Adults' Mental Representations of Children

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For the qualification of PhD

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A Brief Introduction to Representations of Children

When it comes to the study of children, psychologists have been traditionally concerned with development; striating children by age and gender, while focusing on the disparity between current performance and the functioning adult (Siegel & Kim, 1996; Prout & James, 1997). The work of developmental psychologists is inherently valuable; however, it also subsumes a perspective that regards the child as an incomplete adult, as the term *developmental* implies. This is a uniquely adult perspective on child behaviour. As such, there is an intergroup dimension to the perspective, because it entails one, powerful, higher status group regarding a second, weaker, lower status group. This facet makes it important to identify and critically evaluate the assumptions that adults impose on children. What exactly do children represent to us as adults (e.g., Jenks, 2005; Mills & Mills, 2000; James & Prout, 1997) and how does this affect the way in which we interact and think about children, or affect the processing of information when our representations of children are activated?

This chapter presents a brief review of the extant literature concerning mental representations of children and attitudes towards them. In addition, this chapter reviews some of the historical precedents that gave rise to current environments for the child. A large body of the theory and research considered in this review is from the field of sociology. I will highlight portions of this work that can be investigated by empirical means. Extant psychological literature on attitudes and values regarding parenting are also presented for a more complete consideration of the topic.

A Brief History of Childhood

To begin understanding mental representations of children, we need to consider historical and cultural changes over the last 500 years or more because these changes have given birth to current perspectives on children and childhood. Levine and White (1986) highlight four major transitional periods that affected the role of the child in the family, and these periods are relevant to our current attitudes. Primary among these was the shift from agrarian to urban—and later industrialized—societies. In (largely) self-sufficient agrarian communities, children are economically reciprocal in that they can help with the labour of sustaining the community and help look after the old. A child is an asset to productivity and often would learn all their skills from their parents and immediate family, in order to carry on the traditional work. In contrast, urbanization forces people to travel to where employment was available. The workplace becomes removed from the home, and family-based self-sufficiency gives way to monetary opportunities outside of the home. Because of the separation of work from the home in an urban environment, parents often cannot pass on their work skills to their children. Children have to acquire these skills elsewhere in order to enhance employability later in life. This change forces parents to cede a great deal of supervisory control to teachers in school, or to supervisors in places where children perform apprenticeships or menial labour. In some cases, especially where child labour occurs, the potential for child abuse is high. For this reason, child labour was eventually abolished in many parts of the world, and child rights were instigated in the United Nations Convention on the Rights of the Child.

As described by Levine and White (1986), urbanization and the desire to avoid abuses within child labour contributed to a cultural transition to mass schooling. Schooling became compulsory in Britain from 1840-1890, but was available to the

middle and upper classes for hundreds of years beforehand. The authors argue that education changed the parent-child relationship in several ways. It minimised the economic contribution of the child, while increasing their cost via the provision of schooling and consumer tastes acquired outside the home. Children's power in the familial relationship increased as parents realized that a well-educated child could lead to an increase in social status, and a child with access to new information asserts themselves more within the family. Thus, the focus of childhood became the preparation for adulthood, and the parental response was to have fewer children and invest more in each one in order to maximise child opportunity (Levine & White, 1986, p. 19).

Heavier investment in fewer children was also made possible by demographic transitions over the last 500 years, such as decreases in mother's death at childbirth, reduced infant mortality, safer nutrition (e.g., water treatment, pasteurization), and innovations in healthcare. According to Levine and White (1986), the result of these events was a final transition in parental attitudes towards children. Because the economic benefits granted from parent to child are often never reciprocated, parents come to benefit from a subjective satisfaction and identification with children who compete successfully (e.g., Henz, 2008; Nauck, 2005).

Some sociologists argue that there was no concept of childhood until the 17th century (Ariès, 1960) and far less parental investment. However, other sociologists present evidence that, at least as far back as the 16th century, adults have recognised "the child" as "different from adults… physically and mentally immature and dependent on adult protection" (Pollock, 1983, p.98). From her study of parental diaries and first-hand accounts, from 1500-1900, Pollock found that parents found "comfort" (Pollock, 1983, p.98, 100) and "emotional satisfaction" (Wrightson, 1982,

p.104, as cited in Pollock, 1983) in their children in the 16th and 17th centuries, suggesting relative consistency in parental subjective satisfaction towards children over time.

