could be made that the Social Maturity Scale specifically is tapping into a child’s increasing knowledge of their own role and responsibility within the classroom rather than social skills themselves affecting the overall positive social conduct score. Child self-reported timidity appears to be a useful and informative aspect of child identity and the evidence suggests that children’s own
access to this feature of self is meaningful. This suggests that timidity should be considered in more depth in further research into behavioural problems and social skills. As timidity has been understood here in the context of moral behaviour it would be interesting to further understand how the ability to ‘pause’ before acting would influence children with lower levels of moral motivation.

These between-construct relationships further support the use of the self-report moral self- and self concept measures but also the examination of moral self concept more generally. This child identified characteristic of self does in fact appear to be related in meaningful and expected ways to how children at six and seven years of age are interacting with their social environments and how this interaction is viewed by key figures within this environment.

**Nature of the moral self concept scale**

The next stage of analysis involved a closer examination of the construct of moral self concept itself. Specifically, the role of empathic sadness and its link to overall moral self concept were looked at. The patterns of relationships both within the moral self concept construct and between this and behavioural and self concept constructs suggested that empathic sadness was best seen as separate, but closely linked, to moral self concept. This finding is not perfectly clear however and a more detailed analysis of the components of moral self concept is required. The original scale, as designed by Kochanska and colleagues (1994), included ten sub scales ranging from internalised conduct to concern regarding the transgressions of others. It is possible that these sub scales are not performing uniformly and may show different
relationships with empathy and other features of the child. This calls for the deeper examination of the moral self concept measure.

Empathic sadness and moral self concept can be seen to represent two separate components of the larger notion of conscience. It seems likely that empathic sadness is the affective motivation from which moral self concept emerges (Eisenberg et al., 2010). To further examine this, timidity was again used as an anchoring construct. Timidity, as conceptualised as a type of inhibitory control, seems to be feeding back into a child’s concept of themselves as moral agents but not predicting their experience of empathic sadness, this fits with the idea that empathic experience is the pre-existing thrust that sits alongside traits such as timidity, from which moral self develops (Eisenberg et al., 1996, 2010). Further support comes from the asymmetrical relationships between timidity and the moral measures. Timidity appears to be a better predictor of later moral self concept than moral self concept is of timidity suggesting that it is an ability to control behaviour, to pause before acting that allows the child to work through a process of moral reasoning and analysis of possible outcomes that then helps develop their own moral self concept.

This suggestion was further examined in light of the alternative model of moral self concept development. Via the regression models performed it becomes clear that although timidity is important, social conduct is more influential in predicting children’s moral self concept. It is suggested that the effect of timidity is being hidden within these models by social conduct measures that subsume timidity and its effects such as impulsivity. This avenue of enquiry motivates to an extent the deeper analysis of these constructs and their relationships and an examination of the idea that timidity may be more of a global background construct and moral self
concept is a product of this, a more state based behavioural construct, it is suggested that future research try to incorporate timidity into the model proposed in Figure 1.

Looking at the experience of empathic sadness more closely, the lack of any evident relationship between negative affect and empathic sadness at six years of age suggests that empathic sadness is not just a specific example of a more general sense of negative affect but a specific emotional experience that children are reporting on. That is, sadness felt in response to the sadness of others is not just a specific example of a tendency for negative affect or stress reactivity but is linked specifically to conscience.

**Examining social cognitive understanding**

It was hypothesised that social cognitive understanding, a child’s insight into the internal beliefs and emotions of others, would appear as a precursor to moral development but that moral self concept would emerge as a meaningfully separate construct. It was understood that a child’s ability to comment upon the internal experiences of others and their understanding of their own internal experiences should relate differently to their behaviour and social engagement. This hypothesis was supported and the findings suggest that social cognitive understanding is related to concurrent positive social engagement over and above moral self concept at six years of age but that by seven this was no longer the case.

This supports the idea that for children first entering school moral self concept has not yet begun playing the important role that it does later. The idea that children’s own skilled social engagement is still being predominantly driven by external rules, guidelines and social cues as understood by the child and that only later do these
children internalise these, a process that informs their understanding of their own moral sensitivities. It is suggested that this self awareness of moral agency then begins to increasingly drive children’s behaviour.

The suggestion that social cognitive understanding is important and informative, but in a different way to children’s self-reported moral self, is also supported by the data. The ways in which children talk about other people’s emotional experiences, beliefs and desires seems to be related only to concurrent positive social conduct when children are six years old but that by the time they are seven, after another year within the school environment, the relationships between social conduct and the ways in which children describe their own internal experiences becomes much more informative.

**Relationship between moral self concept and social conduct**

The main driver of this study was the examination of the relationships between social conduct and the developmental trajectory of a child’s moral self concept. It was hypothesised that, for children between six and seven years of age, the effect of social engagement on moral self concept would be evident, in support of the alternative socialisation model (see Figure 1). This hypothesis has received significant support within this cohort. Children’s self-identified moral experience showed systematic relationships with teacher-reports of their social conduct.

Importantly the longitudinal relationships between moral self concept and social conduct were shown to be asymmetrical. Moral self concept at seven years of age was predicted by earlier teacher rated social conduct but social conduct at seven was not related to moral self concept at six in the same way. It appears that within this
age group the interactions and relationships between teachers and students is having a bigger effect on the way students see themselves then the effect of the children's self concept upon these social behaviours.

When these relationships were examined more carefully it became clear that the predictive power of social conduct for later moral self concept remains strong even when controlling for other variables of interest. Not only this but these relationships also stand up when controlling for the strong longitudinal stability of the constructs. It appears that, independent of a child’s initial moral self concept; their social conduct is playing a significant role in refining and developing this aspect of identity. Social conduct at seven, also predicts variance in moral self concept controlling for this stability.

It became clear that positive social engagement (social skills, social maturity and pro-sociality) and negative social engagement (impulsivity and problem behaviours) both equally and independently accounted for variance in later moral self concept. The question remained however, which was the driving force behind the development of a moral self concept, engaging in positive social conduct and receiving positive feedback, or negative social conduct and the resulting negative feedback? From the regression models, and the breakdown of social conduct in Figure 2 and 3, it appears that it is the children displaying lower levels of positive social conduct that are reporting a bigger negative effect on moral self concept – the greater the deficit of positive social behaviour the lower the eventual moral self concept. For children showing average or high levels of positive social conduct, the “good kids”, the effect on moral self concept was negligible, this was not mirrored for negative social conduct. On all examinations of the effects of positive and negative social
conduct positive engagement seemed to be the stronger, more predictive measure and construct.

When we examine these findings within the context of the current literature, it seems possible that moral self concept deficits are emerging from a lack of positive reinforcement from teachers (Carlo, McGinley, Hayes, Batenhorst, & Wilkinson, 2007; Grusec & Goodnow, 1994; Owen, Slep, & Heyman, 2012) as well as the impact of parents, peers and other social informants. When children’s behaviour is considered “good”, appropriate or moral they are praised, when it is viewed as “bad”, inappropriate or immoral they are punished or reprimanded. The effects of these two outcomes should be expected to be different. The current data provides some support for the suggestion that it is the children who are receiving limited positive feedback that are suffering and failing to develop a healthy moral self concept rather than the children receiving specifically negative feedback. The presumption that moral self concept is driven by negative social conduct is a position that fits in with the literature on the negative effects of punishment on self concept (Kerr, Lopez, Olson, & Sameroff, 2004). It appears that the effect of social conduct upon moral self concept is less relevant for children who are average or good at social engagement and it is the children who are seen by their teachers as lacking the ability to engage pro-socially whose moral self concept suffers.

Moral self concept at six years may play a small role in predicting later positive social conduct, as suggested by the traditional model of moral motivation, but this is as yet undetectable here and the trend towards significance within this data cannot be taken as meaningful as yet. Negative social conduct displays a lack of predictive power when considering later moral self concept when concurrently
considering positive social conduct. This reinforces the idea that positive engagement seems more powerful in this story than negative engagement.

The lack of relationships evident between the role of moral self concept at six and teacher-rated social and behavioural measures at seven, in conjunction with the set of predictive relationships between these same teacher-rated items at six and self concept at seven, seems to indicate a directional relationship between the factors. This asymmetry may suggest that teachers’ views of children at six impacts upon their views of themselves at seven. That is, the ways in which teachers see children – whether accurate or not – is fed back to children changing and shaping their own understanding of their moral selves, their tendency to experience empathic responses to the distress of others. Simplistically, children who are seen as socially ‘not good’ by their teachers at age six, see themselves as morally ‘not good’ at age seven. A finding reminiscent of those ideas put forward by McKown, Gregory and Weinstein (2010) and Rosenthal and Jacobson (1968) in their work on self-fulfilling prophecies in classrooms and suggests that the behavioural outcomes may be a result of external (teacher) expectations on a child's identity rather than directly upon their behaviour and achievement; however, the current data cannot explicitly support this.

Hardy and Carlo (2011) and Damon and Hart (1982) explore the bidirectional nature of the relationship between identity and action, suggesting the importance of action in shaping self concept as well as self concept in guiding behaviour. It is this action that teachers are reporting on; teachers cannot access the inner world of the child and can only make inferences regarding this via their behaviour.

All the behavioural outcome measures presented here are teacher-rated and therefore inherently subjective; however, it is these teachers who respond to
children’s behaviours, reprimanding or praising, ignoring or attending to them. This feedback and its internalisation, continue to shape the self concepts of these children. It should be noted that from six to seven years old these reports are being made by different teachers and yet their consistency remains speaking to the reliability and validity of the tools. Although what should be noted here is that the child does not simply move from one grade to another, from one teacher to the next, but that their reputation also moves with them. It is to be expected that in certain cases the lingering effect of this teacher-held child-concept may still affect teacher-reports; a child who is reported to be naughty by one teacher may be more likely to be seen as naughty by their next teacher. As a result teacher report measures should be interpreted with some caution and the meaning of the outcomes considered.

For example, the Social Maturity Rating Scale is a relative scale, children are rated in relation to other children their age, that is, the other children in their class, meaning that scores may differ in meaning across different classrooms. Teacher impressions of children may be skewed by the children in the class – one particularly hyperactive child (whether included in the study or not) may reduce the rating for all other children in that classroom. These same themes are evident in other non self concept measures highlighting the need for multiple informants and wherever possible objective behavioural measures.

This study has explored the area of the development of moral identity but it important to continue the search for the factors leading to the judgement-action gap. Why do some children, with an appropriately developed moral understanding still fail to act in accordance with this understanding? This study has focussed on the external
factors influencing the development of moral self concept and it is suggested that
future research examines further the internal features that may shape this relationship.

**Strengths and limitations of the current study**

This study has provided support for the use of child-report measures of self
concept and demonstrated that this method of accessing the internal experiences of
young children is not only valid but useful. This opens the door to the development of
further child-report measures of other child characteristics and features. This study
has also provided support for the new model of moral self concept development
which suggests that within the first years of school moral self concept is still being
significantly shaped by teacher-child engagement and suggests that this is still a
fertile age in which to intervene and support the healthy development of child
conscience.

The longitudinal nature of this study is one of its primary strengths providing
the ability to see individual differences in moral self concept development and the
influences of social engagement on this process. It has also examined moral self
concept development within an age range previously somewhat overlooked.

Parent-reports alongside teacher-reports could have provided a greater
window into the social interactions and engagement of children in different contexts.
This study focussed primarily on the new influences of the school environment but it
cannot be ignored that the family environment remains a key source of influence and
that this environment may be similarly fluid for children at this time. The influences
of parent-child relationships on behavioural outcomes and children’s well-being has
been studied extensively (Duncombe, Havighurst, Holland, & Frankling, 2012;
Feldman, 2007; Kochanska, Aksan, Knaack, & Rhines, 2004; Laible & Thompson, 2000; Reese et al., 2007) and in the light of the current research it is suggested that future projects examine the possible interactions between these influential environments.

Despite our hypotheses it is still unclear whether teacher reports are reflecting children’s social behaviour alone and to what extent these measures capture teacher attitude. The teacher reports are fairly consistent across years despite two different teachers commenting upon these behaviours however as has been discussed, children’s “reputations” tend to follow them through school and these may influence teacher opinions biasing their responses to the child. Within this thesis the assumption has been made that teacher reports do, to an extent, reflect the attitudes of teachers as well as simply the behaviours of the children, and that these attitudes will be reflected in the ways in which teachers respond to the children (Rosenthal & Jacobson, 1968). To examine actual interactions between teachers and children within the classroom setting was beyond the scope of a research project such as this but to do so would open up our understanding of teacher reports to a greater degree.
Chapter 3: Discussion and Conclusions

To revisit the simplicity of the model outlined in Figure 1 it becomes clear that this story is far from simple and far from complete. There is a suggestion within the data that as children first enter the wider social environment of school, novel social interactions play an influential role in shaping the ways in which these children see themselves but, that as they get older and their moral self concept stabilises and coalesces, these influences may shift. It is possible, although not explicitly tested within this study, that perhaps only once a child’s moral self concept has become concrete will it have a stable and predictable role in guiding behaviour. The short time span of this longitudinal study leaves this supposition unanswered and a sustained observation of children through the early school years would be necessary to clarify this. This study has clarified a number of key issues about the developmental trajectory of a child’s moral self concept, but it has also opened the door for further questions to be asked. These questions have inspired the design of a second linked research project the features and aims of which will be discussed below.

Stability and Development of Moral Self concept

Moral self concept has proven to be a useful and interesting component of child development showing notable relationships with behaviours, empathic experience and social engagement. It was suggested that this feature would only be reaching stability within the time frame of this study however it became increasingly evident that a certain degree of stability had already been reached despite ongoing
clarification and influence by six years of age. It is important to understand at which point in a child's development this identity starts to coalesce and have impact meaningfully on the child's wellbeing and engagement. Within the proposed research project a younger cohort will be included (from five years of age when children start kindergarten) to examine this more fully.

Measuring Social Engagement

In the current study social engagement was split into positive and negative conduct ranging from pro-sociality to clinically relevant conduct problems. It has been suggested that teacher reports of such conduct must also, to some extent, reflect the ways in which teachers respond to these children. It is suggested that children seen by teachers to be ‘naughty’ or ‘bad’ will, as a result, be children more often punished or chastised within the classroom whereas ‘good children’ will more regularly be praised. The literature on the effects of praise and punishment upon the behaviours and self concept of children is vast (for example, Cutting & Dunn, 2002; Grusec & Goodnow, 1994; Kamins & Dweck, 1999; Leflot et al., 2010; Miller & Eisenberg, 1988; Owen et al., 2012). If we are to look at these findings within a practical setting and ask whether we can take these findings to speak towards how teachers should respond to children to facilitate a healthy moral self concept development, these issues become harder to clarify. Clinically, there are meaningful differences between increasing positive praise and reducing negative engagement with a child’s environment. As we have seen within the literature a healthy moral self concept does relate to behaviour and child wellbeing, it seems important therefore to encourage healthy development of a moral self concept, but how?
The findings presented here tentatively suggest that by increasing positive reinforcement for children who are doing well socially we can’t expect much change, but by positively engaging with children who are seen to be struggling with social engagement we may see some shift. It is impossible to say whether these suppositions are correct in the light of the current findings but there is a strong suggestion that this is an issue that deserves greater examination, as we have seen within the literature, children with poorly developed moral self concept are vulnerable to poor social engagement, poor behavioural skills and in the extremes, more severe cases of conduct disorder.

**Internal Child Features and Moral Self concept Development**

It was posited within Chapter one that the relationship between social engagement and the development of moral self concept was not a simple one and that other factors, such as child characteristics may play an important role in this process. A second study has been designed with the aim of examining in more detail the possible effects of the child characteristics callous-unemotionality and Machiavellianism, on the development of a child’s moral self concept and the ways in which socialisation shapes this development. At the time of writing data collection for this study in ongoing.

Where the current study points to moral self concept as being an accrual of experiences and an internalisation of social experiences, the new project sets out to examine child centred predictors of moral self concept. It will focus on the features of the child which may influence the ways in which later social interaction is understood and internalised. In the current thesis we saw that a teacher’s evaluations of a child’s
behaviour informs their later understanding of self – but what if a child lacks the resources necessary to develop a moral self understanding, what if the child lacks the necessary empathic ability? It is predicted that some more stable child characteristics such as empathy may co-vary with moral self concept and support this apparently environmentally driven feature. The goal now is to better understand moral self concept in terms of well recognised aspects of children’s emotional and ethical development specifically in terms of empathy, callous unemotionality and Machiavellianism.

As outlined by Grusec (2006) and Kochanska (1991), child characteristics, including personality traits, play an important role in mediating the relationship between socialisation and the development of identity. Cornell and Frick (2007) and Kochanska have demonstrated a link between temperament and the experience of guilt via poor self control, a feature of child moral development linked to moral self concept. Rothbart (2007) also reports that both fearfulness and effortful control also predict guilt, empathy and aggression, affective and behavioural correlates of moral self concept. Supporting the interaction between conscience and child characteristics is the finding that, in preschool, fearful children show a greater development of conscience and that socialisation influences this relationship (Kochanska et al., 2007). These are features of the self that support the healthy development of a moral self concept. Machiavellian and callous unemotional (CU)/psychopathy traits are, on the other hand, predicted to hinder this development (Blair, Colledge, Murray, & Mitchell, 2001). The link between children’s personality, temperament and conscience has previously been examined by the likes of Asendorpf and Nunner-Winkler (1992), Dadds and Salmon (2003) and Houck (1999), however, research into
the specific factors of callous unemotionality, psychopathy and Machiavellianism has, so far, been limited.

The planned study aims to examine how Machiavellianism and CU/psychopathy traits are related to moral self concept and empathy and to look at the construct of MSC more closely. If moral self concept reflects a genuine development in the child as the current study suggests, is likely to overlap with empathic concern for others and in the planned study a more embodied measure of empathy will be alongside a child report of experienced empathic sadness and a teacher-report of expressed empathy. Machiavellian and CU/psychopathic traits are two related but different indicators of the same underlying problem, a lack of empathic understanding of the other. It is understood that empathy is vital for the development of a moral sensibility and an understanding of the self as an affective moral agent, as a result, an overlap between moral self concept and both Machiavellian and CU traits is expected showing that as these traits increase, children’s moral self concept will show a failure to develop. It has been hypothesised that some of the children who lack the motivation to behave in moral ways fall into these two overlapping but not identical groups (Hawley, 2003; Muñoz, Qualter, & Padgett, 2011).

Machiavellian traits are linked to social engagement and awareness, that is, children high in these features tend to show an awareness of the impact on their social relationships and power. This understanding leads to a set of hypotheses regarding the relationships between not simply Machiavellian traits and moral self concept but with the sub scales of this construct such as reparation, guilt and concern with good feelings of others. It is expected that those features related to affective aspects of
conscience (e.g. guilt) will show a negative relationship with Machiavellian – children high in these traits hypothesised to experience little guilt, but those aspects related to interpersonal relating such as confession, will show a positive relationship with Machiavellian traits. This pattern suggested as an embodiment of their tendency for manipulation and skilled social engagement.