Feelings of Ambivalence

While there is a great deal of comfort and affection that parents can receive from their children, this is juxtaposed with the economic and time-consuming burden of their care. This duality may help to explain why Pollock (1983) found increasingly prevalent examples of parental ambivalence regarding their children from the 16th to 19th centuries. Increased ambivalence expressed by the 18th and 19th century diarists reflected an increased emphasis on providing children with the skills for success in adulthood and the difficulty of doing so. There were also mounting fears about inadequate parenting.

An interesting question is whether this ambivalence has actually grown over time. Some authors have argued (Ariès, 1960; Stone, 1977) that, if attitudes towards children have changed over the past 500 years, it might not be the affective satisfaction of being a parent or the degree of care and protection provided by parents that has changed. Although Pollock (1983) noted that 18th and 19th century parents express a greater concern for the training of their child and analyse the state of childhood more so than earlier diarists, Pollock also pointed out that 18th and 19th century diarists may have been more articulate and capable of providing more analytical appraisals of their parenting, because writing as a form of expression may have been more familiar than to the earlier 16th and 17th century diarists.

Attitudes towards Parenthood

If parents can feel ambivalence toward children and child-rearing, is this ambivalence reflected in whether or not people will become parents in the first place? Several studies have investigated this topic and consistently found that major factors affecting likelihood of becoming a parent are (a) one's perspective on autonomy, particularly women's autonomy, and (b) the 'proper' work of women (Henz, 2008; Jones & Brayfield, 1997; Moors, 2008; Nauck, 2005). For instance, people who possess liberal non-traditional views towards women's work tend to perceive having children as less centrally important to a meaningful life (Jones & Brayfield, 1997). In contrast, traditional views of woman's roles predict early motherhood (Moors, 2008). In relationships where household labour is divided equally, or where the man's contribution is greater than the woman's, couples are older when they have their first child (Henz, 2008).

It has been suggested that this effect emerges because lower female contribution lowers the affective and utility benefits of the child for women, which are conferred instead by their partner (Henz, 2008; Nauck, 2005). Consistent with this view, an important predictor of having children is the affective value placed upon children. Women with ambivalent attitudes towards the value of children are less likely to become a mother (Moors, 2008). People who place high affective value upon children are more likely to be parents, regardless of perceptions of the costs to the parents (Henz, 2008). These parents are adults who expect emotional satisfaction (or emotional utility, Nauck, 2005) from their children through the formation of intense lifelong bonds.

Of interest, marriage per se appears to be only weakly predictive of attitude towards motherhood. Specifically, views on marriage were not associated with

beliefs that children are central to life satisfaction in six European countries (Jones & Brayfield, 1997). Marriage in itself, along with employment, was seen as a more important goal (Moors, 2008). Religious affiliation was associated with increased perception of centrality of children to a fulfilled life (Jones & Brayfield, 1997). Consistent with the evidence for a role of employment focus, high levels of education were negatively associated with the centrality of children in most of the sampled European countries (Jones & Brayfield, 1997).

Representations of Children

To understand attitudes towards children, it is useful to consider in more detail how adults mentally represent children. Sociologists have described specific ways in which these representations have changed over time, with shifts in popular religious ideology, and changing academic perspectives. Several sociologists have offered their own categories of extant child representations (e.g., Benton, 1996; Brown, 1993; Hendrick, 1990; Jenks, 2005; Mills & Mills, 2000). James and Prout (1997; see also Jenks, 2005, and Heywood, 2001) discuss how early discourse on children has primarily focused on the state of children's "(ir)rationality" and "naturalness," while making certain assumptions about the "universality" of these representations, and this has shaped the history of childhood studies in itself. The authors welcome challenges to the orthodoxy of thinking about children as incomplete adults, and advocate that to understand children and childhood requires less focus on the socialization of the child, and more on the world of the child in and of itself, as experienced by children. Supporting their view that scholarly interest in understanding children and childhood necessitates a shift in focus from the structural features of child development, to understanding the world of children from their own perspective, James and Prout (1997) reference historical sources, perspectives by educational sociologists (e.g.,

Hargreaves, 1967; Young, 1971, both cited in James & Prout, 1997), psychologists (e.g., Donaldson, 1978; MacKay, 1973; Richards, 1986, all cited in James & Prout, 1997), anthropologists (e.g., Benedict, 1935, as cited in James & Prout, 1997) and semiological studies (James, 1979a, 1979b, as cited in James & Prout, 1997) to corroborate this view. Many of the authors observed the same key representations, and there is a degree of category overlap. I will therefore try to offer an overview of the important and distinct representations.