Conversely, children showing CU and psychopathic traits are expected express less desire to fulfil these social norms and are predicted to show a much more consistent pattern of relationships with the moral self concept sub scales. It has also been suggested that children with callous-unemotional traits of psychopathic traits may be less sensitive to punishment (Blair, 2006; Dadds & Salmon, 2003) and as a result it is hypothesised that teacher-child interactions regarding social engagement may have a smaller impact on the ongoing development of the child's conscience as a result. It is expected that there will be a general negative relationship between children’s views of themselves as moral and teacher’s views of them as displaying these traits.

**Machiavellian traits**

Machiavellianism is a personality trait generally seen to encompass a willingness to manipulate others for personal gain, a cynical view of human nature, a belief that others are untrustworthy, a general rejection of conventional moral structures and a lack of affect within relationships yet lacking any specific pathology (Andreou, 2004; Braginsky, 1970; Christie & Geis, 1970; Loftus & Glenwick, 2001). Children with Machiavellian traits were defined by Hawley (2003) as those who use coercive techniques to gain resource control by using pro-social and cooperative
techniques. Individual differences in Machiavellian traits have been found in children as young as ten, however children younger than this have not been widely examined (Christie & Geis, 1970). Machiavellianism has been viewed as a unified construct by some (e.g. Hunter, Gerbing, & Boster, 1982) and as multidimensional by others (e.g. Andreou, 2004; Sutton & Keogh, 2001).

Hawley (2003) found that due to the combination of social tactics those with Machiavellian traits were “liked by peers, socially skilled, and well adjusted” (p. 279). For children with Machiavellian traits, the balanced approach to resource control appears to be a socially effective approach leading to children who do better in the eyes of their peers and teachers than those children who engage in pro-social behaviours without the coercive techniques. This view of Machiavellianism is somewhat softer than that usually found within the personality literature which stresses the cynicism and willingness to manipulate others without the acknowledgement of the higher levels of social skills (Ali et al., 2009).

Machiavellian traits have been linked to psychopathy (Loftus & Glenwick, 2001) and conduct problems in adults and relational aggression and emotionally damaging behaviour in children (Geng, Liu, Su, Wang, & Li, 2009; Kerig & Stellwagen, 2010; McHoskey et al., 1998; Stellwagen & Kerig, 2013) including bullying (Andreou, 2004). Machiavellian traits have been linked in adults to deficits in stress management, shallow emotional involvement, limited empathy and poor psychosocial functioning. Stellwagen and Kerig (2013) have highlighted the role of “the dark triad”, narcissism, psychopathy and Machiavellianism, (Paulhus & Williams, 2002; Stellwagen & Kerig, 2013) in the development of antisocial behaviour in both children and adults. Lyons, Caldwell and Shultz (2010) found a
negative correlation between theory of mind and Machiavellianism and suggesting that those with high levels of Machiavellian traits may show social cognition and empathy deficits, Stellwagen and Kerig (2013), on the other hand, found no such relationship with theory of mind.

There has been very limited research into Machiavellian traits in children under the age of eight, this area explored only by Repacholi and colleagues (Repacholi, Slaughter, Pritchard, & Gibbs, 2011). It has been suggested however that children much younger than this, anecdotally, show features in line with Machiavellianism (Christie & Geis, 1970).

The Kiddie Mach was developed by Nachamie (1969) and is a measure of Machiavellian traits for children that has been used more widely than other child oriented tools. Andreou (2004) uncovered four independent but parallel components of Machiavellianism as measured by the Kiddie Mach: lack of faith in human nature, manipulation, dishonesty and distrust, suggesting that the more multidimensional view of Machiavellianism is valid (Andreou, 2004). The Kiddie Mach has been used by Arefi (2010), Geng and colleagues (2009), Barlow, Qualter and Stylianou (2010) and Sutton and Keogh (2000) to examine Machiavellian traits in children from ten years of age. Repacholi and colleagues (Repacholi et al., 2011) developed another child oriented tool, the Machiavellian Rating Scale for Young Children which has been used extensively by Kerig and Stellwagen (Kerig & Stellwagen, 2010; Stellwagen & Kerig, 2013).

**Callous unemotional and psychopathic traits**

Children, and adults, with high levels of callous-unemotional (CU) traits are defined as such by their lack of empathy, remorselessness and shallow affect
(Enebrink, Andershed, & Långström, 2005). CU traits are broadly defined by a lack of guilt (Cornell & Frick, 2007). Cornell and Frick (2007) describe a model in which CU traits lead to deficits in social skills with the development of conscience. This model is proposed here suggesting directionality from temperament to conscience advocating CU traits’ use within the proposed study as a possible source of interaction between a child’s social environment and their developing moral self concept.

This model is supported by the findings that children with CU traits show reduced guilt and empathy compared to those without CU traits (Cornell & Frick, 2007; Frick & Ellis, 1999). It has been found that children with conduct disorder and CU traits have increased affective deficits, insensitivity to distress, higher levels of thrill seeking and less responsiveness to punishment, features all linked to lower levels of behavioural inhibition (Anastassiou-Hadjicharalambous & Warden, 2008).

Psychopathic traits have been seen as a combination of “guiltlessness, callousness, dishonesty, egocentricity, failure to form close emotional bonds, low anxiety proneness, superficial charm and blame externalization” (Ali et al., 2009, p.758), cruelty, lack of affect, remorse and empathy, impulsivity and aggression, manipulativeness and poor behavioural control (Ali et al., 2009; Blair et al., 2001; Essau, Sasagawa, & Frick, 2006) and are linked to, but meaningfully different from, CU traits (Barry et al., 2000).

Psychopathic traits are considered to persist across the lifespan with adults featuring these traits committing more crimes, receiving more convictions and spending more time in prison than individuals without them (Hare, 1993). There are suggestions though that psychopathic traits in adults have their roots in childhood (Ali et al., 2009) and are highly heritable (Braun, Léveillé, & Guimond, 2008).
manifestation of psychopathic traits indicates a need to think about psychopathy in developmental terms (Blair, 1995); a need met by the discussion of morality and empathy in relation to personality traits.

It has been found that children and adults with psychopathic traits are less likely to make the moral/conventional distinction (Fisher & Blair, 1998) have deficits in stress management and psychosocial functioning (Ali et al., 2009) as well as a more severe, violent pattern of antisocial behaviour which is more resistant to intervention (Barry et al., 2000). More broadly Ali and Chamorro-Premuzic (2010) examined the relationship between empathy and psychopathic traits finding a negative association between the two. Blair identified a link between psychopathic traits in children and poor performance on the moral/conventional distinction task. Specifically, these children treated conventional rules as though they were moral rules. Higher levels of psychopathic traits were found to be related to poorer moral emotion attribution and these children were less likely to attribute moral emotions, specifically guilt, sympathy and fear, to characters in stories designed to elicit such a response (Blair, 1997a; Blair et al., 1995). In 2001, Blair, Monson and Frederickson found further evidence for this relationship finding that the moral/conventional distinction task and welfare reasoning was related to scores on measures of psychopathy.

Chandler and Moran (1990) examined the interaction between psychopathy, delinquency (the behavioural aspect of psychopathy) and moral reasoning and found that delinquent adolescents showed delays in moral maturity generally, and cognitive measures of moral understanding and decision making more specifically. This led Chandler and Moran (1990) to conclude that it is the more affective aspect of
conscience, moral motivation, that predicts psychopathy. Fisher and Blair, in 1998, found that psychopathy was not related to children’s ability to make judgements about rule permissibility indicating that children with both high and low levels of psychopathic traits have a good understanding of social rules by this stage just a difference in their ability to determine why such rules are in place. Holmqvist (2008) found that psychopathy was related to a decreased awareness of shame, a moral emotion.

**Follow-up Research Project: Child Characteristics and Moral Self Concept**

As a follow up to the study presented in Chapter 2 a second research project has been designed and, at the time of writing, data collection is being undertaken. The aims of this second study, as outlined above, focus on a more extensive examination of internal child characteristics which may influence the relationship between moral self concept development and children’s social engagement. Specifically, personality traits are included within this study due to the hypotheses that Machiavellianism and CU traits indicate a lack of moral sensitivity and, as such, are expected to impact children’s development of a moral self concept.

For the planned study a new measure was created to assess Machiavellian traits in children via a self-report tool which will be compared and grounded using a teacher and parent report of such traits. Repacholi and colleagues (Repacholi, Slaughter, Pritchard, & Gibbs, 2011) developed the Machiavellian Rating Scale for Young Children (MRS) a 12-item scale also used by Kerig and Stellwagen (2010) to measure Machiavellian traits in children under the age of nine and has been used with test children as young as four (Repacholi et al., 2011). The MRS was originally designed to be completed by the child's teacher but for the current study was
redesigned, in consultation with Virginia Slaughter, as a child report, forced-choice puppet interview such as was used in the first study.

The 12 original items – each corresponding to a feature of Machiavellianism – were split into two factors: attitudes and behaviours as outlined by V. Slaughter (personal correspondence). Four features fell into an attitudes factor, four into a behaviour factor and four into both. One puppet item was created for each feature in each factor resulting in 16 items (features that corresponded to both attitudes and behaviours were designed an item for each facet; see Table 9).

For the new study items were re-structured around a puppet interview format – one high Machiavellian item and one low Machiavellian matched item. For example the feature ‘seeks popularity’ was transformed into: “I think it is important that lots of people like me” and “I think it is important to have a really good friend”. These items were presented to children in the same format as outlined for the moral self concept puppet interview in study one using a laptop and video.

Preliminary findings within a small sample of children aged five to eight years suggest that this measure has good reliability and is showing the expected patterns with teacher report measures of Machiavellian traits, behaviour and moral self concept. At the time of writing however there is not sufficient data collected to make a claim regarding the usefulness of this measure and the possible role that Machiavellian traits may be playing in the developmental trajectory of moral self concept.
<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is self absorbed</td>
<td>I think that I am one of the most special people I know (a)  |  I think that everyone is special, we’re just different (a)</td>
</tr>
<tr>
<td>Understands Social Hierarchies</td>
<td>I think that some kids in my class are more important than others (a) |  I don't think it matters who has the most friends (a)</td>
</tr>
<tr>
<td>Seeks Popularity</td>
<td>I think it is important that lots of people like me (a)  |  I think it is important to have a really good friend (a)</td>
</tr>
<tr>
<td>Is out for number one</td>
<td>I think other people should help me do what I want to do (a) |  Sometimes I think it is important to do what other people want to do (a)</td>
</tr>
<tr>
<td>Is trusting</td>
<td>You can rely on most people, usually people can be trusted (b) |  You have to be careful who you rely on because most people can't be trusted (b)</td>
</tr>
<tr>
<td>A flatterer</td>
<td>I say nice things about people so they’ll help me (b)  |  I say nice things about people so they will feel good (b)</td>
</tr>
<tr>
<td>Tends to put others’ needs before their own</td>
<td>If someone else needs something I am using they should wait until I am finished (b) |  If I wanted to use something I would check that everyone got a fair go to use it (b)</td>
</tr>
<tr>
<td>Will use any means to achieve what they want</td>
<td>It makes me angry when someone stops me doing what I want to do (b)  |  Sometimes you have to stop what you are doing because it is hurting someone else (b)</td>
</tr>
<tr>
<td>Lies if cornered</td>
<td>It is okay to tell a lie so you won't get into trouble (a) |  It's not okay to lie even if you’re going to get in trouble (a) |  If I'm in trouble I almost never lie to get out of trouble (b) |  If I'm in trouble I often lie to get out of trouble (b)</td>
</tr>
<tr>
<td>Is manipulative</td>
<td>I think it is okay to use other people to get what I want, even if I have to trick them (a) |  I think it's okay to ask other people to help you but you shouldn’t trick them (a) |  Sometimes I trick people to get them to do what I want (b) |  I rarely trick people to get them to help me (b)</td>
</tr>
</tbody>
</table>
| Has a sense of right and wrong | It is only important to do the right thing and be good when someone else is watching (a)  
| It is important to do the right thing and be good even if no one else is watching (a)  
| I usually only behave myself when someone is watching me (b)  
| I usually behave myself even if no one is watching (b)  |
| Is generous | I don't enjoy sharing my things with other people (a)  
| I really like to share and help people (a)  
| I usually like to keep my nice toys to play with myself (b)  
| I usually like to share my nice things and play with them with other kids (b)  |

Note: (a) indicates an attitude item, (b) indicates a behavioural item

This study is ongoing and incorporates both this new measure of child self-identified Machiavellian traits and both parent and teacher reports of these traits as well as social engagement, empathy and moral understanding tasks. It also encompasses a wider age range accessing a younger cohort of children from kindergarten to year two. This study is proposed to answer some of the questions raised by the first study and to extend the research by widening the reporter pool and examine in more detail the internal child factors which may influence the interaction between social engagement and moral self-concept. It has already been seen that child characteristics such as timidity affect their behaviour and moral sensitivity and it is hypothesised that these personality traits, Machiavellianism and CU/psychopathy, indicators of possible dysfunction in empathic ability, will prove to be hindrances to the healthy development of conscience and their resulting wellbeing and social conduct. If this is accurate it suggests that despite the possibility of informing teachers about the ways to encourage conscience development there may be factors that we are less able to influence.
It is important to understand the ways in which conscience develops within childhood in order to understand why some children engage positively with their social environment and others disregard widely held conventions and moral guidelines without apparent concern. Children’s behaviour impacts not only themselves but also those around them and their own general wellbeing into adulthood. In order to create an environment in which a child can develop an understanding of self which fosters positive social engagement we must understand how such an understanding develops and the features which may help or hinder this development.
References


Appendix A: Ethics approval

The University of Sydney

Human Research Ethics Committee
www.usyd.edu.au/ethics/human
Senior Ethics Officer:
Gail Briley
Telephone: (02) 9301 4611
Facsimile: (02) 9351 6706
Email: gbriley@usyd.edu.au
Rooms L4.14 & L4.13 Main Quadrangle A14

Human Secretariat
Telephone: (02) 9308 9309
Facsimile: (02) 9308 9310

17 May 2007

Dr M de Rosnay
School of Psychology
Brennan MacCallum Building – A18
The University of Sydney

Dear Dr de Rosnay

Thank you for your correspondence received on 30 April 2007 addressing comments made to you by the Human Research Ethics Committee (HREC). After considering the additional information, the Executive Committee at its meeting on 16 May 2007 approved your protocol entitled “Fitting In and Making Friends: The Socio-Cognitive Underpinnings of Young Children’s Adaptation to a New School Environment”.

Details of the approval are as follows:

Ref No.: 05-2007/9336
Authorised Personnel: Dr M de Rosnay

The HREC is a fully constituted Ethics Committee in accordance with the National Statement on Ethical Conduct in Research Involving Humans-June 1999 under Section 2.6.

The approval of this project is conditional upon your continuing compliance with the National Statement on Ethical Conduct in Research Involving Humans. We draw to your attention the requirement that a report on this research must be submitted every 12 months from the date of the approval or on completion of the project, whichever occurs first. Failure to submit reports will result in withdrawal of consent for the project to proceed.

Special Condition of Approval

Please provide a copy of the approval letter from the Department of Education and Training, when available.

Chief Investigator / Supervisor’s responsibilities to ensure that:

1. All serious and unexpected adverse events are to be reported to the HREC as soon as possible.

2. All unforeseen events that might affect continued ethical acceptability of the project are to be reported to the HREC as soon as possible.
(3) The HREC must be notified of any changes to the protocol. All changes must be approved by the HREC before continuation of the research project. These include:

- If there are any changes to investigators (e.g. leaving the University)
- Any changes to the Participant Information Statement and/or Consent Form.

(4) All research participants are to be provided with a Participant Information Statement and Consent Form, unless otherwise agreed by the Committee. The Participant Information Statement and Consent Form are to be on University of Sydney letterhead and include the full title of the research project and telephone contacts for the researchers, unless otherwise agreed by the Committee and the following statement must appear on the bottom of the Participant Information Statement. Any person with concerns or complaints about the conduct of a research study can contact the Senior Ethics Officer, University of Sydney, on (02) 9351 4811 (Telephone); (02) 9351 9708 (Facsimile) or gpr@syd.edu.au (Email).

(5) The HREC approval is valid for four (4) years from the Approval Period stated in this letter. Investigators are requested to submit a progress report annually.

(6) A report and a copy of any published material should be provided at the completion of the Project.

Yours sincerely

[Signature]

Associate Professor J D Watson
Chairman
Human Research Ethics Committee

cc Ms Elian Fink, School of Psychology, Brennan MacCallum Building – A18, The University of Sydney

Encl
Parental/Guardian Information Statement
13th April 2007

Dr Marc de Ronnay
School of Psychology, University of Sydney
SYDNEY NSW 2066

Dear Marc,

Thank you for your application to conduct research in Catholic systemic schools in the Archdiocese of Sydney. Approval is given by CEO Sydney to conduct this study.

Permission is given for you to approach the Principal of the school nominated, listed below, requesting participants for your study: *"FITTING IN AND MAKING FRIENDS: THE SOCIO-COGNITIVE UNDERPinnings OF CHILDREN’S ADAPTATION TO A NEW SCHOOL ENVIRONMENT"*

<table>
<thead>
<tr>
<th>Primary School</th>
<th>Contact Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>St Paul of the Cross Primary, Dulwich Hill</td>
<td>Ms Cathy Young</td>
</tr>
<tr>
<td>Our Lady of Lourdes Primary, Earlwood</td>
<td>Ms Maria Ross</td>
</tr>
<tr>
<td>St Pius Primary, Ermone</td>
<td>Mrs Cathie Binman</td>
</tr>
<tr>
<td>St Mary’s Primary, Erskineville</td>
<td>Ms Beverly Coffey</td>
</tr>
<tr>
<td>St Joan of Arc Primary, Haberfield</td>
<td>Miss Margaret Woods</td>
</tr>
<tr>
<td>St Francis Primary, Leichhardt</td>
<td>Miss Julie Conway</td>
</tr>
<tr>
<td>St Columbus Primary, Leichhardt North</td>
<td>Miss Dianne Monaghan</td>
</tr>
<tr>
<td>St Brigids Primary, Merrickville</td>
<td>Mrs Lynette Sandford</td>
</tr>
<tr>
<td>St Michael’s Primary, Stanmore</td>
<td>Miss Diane Nilon</td>
</tr>
<tr>
<td>St Patrick’s Primary, Summer Hill</td>
<td>Mrs Colleen Adams</td>
</tr>
</tbody>
</table>

As you no doubt appreciate, it is the prerogative of any Principal whom you might approach to decline your invitation to be involved in this study or to withdraw from involvement at any time. Also, as you have outlined, written parental permission is required for any child to participate in the study.