The moral nature of the child. In the 17th and 18th centuries in Europe, there was debate regarding the innate nature of the child. On the one hand, people of Puritan faith believed that children were tainted by Original Sin, and it was the purpose of adult society to break the innately evil will of the child (Stone, 1977; cf. Pollock, 1983, ch. 4 for arguments about the degree of this claim). Historical diary evidence suggests this view was more common in the 16th and 17th centuries, but certainly existed into 19th century, and probably to present day (Pollock, 1983). On the other hand, some religious perspectives held that children are innately good and closer to God, because their souls have most recently been in His Company. Theologians such as Rousseau (1762) and writers such as Wordsworth (1800) and Eliot (1861) helped to solidify this image in public thinking in the 18th and 19th century (Pollock, 1983). In between these two conceptions of the child are conceptions such as John Locke's (1694) *tabula rasa*, proposing that children are not born inherently good or evil, but have the capacity for both sin and virtue. In this middle ground view, the emphasis is again on the parent to raise the child appropriately. Although this view was present at least since the time of Aristotle, it saw a revival in the 16th and 17th centuries through the Baptist faith in Northern Europe.

Child as natural. The early 17th and 18th century moral philosophers such as Hobbes (1651), Rousseau (1762), Hume (1739) and Locke (1694), framed their discussions about the morality of man in a "State of Nature", that is, in a world pre-dating society and civilization. Though they disagree to the extent that Reason exists as a guiding moral force for "the Natural man," framing the debate in this way gave rise to the juxtaposition of ideas between the rational, civilised world of modern man, and the pre-rational world of the natural man. The representation that civilization is a progression from irrationality to rationality is mapped onto the socialization and education of the child that marks the progression from the natural state of the child to the rational state of the adult. Rousseau (1762), in particular, stressed the importance of preserving the "nature" of the child by focusing early learning experiences on the sensual, rather than the intellectual; keeping them in "complete ignorance of those ideas which are beyond his grasp" (p. 141).

This perspective of the natural child associated children with Nature itself. Expression of this image can be found in the diary entries of parents—at least as early as the seventeenth century, but was even more prevalent in the 18th and 19th centuries, when parents described their children as "plants," "lambs," and "flowers" (Pollock, 1983, e.g. p.111). Indeed, this was a recurrent theme in the works of William Wordsworth, such as "the Lucy poems" (Wordsworth, 1800). Jenks (2005) further argues that childhood's transient inclusion of every human being makes it easier to represent childhood as a natural period of growth. This perspective may lead people to frame questions regarding childhood around maturation and development, rather than focusing on childhood in and of itself.

Child as animal. Fitting in with the overarching themes of "naturalness" and "rationality" that have been foundational assumptions in our representations of

childhood, children can also be represented as animalistic (or as Jenks, 2005, prefers, as "savages"). This may stem from lay beliefs that socialization equates to civilization (Mills & Mills, 2000). Just as pre-civilized societies are conceptualized in western thinking as more savage than civilized ones (e.g., cf. the noble savage of Dryden's, *The Conquest of Grenada,* 1672, as cited in James & Prout, 1997), so too can childhood be represented as the more animalistic state of human existence, to which socialization is the solution. Representing children as animalistic or basal may remove them from the full consideration and regard afforded other humans (Jenks, 2005; Mills & Mills, 2000). Because children lack experience of socialization, they may lack the civil skills that are perceived as helping to make humans different from animals.

There is evidence from psychological literature that this perception of children as animalistic is still a common one (Loughnan & Haslam, 2007). In studies of outgroup derogation, participants tend to deny outgroups either *uniquely human traits,* such as being polite, broadminded or cold, or *human nature traits,* such as being curious, sociable or aggressive (e.g., Loughnan & Haslam, 2007). Outgroups that are denied uniquely human traits can still be perceived to possess the human nature traits that humanity shares with animals; in other words, they are seen as being simplistic and passionate, but lacking the capacity for subtle and varied emotions. In contrast, outgroups perceived as possessing many uniquely human traits, but few human nature traits, are seen as cold and machine-like (Loughnan & Haslam, 2007). Children fall into the former category: they are perceived as more animalistic than adults, as many uniquely human traits are acquired through socialization (Loughnan & Haslam, 2007). Interestingly, more recent research has shown that outgroups "possessing" few

uniquely human traits (i.e., traditional vs. modern societies) can be perceived as more child-like, as opposed to more animal-like (Saminaden, Loughnan, & Haslam, 2010).