The privacy of the school and that of any school personnel or students involved in your study must, of course, be preserved at all times and comply with requirements under the Commonwealth Privacy Amendment (Private Sector) Act 2000.

When you have established your participating schools, please complete the attached form and return it to this office. It is a condition of approval that when your research has been completed you will forward a summary report of the findings and/or recommendations to this office as soon as practicable after results are to hand.

As this research involves contact with students, you will be required to complete a “working with children” check. A copy of this document has been attached. As a condition of approval, please send a copy of the University Ethics Approval in addition to the completed screening consent form and return in the enclosed reply paid envelope so that a background check can be undertaken.

Please do not hesitate to contact me at this office if there is any further information you require. I wish you well in this undertaking and look forward to learning about your findings.

Yours sincerely,

Christopher Barrett
Education Officer, Human Resources
on behalf of
Br Kelvin Canavan fms
EXECUTIVE DIRECTOR OF SCHOOLS

OUR MISSION CELEBRATING BEING CATHOLIC IN AUSTRALIA • ENSURING QUALITY TEACHING AND LEARNING • MAKING A DIFFERENCE IN OUR WORLD
Parental/Guardian Information Statement

Fitting in and making friends: The socio-cognitive underpinnings of young children’s adaptation to a new school environment

(1) What is the study about?
This research aims to better understand how children adapt to a new school environment by assessing the ways in which they are capable of understanding others, make new friends and interact with their peers. Outside the family, young children’s most important social environment is their classroom and if they are able to fit in at school and make friends then they are less likely to be socially excluded in the future, have behavioural disturbances and experience school failure. This is a study of typical development that will give us a better model for understanding other children with social and behavioural problems or disabilities in the future.

(2) Who is carrying out the study?
This study is being conducted by Dr. Marc de Rosnay, an Australian Postdoctoral Fellow and Lecturer in the School of Psychology at the University of Sydney.

(3) What does the study involve?
To study children’s friendships effectively, it is necessary to follow the development of the same children over time, and to have a window on their functioning within the classroom. As such, this research aims to follow a group of children during their first three years at school. Brief assessments of your child will be made in four domains: (i) language development, (ii) friendship interactions, (iii) empathetic responding to the emotions of others, and (iv) socio-cognitive understanding, at two or three separate time-points. These tasks have been used with children many times before and they usually enjoy doing them very much. In addition, children will engage in some collaborative play tasks so that we can observe how they negotiate an ordinary play situation with their peers. Assessments will take place during Kindergarten, Year 1 and Year 2 at times nominated by your child’s teacher. Video and audio recordings of your child will be made as part of this study. These recordings will only be accessible to the investigator of this study. These recordings will be used only for the purpose of research and your child’s identity will be protected (see point 6 below).

This study also involves a small element of parent participation. Parents are requested to complete two short questionnaires regarding their child’s behaviour.

If you would like further information about the procedures outlined here, please do not hesitate to contact Dr Marc de Rosnay (see point 8 below).
Fitting in and making friends

(4) How much time will the study take?

The assessments of your child will take about 40 to 50 minutes at a given time-point, inclusive of the collaborative play task. We anticipate that both parental questionnaires will take approximately 15 minutes to complete.

(5) Can I withdraw from the study?

Participation is voluntary and your child will take part only if you give consent. Your decision whether or not to permit your child to participate will not prejudice you or your child’s future relations with the University of Sydney. If you decide to permit your child to participate, you are free to withdraw your consent and to discontinue your child’s participation at any time without jeopardising you or your child’s relationship with the University of Sydney or the school. In addition, because of your child’s age, the teacher and/or researcher will terminate any aspect of the study if they have any concern about your child’s welfare, although this is not at all expected to occur.

(6) Will anyone else know the results?

All aspects of the study, including results, will be strictly confidential and only the researchers will have access to information about participants. A report(s) of the study may be submitted for publication and the findings presented at national and international conferences related to this area of research, but individual participants or schools will not be identifiable in such a report(s).

(7) Will the study benefit me or my child?

We do not anticipate that there will be any adverse consequences for your child by taking part in our study. There is some evidence, in fact, that children benefit from doing the tasks described above but we cannot give any assurance that your child will receive any benefits from the study.

If you wish, we will happily provide you and your child with a DVD recording of your child’s participation in this study. We cannot, however, provide you with recording of any other child.

(8) What if I require further information?

If you have any questions about the study or require further information you are welcome to contact Dr. Marc de Rosnay on (02) 9351 4528 (telephone) or mrosny@psych.usyd.edu.au (email). This information sheet is for you to keep.

Any person with concerns or complaints about the conduct of a research study can contact the Senior Ethics Officer, Ethics Administration, University of Sydney on (02) 9351 6511 (telephone), (02) 9351 6706 (facsimile) or gbrody@usyd.edu.au (email).

Yours sincerely,

Marc de Rosnay, PhD
School of Psychology,
The University of Sydney
Sydney, 2006
Parental/Guardian Consent Form

Fitting in and making friends: The socio-cognitive underpinnings of young children’s adaptation to a new school environment

I (print name) ................................................................. agree to permit my child (print name) ................................................................., who is aged ..................... years, to participate in the study described in the Parental Information Statement attached to this form.

1. I acknowledge that I have read the Parental Information Statement, which explains the aims of the experiment and the nature and possible risks of the research, and the study has been explained to me to my satisfaction.
2. I have been given the opportunity of asking questions relating to any possible physical and mental harm my child might suffer as a result of participation and I have received satisfactory answers to any questions that I have asked.
3. I have discussed participation in the project with my child and my child assents to their participation in the project.
4. I understand that my child’s participation in this research is voluntary and I can withdraw my child from the experiment at any time without prejudice to my own or the child’s relationship with the University of Sydney or the child’s school.
5. I agree that research data gathered from the results of the study may be published, provided that neither I nor my child can be identified.
6. I understand that if I have any questions relating to my child’s participation in this research, I may contact Dr. Marc de Rosnay on telephone (02) 9351 4528, or email marcde@psyche.usyd.edu.au, who will be happy to answer them.
7. I acknowledge receipt of a copy of this Consent Form and the Information Statement.

Signature of Parent/Guardian

Date

Please PRINT name
RESEARCH INTEGRITY
Human Research Ethics Committee
Web: http://sydney.edu.au/ethics/
Email: humanethics@sydney.edu.au

Address for all correspondence:
Level 6, Jane Foss Russell Building – G02
The University of Sydney
NSW 2006 AUSTRALIA

Ref: [MF/KFG]
28 July 2011

Dr Marc de Rosnay
Senior Lecturer
School of Psychology
Faculty of Science
The University of Sydney
Email: marco.de_rosnay@sydney.edu.au

Dear Dr de Rosnay

Thank you for your correspondence received 27 July 2011 addressing comments made to you by the Human Research Ethics Committee (HREC).

I am pleased to inform you that with the matters now addressed your protocol entitled “Conscience and Conduct. Becoming a Good Person in Early Childhood” has been approved. Details of the approval are as follows:

Protocol No.: 67-2011 / 13999
Approval Period: July 2011 to July 2012
Annual Report Due: 31 July 2012
Authorised Personnel: Dr Marc de Rosnay
Ms Amy Hawker
Ms Ming Yuan
Ms Nicole Martín-Casals
Ms Linda Rooney

Documents Approved:

- **Who will be nice and who will be nasty? (Study 1):**
  Parent/Guardian Information Statement (version 1, 23/06/2010)
  Parental (or Guardian) Consent Form (version 1, 23/06/2010)

- **The Development of Moral Self Understanding (Study 2):**
  Parent/Guardian Information Statement (version 1, 23/06/2010)
  Parental (or Guardian) Consent Form (version 1, 23/06/2010)

- **Children’s understanding of the moral implications of social inclusion (Study 3):**
  Parent/Guardian Information Statement (version 1, 23/06/2010)
  Parental (or Guardian) Consent Form (version 1, 23/06/2010)

- **Instruments:**
  Story Examples for Study 1
  Moral Self-concept puppet interview for children
  Example procedures for task assessing children’s understanding of mixed moral emotions
  Antisocial Process Screening Device - Parent Version (as revised - version 2)
  Inventory of Callous Unemotional Traits (Parent Version)
  Kiddle Mach Scale
  Social Maturity Rating Scale (SMat)
  Strengths and Difficulties Questionnaire
  Teacher Rated Empathy Questionnaire
  Child Behaviours Coding Scheme for empathic responding to others’ distress
  Story vignettes for Study 3

Manager Human Ethics
Dr Margaret Faedo
T: +61 2 9351 9716
E: margaret.faedo@sydney.edu.au

Human Ethics Secretariat
Ms Patricia Engilman
T: +61 2 9351 8172
E: patricia.engilman@sydney.edu.au

Ms Karen Greer
T: +61 2 9351 8171
E: karen.greer@sydney.edu.au

Ms Kala Rehan
T: +61 2 9351 8173
E: kala.rehan@sydney.edu.au
The HREC is a fully constituted Ethics Committee in accordance with the National Statement on Ethical Conduct in Research Involving Humans-March 2007 under Section 5.1.29.

The approval of this project is conditional upon your continuing compliance with the National Statement on Ethical Conduct in Research Involving Humans.

A report on this research must be submitted every 12 months to the Human Research Ethics Committee from the final approval period or on completion of the project, whichever occurs first. Failure to submit reports will result in withdrawal of ethics approval for the project. Please download the Annual Report/Completion Report Form from the Human Ethics website at:

The HREC approval is valid for four (4) years from the Approval Period stated in this letter and is conditional upon submission of Annual Reports. If your project is not completed by four (4) years from the approval period, you will have to submit a Modification Form requesting an extension. Please refer to the guideline on extension of ethics approval which is available on the website at:

Chief Investigator / Supervisor's responsibilities to ensure that:

1. All serious and unexpected adverse events should be reported to the HREC within 72 hours.
2. All unforeseen events that might affect continued ethical acceptability of the project should be reported to the HREC as soon as possible.
3. You must retain copies of all signed Consent Forms and provide these to the HREC on request.
4. It is your responsibility to provide a copy of this letter to any internal/external granting agencies if requested.
5. All research participants are to be provided with a Participant Information Statement and Consent Form, unless otherwise agreed by the Committee. The following statement must appear on the bottom of the Participant Information Statement: Any person with concerns or complaints about the conduct of a research study can contact the Manager, Human Ethics, University of Sydney on +61 2 8627 8176 (Telephone); + 61 2 8627 8177 (Facsimile) or no.humanethics@sydney.edu.au (Email).
6. Any changes to the protocol including changes to research personnel must be approved by the HREC by submitting a Modification Form before the research project can proceed. Please refer to the website at http://sydney.edu.au/research_support/ethics/human/forms to download a copy of the Modification Form.
7. A Completion Report should be provided to the Human Research Ethics Committee at the completion of the Project.

Please do not hesitate to contact Research Integrity (Human Ethics) should you require further information or clarification.

Yours sincerely

Dr Margaret Faedo
Manager, Human Ethics
On behalf of the HREC
Appendix B: Materials

Social Skills Rating System (Gresham & Elliott, 1990)

Social Skills

1. Controls temper in conflict situations with peers. (S)
2. Introduces herself or himself to new people without being told. (A)
3. Appropriately questions rules that may be unfair. (A)
4. Compromises in conflict situations by changing own ideas to reach agreement. (S)
5. Responds appropriately to peer pressure. (S)
6. Says nice things about himself or herself when appropriate. (A)
7. Invites others to join in activities. (A)
8. Uses free time in an acceptable way. (C)
9. Finishes class assignments within time limits. (C)
10. Makes friends easily. (A)
11. Responds appropriately to teasing by peers. (S)
12. Controls temper in conflict situations with adults. (S)
13. Receives criticism well. (S)
14. Initiates conversations with peers. (A)
15. Uses time appropriately while waiting for help. (C)
16. Produces correct schoolwork. (C)
17. Appropriately tells you when he or she thinks you have treated him or her unfairly. (A)
18. Accepts peers' ideas for group activities. (S)
19. Gives compliments to peers. (A)
20. Follows your directions. (C)

21. Puts work materials or school property away. (C)

22. Cooperates with peers without prompting. (S)

23. Volunteers to help peers with classroom tasks. (A)

24. Joins ongoing activity or group without being told to do so. (A)

25. Responds appropriately when pushed or hit by other children. (S)

26. Ignores peer distractions when doing class work. (C)

27. Keeps desk clean and neat without being reminded. (C)

28. Attends to your instructions. (C)

29. Easily makes transition from one classroom activity to another. (C)

30. Gets along with people who are different. (S)

C = Cooperation subscale; A = Agreeableness subscale; S = Self-control subscale

Problem behaviours

1. Fights with others. (E)

2. Has low self-esteem. (I)

3. Threatens or bullies others. (E)

4. Appears lonely. (I)

5. Is easily distracted. (H)

6. Interrupts conversations of others. (H)

7. Disturbs ongoing activities. (H)

8. Shows anxiety about being with a group of children. (I)

9. Is easily embarrassed. (I)

10. Doesn't listen to what others say. (H)
11. Argues with others. (E)
12. Talks back to adults when corrected. (E)
13. Gets angry easily. (E)
14. Has temper tantrums. (E)
15. Likes to be alone. (I)
16. Acts sad or depressed. (I)
17. Acts impulsively. (H)
18. Fidgets or moves excessively. (H)

E = Externalising subscale, I = Internalising subscale, H = Hyperactivity subscale

威胁或欺负他人

社交成熟度量表 (Peterson et al., 2007)
1 very much less mature than the average child of this age
2 less mature than the average child of this age
3 a little less mature than the average child this age
4 about average for a child this age
5 a little more mature than the average child this age
6 more mature than the average child this age
7 very much more mature than the average child this age

1. The child’s skill and willingness to make social overtures, join groups, or welcome others into own activities
2. The child’s skill at asserting him/herself appropriately to express opinions or convince peers.
3. The child’s leadership skills with peers.
4. The maturity of the child’s everyday modes of playing sociably with peers.
5. The child’s skills for coping with peers who frustrate or interfere with the group’s goals and activities
6. The child’s ability to understand the needs and interests of peers who differ from the norm
7. The overall maturity of the child’s social skills

**Teacher-rated Impulsivity Scale (White et al., 1994)**

1. Fails to finish thing he/she starts
2. Is impulsive or acts without thinking
3. Demands must be met immediately
4. Talks out of turn
5. Wants to have things right away
6. Is impatient

**Social Cognitive Understanding Task example (Pons, Harris, & De Rosnay, 2004)**

1. This is Molly. Molly’s mother has given her a packet of lollies. Molly loves to eat lollies!
   Molly puts her packet of lollies on the table and goes for a walk.
2. While Molly is outside, Jessica decides to play a trick on her.
3. Jessica takes all the lollies out of the packet…
4. and replaces them with beans!
5. Then Jessica puts the packet back on the table just as Molly left it.

Control Question 1: Does Molly like lollies?
Control Question 2: What’s really in the packet?

6. Molly comes back from her walk and she’s very hungry. She sees her packet of lollies on the table.

Target-emotion question: how does Molly feel when she first looks at the packet of lollies on the table but before she eats some food from it?

Target FB Question: What does Molly think is inside the packet before she opens it?

Self concept Puppet items (Eder, 1990)

<table>
<thead>
<tr>
<th>Left Hand Puppet (Sam)</th>
<th>Right Hand Puppet (Alex)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I like computer games.</td>
<td>I don’t like computer games.</td>
</tr>
<tr>
<td>I don’t like pizza.</td>
<td>I like pizza.</td>
</tr>
<tr>
<td>I like to watch other people fight.</td>
<td>I don’t like to watch other people fight.</td>
</tr>
<tr>
<td>Some days nothing can make me grumpy.</td>
<td>Some days everything makes me grumpy.</td>
</tr>
<tr>
<td>I don’t think it’s fun to scare people.</td>
<td>I think it’s fun to scare people.</td>
</tr>
<tr>
<td>When new people come to my house, I don’t show them my toys.</td>
<td>When new people come to my house, I show them my toys.</td>
</tr>
<tr>
<td>I cry when I get upset.</td>
<td>I don’t cry when I get upset.</td>
</tr>
<tr>
<td>People don’t want to be around me.</td>
<td>People want to be around me.</td>
</tr>
<tr>
<td>I don’t like to climb on things that are high.</td>
<td>I like to climb on things that are high.</td>
</tr>
<tr>
<td>I think it’s fun when our car goes really fast.</td>
<td>I don’t like it when our car goes really fast.</td>
</tr>
<tr>
<td>When I see something scary on TV, I don’t cover my eyes.</td>
<td>When I see something scary on TV, I cover my eyes.</td>
</tr>
<tr>
<td>I don’t get scared a lot.</td>
<td>I get scared a lot.</td>
</tr>
<tr>
<td>I don’t like to have people look at me.</td>
<td>I like it when people look at me.</td>
</tr>
<tr>
<td>When I hear a big thunderstorm, I like to go to the window to see the lightning.</td>
<td>When I hear a big thunderstorm, I don’t like to go to the window to see the lightning.</td>
</tr>
<tr>
<td>I don’t like to do what my friends tell me to do.</td>
<td>I like to do what my friends tell me to do.</td>
</tr>
<tr>
<td>I care about doing a really good job on everything I do.</td>
<td>I don’t care about doing a really good job on everything I do.</td>
</tr>
<tr>
<td>I don’t like to tease people.</td>
<td>I like to tease people.</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>I like to boss people around.</td>
<td>I don't like to boss people around.</td>
</tr>
<tr>
<td>I share toys with kids I don’t know.</td>
<td>I don't share toys with kids I don’t know.</td>
</tr>
<tr>
<td>I get mad a lot.</td>
<td>I don’t get mad a lot.</td>
</tr>
<tr>
<td>I’m a good kid.</td>
<td>I’m not a good kid.</td>
</tr>
<tr>
<td>I don’t think it’s fun to hang upside-down on the monkey bars.</td>
<td>I think that it would be fun to hang upside-down on the monkey bars.</td>
</tr>
<tr>
<td>People never say mean things to me.</td>
<td>People always say mean things to me.</td>
</tr>
<tr>
<td>I get sad a lot.</td>
<td>I don't get sad a lot.</td>
</tr>
<tr>
<td>Not many things make me upset.</td>
<td>A lot of things make me upset.</td>
</tr>
<tr>
<td>I would play with a new kid in my school.</td>
<td>I wouldn’t play with a new kid in my school.</td>
</tr>
</tbody>
</table>