Child as vulnerable. The physical vulnerabilities of children demand that we protect them from harm. Childhood also refers to a state of naïveté about certain topics, such as sex, death, money, violence and social relations (Postman, 1983, as cited in Mills & Mills, 2000). The acquisition of this knowledge is gradual and comes from different sources, but it helps to mark the change from child to adult. Diary evidence from 16th-19th century parents shows enduring parental concern and care during times of illness, as well as a fear among some parents that their children will grow up too fast (Pollock, 1983).

Of importance for social psychology, there is a relevant disparity between Western media representations of the "wholesome and life-enhancing" child in Western nations, and children who are "pitiful in image, if not in reality" in impoverished, non-Western nations (Mills & Mills, 2000, p.25). Most Western media representations of children from other nations focuses on those who are most vulnerable – those who are orphaned, starving, or are victims of war, mutilated begging syndicates, and child prostitution. Kitzinger (1990, cited Mills & Mills, 2000) labels this as implied racism: childhood is represented by a white child; suffering is represented by the black child. The contrasts between the Western child and portrayals of non-Western children highlight the "universality" of assumptions of childhood in Western thinking: to the extent that Western ideas of childhood become normative, the experience of the non-Western child is seen as an underprivileged version of childhood, while failing to consider the relevant socio-cultural environment and the child's interaction with it. Richards (1986, as cited in James & Prout, 1997) criticizes this view, that Western representations of childhood "were supposed to hold

good across all societies and at all historical times" and this "misrepresent[s] the relationship between individual and social worlds" (Richards, 1986 p.3, as cited in James & Prout, p. 20).

Social child (Child as Apprentice). Childhood is perceived as a time of "becoming," when a child's experiences shape the future individual. "Growing-up" is the socialization of children at appropriate developmental milestones, providing them with relevant skills to function effectively in the larger social context of adulthood. It is important to appreciate how from this perspective, the adult state is seen as desirable and complete, and childhood as a "biologically determined stage on the path to full human status" with "rationality as the universal mark of adulthood" (p.10 James & Prout, 1997). The adult world "extends a welcome to the child, invites him to cast off… his differences, and encourages his acquiescence" (Jenks, 2005, p.8). The pervasiveness of this idea is best highlighted by the great volumes of developmental work that followed in the Piagetian trend: that childhood can be thought of a series of distinct developmental milestones in creating the rational adult from the irrational child. As a result, cultural transmission is perceived to be in the hands of adults, causing the dynamic and creative power of the learner to be overlooked (Waskler, 1991). When radical originality emerges from the youth, the old label the young as "deviants" (Mills & Mills, 2000). This perspective focuses on competitive education and on achieving social hurdles to improve future outcomes. Relevant to this perspective, Pollock's (1983) analysis of diarists' entries about children describes an increased trend over time for parents to concern themselves with training and preparation of their children for adulthood and the increased expression of anxiety in trying to meet this demand. This perspective has an implicit cultural bias (Danziger, 1970, as cited in James & Prout, 1997) about the universality of the

socialization process. In her studies of the Zuni, Dobu, and Kwakiutl, Benedict (1935, as cited in James & Prout, 1997) notes the cultural differences in the socialization process from the different responsibilities children have, and their degree of subordination.

Children as persons in their own right. "If too much attention is paid to what the child will become, then childhood itself is devalued" (Mills & Mills, 2000, p.21). Waskler's (1991) uses examples of children at play in make-believe scenarios to highlight that children can exist both as full social beings of their wider culture in situations with which they are familiar (i.e., working knowledge of gender, age and professional roles), and exist as beings of their own world. That is, their actions do not always conform to adults' expectations, and is not always for the practice of becoming an adult, but is often focused on the experience of the present moment (Donaldson, 1978; Hardwood, 1973; James, 1979a, 1979b, cited in James & Prout, 1997; Waskler, 1991). In the traditional Piaget (1972) "number conservation task" children are asked if two rows containing an equal number of counters are indeed equal. One row of counters is then spread out and the same question is asked again. Failure of children to report that the number of counters is still equal was taken as evidence of the pre-operational child's inability to conserve numbers. Donaldson's (1978, as cited in James & Prout, 1997) explanation of the failure of some children at the traditional "conservation task," was that children aim to please the experimenter and so take the second asking of the question to mean that their initial answer was wrong. When the counters are spread out by a "naughty teddy" and not the experimenter, children have a clearer reason for being asked again, and children as young as four years old correctly report equal numbers of counters. James' (1979a, 1979b, as cited in James & Prout, 1997) study of the language and concepts used by

children reports that "when it is no longer necessary to describe behaviour as pre-rational it becomes possible to contextualize it as expressive of their social world" (p. 19, James and Prout, 1997).