**Moral Self Concept Items (Kochanska et al., 1994)**

<table>
<thead>
<tr>
<th>Left Hand Puppet (Sam)</th>
<th>Right Hand Puppet (Alex)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I like ice cream.</td>
<td>I don't like ice cream.</td>
</tr>
<tr>
<td>I don’t tell my parents when I do something wrong</td>
<td>I tell my parents when I do something wrong.</td>
</tr>
<tr>
<td>It makes me feel a lot better when my parents forgive me for doing something</td>
<td>I don’t care if my parents forgive me for doing something</td>
</tr>
<tr>
<td>Sometimes, I unwrap my birthday presents a little bit to peek</td>
<td>I don’t unwrap my birthday presents to peek</td>
</tr>
<tr>
<td>I don’t feel bad when I break something or spill something</td>
<td>I usually feel bad when I break something or spill something.</td>
</tr>
<tr>
<td>It upsets me when other people do something wrong.</td>
<td>I don’t mind when other people do something wrong.</td>
</tr>
<tr>
<td>I hide it when I break something.</td>
<td>I tell someone if I break something.</td>
</tr>
<tr>
<td>I still try to do a good job if I have a really hard chore</td>
<td>If I have a really hard chore, I sometimes do a messy job</td>
</tr>
<tr>
<td>If I spill something on the floor, I clean it up.</td>
<td>If I spill something on the floor, I don’t clean it up.</td>
</tr>
<tr>
<td>When I do something bad, I worry about it for a long time.</td>
<td>When I do something bad, I don’t really worry that much.</td>
</tr>
<tr>
<td>If my mum is mad at me because I did something wrong, I don’t really care.</td>
<td>If my mum is mad at me because I did something wrong, I hate it.</td>
</tr>
<tr>
<td>It doesn’t really bother me when someone tells me I made a mistake.</td>
<td>It upsets me when someone tells me I made a mistake.</td>
</tr>
<tr>
<td>When I remember a time I got in trouble for doing something wrong, I feel bad all over again.</td>
<td>When I remember a time I got in trouble for doing something wrong, I don't feel bad anymore.</td>
</tr>
<tr>
<td>I don’t care when I do something bad.</td>
<td>When I do something bad, I get really upset.</td>
</tr>
<tr>
<td>If my parents tell me not to do something, I won’t do it.</td>
<td>If my parents tell me not to do something, I still sometimes do it.</td>
</tr>
<tr>
<td>When I do something bad and my mum is upset, I</td>
<td>When I do something bad and my mum is upset, I don’t</td>
</tr>
</tbody>
</table>
really want us to make up.

When I do something wrong, sometimes I get a funny feeling in my tummy.

If I broke a friend’s toy, I wouldn’t give them one of mine.

I don’t care if other kids get in trouble.

I remember what my parents say not to do, and I really try not to do it.

I sometimes break the rules when my mum can’t see me.

When I am about to do something I’m not supposed to, I really try to stop myself.

I don’t care if someone breaks a rule.

When I do something wrong, I tell someone.

I don’t care if my friends break the rules in my house.

When I play with other kids, I don’t care if they do something bad.

If I see one of my friends be mean to another person I get upset with them.

I don’t feel bad for doing something wrong if my parents have forgiven me.

I don’t try and fix things I break.

mind.

When I do something wrong, I don't get a funny feeling in my tummy.

If I broke a friend’s toy, I would give them one of mine.

I try to stop other kids from getting in trouble.

I forget what I’m not supposed to do

I usually follow the rules even if my mum can’t see me.

When I am about to do something I’m not supposed to, I go ahead and do it.

It bothers me if someone breaks a rule.

When I do something wrong, I keep it a secret.

I get mad at my friends if they break the rules in my house.

When I play with other kids, I try to make sure they follow the rules.

If I see one of my friends be mean to another person I don’t get upset with them.

I sometimes feel bad even after my parents have forgiven me for doing something wrong.

I try to fix things I break.

Bryant Empathy Puppet Items (Bryant, 1982)

<table>
<thead>
<tr>
<th>Left Hand Puppet (Sam)</th>
<th>Right Hand Puppet (Alex)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I like lollies</td>
<td>I don’t like lollies</td>
</tr>
<tr>
<td>I don’t ever feel like crying when I hear a song.</td>
<td>Some songs make me so sad I feel like crying.</td>
</tr>
<tr>
<td>Seeing a boy who is crying makes me feel like crying</td>
<td>Seeing a boy who is crying doesn’t make me feel like crying</td>
</tr>
<tr>
<td>I don’t get upset when I see a boy being hurt</td>
<td>I get upset when I see a boy being hurt</td>
</tr>
<tr>
<td>Seeing a girl who is crying doesn’t make me feel like crying</td>
<td>Seeing a girl who is crying makes me feel like crying</td>
</tr>
<tr>
<td>It makes me sad to see a girl who can’t find anyone to play with</td>
<td>It doesn’t make me sad to see a girl who can’t find anyone to play with.</td>
</tr>
<tr>
<td>I get upset when I see a girl being hurt</td>
<td>I don’t get upset when I see a girl being hurt</td>
</tr>
<tr>
<td>It makes me sad to see a boy who can’t find anyone to play with</td>
<td>It doesn’t make me sad to see a boy who can’t find anyone to play with.</td>
</tr>
</tbody>
</table>
Appendix C: Assumption testing

The normality of the distribution of each measure was assessed using the Kolmogorov-Smirnov statistic. As can be seen in Table 10 most variables violated the assumption of normality and only verbal ability score, SSRS social skills and timidity at six years displayed normality. Despite this, to ensure a more meaningful interpretation of results, the original non-normal, non-transformed data was used for analysis as recommended by Grayson (2004). It is understood as reasonable for most of these measures to be non-normal and skewed towards the lower or higher end of the scale. For example, the SDQ conduct problems scale can be used to identify children with clinical levels of behavioural problems the incidence of which, within a non-clinical sample, should be low, resulting in skewed data.

Table 10: Testing the Assumption of normality

<table>
<thead>
<tr>
<th>Measure</th>
<th>Skewness coefficient</th>
<th>Kurtosis coefficient</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>At 6 years</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age in months</td>
<td>-.14</td>
<td>-.78</td>
<td>.01</td>
</tr>
<tr>
<td>Verbal ability</td>
<td>.14</td>
<td>-.24</td>
<td>.08</td>
</tr>
<tr>
<td>Timidity</td>
<td>-.05</td>
<td>-.54</td>
<td>.07</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>-.76</td>
<td>1.58</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Negative affect</td>
<td>1.33</td>
<td>2.25</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Empathic sadness</td>
<td>-.12</td>
<td>-.81</td>
<td>.01</td>
</tr>
<tr>
<td>MSC</td>
<td>-.88</td>
<td>.52</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Guilt</td>
<td>-.25</td>
<td>-.50</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>SSRS social skills</td>
<td>-.26</td>
<td>-1.11</td>
<td>.20</td>
</tr>
<tr>
<td>SSRS problem behaviours</td>
<td>.75</td>
<td>-.39</td>
<td>.01</td>
</tr>
<tr>
<td>SMat</td>
<td>.28</td>
<td>.41</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>TRIS</td>
<td></td>
<td></td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>
There appeared to be a number of outliers on a selection of measures (see Table 11). Each one was examined. Bar participant 12608 who showed an unusually low vocabulary score at seven years all other measures should to a degree be expected to show outliers and it was deemed inappropriate to delete any of the other participants for this reason. Participant 12608 was retained as they did not score unusually on vocabulary at the age of 6 however this was kept in mind during analysis of the data.

Table 11: Examination of outliers

<table>
<thead>
<tr>
<th>ID</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>10107</td>
<td>Conduct Problems at 7yrs</td>
</tr>
<tr>
<td>10708</td>
<td>Negative Affect at 7yrs</td>
</tr>
<tr>
<td>10908</td>
<td>MSC at 6yrs</td>
</tr>
<tr>
<td></td>
<td>TRIS at 6yrs</td>
</tr>
<tr>
<td>12608</td>
<td>TOLD at 7yrs</td>
</tr>
<tr>
<td>13008</td>
<td>Negative Affect at 6yrs</td>
</tr>
<tr>
<td></td>
<td>SMat at 6yrs</td>
</tr>
<tr>
<td></td>
<td>Negative Affect at 7yrs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>At 7 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure</td>
</tr>
<tr>
<td>Verbal ability</td>
</tr>
<tr>
<td>Timidity</td>
</tr>
<tr>
<td>Agreeableness</td>
</tr>
<tr>
<td>Timidity</td>
</tr>
<tr>
<td>Agreeableness</td>
</tr>
<tr>
<td>Negative affect</td>
</tr>
<tr>
<td>Empathic sadness</td>
</tr>
<tr>
<td>MSC</td>
</tr>
<tr>
<td>Guilt</td>
</tr>
<tr>
<td>SDQ conduct problems</td>
</tr>
<tr>
<td>SMat</td>
</tr>
<tr>
<td>SSRS Social skills</td>
</tr>
<tr>
<td>TRIS</td>
</tr>
</tbody>
</table>
20107    TRIS at 6yrs
20108    Conduct Problems at 7yrs
20308    Conduct Problems at 7yrs
20507    TRIS at 6yrs
          Conduct Problems at 7yrs
20508    TRIS at 6yrs
          Conduct Problems at 7yrs
20607    Agreeableness at 6yrs
20908    MSC at 6yrs
          TRIS at 6yrs
          Negative Affect at 7yrs
          Conduct Problems at 7yrs
          TRIS at 7yrs
21007    Negative Affect at 7yrs
          TRIS at 7yrs
21208    Negative Affect at 7yrs
21408    SMat at 6yrs
21608    Conduct Problems at 7yrs
21908    TRIS at 7yrs

Note: measure indicates the scale on which the participant appears to be an outlier
Appendix D: SPSS analysis

### Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys Age In Months</td>
<td>106</td>
<td>70.00</td>
<td>90.00</td>
<td>79.8879</td>
<td>4.393036</td>
</tr>
<tr>
<td>Yrsc Age In Months</td>
<td>96</td>
<td>80.00</td>
<td>102.00</td>
<td>92.1189</td>
<td>4.633309</td>
</tr>
<tr>
<td>Boys SC Timidity</td>
<td>105</td>
<td>.00</td>
<td>8.00</td>
<td>4.3143</td>
<td>1.729111</td>
</tr>
<tr>
<td>Yrs SC Timidity</td>
<td>95</td>
<td>.00</td>
<td>8.00</td>
<td>4.0837</td>
<td>1.755533</td>
</tr>
<tr>
<td>Boys SC Negative Affect</td>
<td>105</td>
<td>.00</td>
<td>7.00</td>
<td>1.6354</td>
<td>1.466265</td>
</tr>
<tr>
<td>Yrsc SC Negative Affect</td>
<td>95</td>
<td>.00</td>
<td>7.00</td>
<td>1.6354</td>
<td>1.466265</td>
</tr>
<tr>
<td>Boys verbal ability total</td>
<td>104</td>
<td>52.00</td>
<td>75.00</td>
<td>64.1056</td>
<td>4.399738</td>
</tr>
<tr>
<td>Yrsc verbal ability total</td>
<td>98</td>
<td>13.00</td>
<td>51.00</td>
<td>34.2812</td>
<td>7.528786</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>94</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SEX

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>59</td>
<td>50.0</td>
<td>51.3</td>
<td>51.3</td>
</tr>
<tr>
<td>1.00</td>
<td>56</td>
<td>47.5</td>
<td>48.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>97.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Missing</td>
<td>3</td>
<td>2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>118</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys Empathic Sadness</td>
<td>103</td>
<td>.00</td>
<td>7.00</td>
<td>3.7087</td>
<td>2.007985</td>
</tr>
<tr>
<td>Yrsc M3C Total</td>
<td>103</td>
<td>1.00</td>
<td>16.00</td>
<td>10.7379</td>
<td>3.146625</td>
</tr>
<tr>
<td>Boys Empathic Sadness</td>
<td>96</td>
<td>.00</td>
<td>7.00</td>
<td>3.5208</td>
<td>2.653130</td>
</tr>
<tr>
<td>Yrsc M3C Total</td>
<td>96</td>
<td>.00</td>
<td>16.00</td>
<td>10.7552</td>
<td>3.208361</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>92</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>Minimum</td>
<td>Maximum</td>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----</td>
<td>---------</td>
<td>---------</td>
<td>-------</td>
<td>----------------</td>
</tr>
<tr>
<td>Byrs SSRS Total Social Skills</td>
<td>106</td>
<td>12.00</td>
<td>60.00</td>
<td>41.8113</td>
<td>12.98083</td>
</tr>
<tr>
<td>Zyre SSRS Total Social Skills</td>
<td>95</td>
<td>13.00</td>
<td>60.00</td>
<td>45.0316</td>
<td>11.65950</td>
</tr>
<tr>
<td>Byrs Social Maturity</td>
<td>106</td>
<td>7.00</td>
<td>49.00</td>
<td>29.1321</td>
<td>8.01080</td>
</tr>
<tr>
<td>Zyre Social Maturity</td>
<td>94</td>
<td>7.00</td>
<td>49.00</td>
<td>30.9148</td>
<td>9.37356</td>
</tr>
<tr>
<td>Byrs SSRS Total Problem Behaviours</td>
<td>106</td>
<td>0.00</td>
<td>28.00</td>
<td>9.0472</td>
<td>7.75044</td>
</tr>
<tr>
<td>Zyre SDQ Conduct Problems</td>
<td>77</td>
<td>0.00</td>
<td>9.00</td>
<td>1.5455</td>
<td>2.27426</td>
</tr>
<tr>
<td>Byrs TRIS</td>
<td>106</td>
<td>8.00</td>
<td>18.00</td>
<td>8.6500</td>
<td>3.32165</td>
</tr>
<tr>
<td>Zyre TRIS</td>
<td>95</td>
<td>8.00</td>
<td>18.00</td>
<td>8.5368</td>
<td>3.43886</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>76</td>
<td></td>
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</tr>
</tbody>
</table>
Timidity at 6 and 7:

<table>
<thead>
<tr>
<th>Reliability Statistics</th>
<th>Reliability Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach's Alpha</td>
<td>Cronbach's Alpha</td>
</tr>
<tr>
<td>.586</td>
<td>.599</td>
</tr>
</tbody>
</table>

Agreeableness at 6 and 7:

<table>
<thead>
<tr>
<th>Reliability Statistics</th>
<th>Reliability Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach's Alpha</td>
<td>Cronbach's Alpha</td>
</tr>
<tr>
<td>.595</td>
<td>.591</td>
</tr>
</tbody>
</table>

121
Negative affect at 6 and 7:

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>Cronbach's Alpha Based on Standardized Items</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.343</td>
<td>.301</td>
<td>8</td>
</tr>
</tbody>
</table>

Guilt at 6 and 7:

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>Cronbach's Alpha Based on Standardized Items</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.514</td>
<td>.523</td>
<td>8</td>
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</tbody>
</table>

MSC no guilt at 6 and 7:

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>Cronbach's Alpha Based on Standardized Items</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.500</td>
<td>.499</td>
<td>6</td>
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</tbody>
</table>

Empathic sadness at 6 and 7:

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>Cronbach's Alpha Based on Standardized Items</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.740</td>
<td>.740</td>
<td>7</td>
</tr>
<tr>
<td>SEB</td>
<td>T2 Total TELQ Score</td>
<td>T1 Total OLGQ Score</td>
</tr>
<tr>
<td>-----</td>
<td>---------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>1</td>
<td>210.9</td>
<td>759.0</td>
</tr>
<tr>
<td>2</td>
<td>155.9</td>
<td>582.0</td>
</tr>
<tr>
<td>3</td>
<td>110.9</td>
<td>452.0</td>
</tr>
<tr>
<td>4</td>
<td>79.9</td>
<td>292.0</td>
</tr>
<tr>
<td>5</td>
<td>50.9</td>
<td>184.0</td>
</tr>
<tr>
<td>6</td>
<td>20.9</td>
<td>74.0</td>
</tr>
<tr>
<td>7</td>
<td>10.9</td>
<td>37.0</td>
</tr>
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**Correlations**

- Significant at the 0.05 level (2-tailed)
- Very significant at the 0.01 level (2-tailed)
## Model Summary

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- Predictors: (Constant), MS_Moral Self Subscale_12, T2 Total TELD Score, SEK
- Predictors: (Constant), MS_Moral Self Subscale_12, T2 Total TELD Score, SEK, SC - Timidity Subscale
- Predictors: (Constant), MS_Moral Self Subscale_12, T2 Total TELD Score, SEK, SC - Timidity Subscale, Zscore: Zscore(PSC_6)

## ANOVA

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- Predictors: (Constant), MS_Moral Self Subscale_12, T2 Total TELD Score, SEK, SC - Timidity Subscale, Zscore: Zscore(PSC_6)
- Predictors: (Constant), MS_Moral Self Subscale_12, T2 Total TELD Score, SEK, SC - Timidity Subscale, Zscore: Zscore(PSC_6), Zscore: Zscore(PSC_6)
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## Coefficients

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- Dependent Variable: MS_Moral Self Subscale_12
- Dependent Variable: MS_Moral Self Subscale_12
- Dependent Variable: MS_Moral Self Subscale_12
- Dependent Variable: MS_Moral Self Subscale_12
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b. Predictors: (Constant), MS, Moral Self Subscale, T2 Total TELD Score, SEK, SC - Timidity Subscale
c. Predictors: (Constant), MS, Moral Self Subscale, T2 Total TELD Score, SEK, SC - Timidity Subscale, Zscore Zscore(NSC 6)

d. Predictors: (Constant), MS, Moral Self Subscale, T2 Total TELD Score, SEK, SC - Timidity Subscale, Zscore Zscore(NSC 6)

e. Predictors: (Constant), MS, Moral Self Subscale, T2 Total TELD Score, SEK, SC - Timidity Subscale, Zscore Zscore(NSC 6)

### ANOVA

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a. Predictors: (Constant), MS, Moral Self Subscale, T2 Total TELD Score, SEK
b. Predictors: (Constant), MS, Moral Self Subscale, T2 Total TELD Score, SEK, SC - Timidity Subscale
c. Predictors: (Constant), MS, Moral Self Subscale, T2 Total TELD Score, SEK, SC - Timidity Subscale, Zscore Zscore(NSC 6)
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a. Dependent Variable: MS, Moral Self Subscale_13
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c. Predictors (Constant), MS_Moral_Self_Subscale2, SEX, Zscore: Zscore(PSC_6), Zscore: Zscore(PSC_7)
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## ANOVA

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d. Dependent Variable: MS_Moral_Self_Subscale13

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a. Predictors: (Constant), MS_Moral Self Subscale_12, SEX
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c. Predictors: (Constant), MS_Moral Self Subscale_12, SEX, Zscore_Zscore(NSC_6), Zscore_Zscore(NSC_7)

### ANOVA

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a. Predictors: (Constant), MS_Moral Self Subscale_12, SEX
b. Predictors: (Constant), MS_Moral Self Subscale_12, SEX, Zscore_Zscore(NSC_6)
c. Predictors: (Constant), MS_Moral Self Subscale_12, SEX, Zscore_Zscore(NSC_6), Zscore_Zscore(NSC_7)
d. Dependent Variable: MS_Moral Self Subscale_13

### Coefficients

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<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
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<th>Sig.</th>
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a. Dependent Variable: MS_Moral Self Subscale_13