The main images of children in this representation are two-fold. First, unlike the representation of the Social Child above, this perspective suggests that children are not just passive recipients of adults' intended socialization, but are unique (in terms of experiences and processing of experience) and active participants in the shaping of their personalities. Second, the personhood of the child exists in the present, and is fundamentally distinct from the person the child will become as an adult. This perspective advocates a shift from the traditional structural concerns in education to teacher-pupil interactions and child-centred learning, changing the representation of pupils as objects of socialization to active participants (Young, 1971, as cited in James & Prout, 1997). The focus, therefore, is less on the intended lessons of socialization, than children's direct interpretations of the experience, or as Mills and Mills (2001) put it, on "being" rather than "becoming" (p.21).

Areas for Psychological Enquiry

The different ways in which children can be represented raises interesting questions about how information processing in adults might be affected, depending on which mental representation(s) are active. Motivations, attitudes, and behaviour might be influenced by which representation of children is currently active. For example, activation of the child-as-vulnerable representation might elicit pro-social, helping motivations leading to attitudes that are more sympathetic to those in need (and not just children in need) and greater benevolence toward others. The near-total neglect of adult representations of children in psychology leaves open abundant

avenues of investigation that may or may not lead to important applications to intergroup dynamics and increasing pro-social behaviours.

Part of the issue may be due to certain assumptions about the universality of representations and attitudes towards children as discussed above. These assumptions may have led to a kind of institutionalized "childism," which has presupposed the exploration of this area. This may explain why controversy emerged among sociologists following Ariès' (1960) assertion that there was no conception of childhood prior to the 18th century (see, e.g., Heywood, 2001; Jenks, 2005; Mills & Mills, 2001; Pollock, 1983). It may have seemed intuitively unlikely that there have rarely been consensually shared views on the nature of childhood. As Heywood (2001, p.12) puts it: "most people assume their own ideas and practices concerning childhood are 'natural', and are shocked to discover that other societies diverged from them" (his quotations). Coupled with children not having a voice for themselves, it is easy to imagine why assumptions about shared views of children have led to their neglect in legal and societal discourse (e.g., Webb, 2004).

Before outlining the key questions that will be examined in this dissertation, however, it is useful to review the recent empirical psychological research that *has* examined adult mental representations of children. Some of these studies emerged during my dissertation research, and other evidence existed just before my dissertation research. All of the recent psychological studies are informative, but, as I will show, they had limited utility for the questions investigated here.

Discrimination against children. In a series of papers, Gilbert, Spatz Widom, Browne, Webb, and Janson (2009) review studies that investigate the extent of child maltreatment in high income and Eastern European countries, finding that despite efforts to provide care to abused children (including psychological abuse and neglect)

there remains a discrepancy between rates of maltreatment reported by child protection agencies, and self-report and parental reports of rates of maltreatment, meaning some maltreated children never receive support. For instance, one study examined reports that only 5% of physically abused and 8% of sexually abused children received support from protection services (MacMillan, Jamieson, & Walsh, 2003, as cited in Gilbert et al., 2009). It is estimated that one in 30 children in the UK are physically abused of those reported to social services, only one in 250 of physically abused children are appropriately monitored (Woodman, Pitt, Wentz, Taylor, Hodes, & Gilbert, 2008, as cited in Gilbert et al., 2009). Worldwide estimates of sexual abuse are at about 5-10% for girls, and 1-5% for boys (Andrews, Corry, Slade, Issakidis, & Swanston, 2004, as cited in Gilbert et al., 2009), with rates of psychological abuse being roughly the same (Edwards, Holden, Felitti, & Anda, 2003, as cited in Gilbert et al., 2009). Approximately a fifth of maltreated children referred to child protection agencies in the US and UK receive repeat referrals within 24-27 months (Fluke, Shusterman, Hollinshead & Yuan, 2008; Hamilton & Brown, 1999, both cited in Gilbert et al., 2009), though this may indicate better monitoring by social services. Scandals in a number of European countries has brought to light that even once children are taken into residential care, the possibility of maltreatment is a prevalent risk factor (Pinheiro, 2006, as cited in Gilbert et al., 2009), with perpetrators comprising institutional staff, but also other (typically older) residents (UNICEF, 2001, as cited in Gilbert et al., 2009).

Implicit and explicit measures of attitude toward children. People tend to be reluctant to express negative attitudes towards children, and there seems to be some general social and parental consensus on the importance of children. At the same time there is marginalization of children in rights legislation and general health

planning (Webb, 2004). In an attempt to explain this dissociation some work has already been conducted investigating attitudes towards children, but focusing on potential differences between explicit and implicit measures of adults' attitudes towards children (Maio, Karremans, Webb, & Leygue, *unpublished* c.2009). Implicit measures of attitudes tap automatic evaluations and are less susceptible to social desirability biases (Fazio and Olson, 2003), because they measure and compare speed of association between the attitude object (children) and words of either positive or negative valence. Implicit measures of attitudes are also better predictors of spontaneous behaviours than self-reported evaluations (Dovidio, Kawakami, & Gaertner, 2002).

Explicit measures of attitudes towards children used by Maio et al., (*unpublished* c.2009) include attitude thermometers, open-ended attitude and emotions towards children measures. The authors also included an indirect measure of attitudes towards children; a questionnaire about participants' willingness to interact with different people (including children) in hypothetical situations (Towles-Schwen & Fazio, 2006, as cited in Maio et al., 2009).

Implicit measures of attitudes included the Simple Association Test (SAT, Blanton, Jaccard, Gonzales, & Christie, 2006), in which participants are tasked with matching stimuli words (e.g., "*boy," "man", "chair"*) that appear in the centre of a computer screen with the appropriate category labels that appear, paired, in top right and top left of the screen. The categories included the target attitude objects (*"child"* and *"adult"*), evaluative valence (*"pleasant", "unpleasant"*), and two neutral categories (*"furniture", "middle"*). Over four test blocks each attitude object was paired with an evaluative category to form a joint category (i.e., child or pleasant; child or unpleasant; adult or pleasant; adult or unpleasant), which shared a keyboard

button for participants to correctly categorize stimulus words to these labels. A different keyboard key was used to categorize stimulus words if they belonged to the two neutral categories, which also appeared paired, on the other side of the screen (furniture or middle). By observing speed of responses in categorizing words to the appropriate joint categories, taking into consideration error rate and general processing speed, four separate implicit association strengths for child and positive words (*C*+), child and negative words (*C*-), adult and positive words (*A*+), and adults and negative words (*A*-) can be calculated.

Significant positive correlations between *C*+ and *C*- on the SAT were obtained, with no correlations of any other target-valence pairings (*A*+ *A*-; *C*+ *A*-; *C*- *A*+) reaching significance. This means participants were similarly fast (or slow) at categorizing child words when the category of child was paired with "unpleasant" or "pleasant", and is indicative of ambivalence in attitudes towards children when measured using implicit tests (Maio et al., c. 2009). Analysis of the explicit measures by Maio et al., (*unpublished* c.2009) bore out the assumption that people express more positive attitudes towards children than they do negative attitudes ($p < .001$); and express more positive attitudes, and fewer negative attitudes, towards children than attitudes towards adults ($ps < .001$). This preference for children over adults was not found using the implicit measures. Regression analyses revealed participants with less positivity towards children on the *C*+ index expressed more positivity in attitudes towards children on the thermometer scale; and participants with greater negativity towards children on the *C*- index reported feeling more negative emotions elicited by children (Maio et al., *unpublished* c. 2009). There were no significant correlations between implicit or explicit measures of attitudes and willingness to interact with a child, but participants were less willing to interact with a child than a stranger. Taken

together, these results are suggestive that, although explicitly people tend to report more positive attitudes towards children, implicit measures indicate that attitudes towards children are ambivalent. Furthermore, participants who explicitly claim greater positivity in their attitudes towards children may hold relatively weaker implicit associations of children with positivity.

Effects of children on values. Given the many ways children might be conceptually represented, interesting questions arise as to what effect the presence or even the mere thought of children (whether abstract or a specific known child) may have on adult social cognition and behaviour. I will attempt to answer this question in this dissertation, but some work completed recently sheds light that children can, in fact, have an effect on adults' social cognition. A recent set of experiments investigating the effects of child salience on values reported a general trend of child salience increasing self-transcendent values (Maio, Foad, Karremans, & Gebauer, 2012), which are associated with more caring, benevolent, pro-social behaviours (Schwartz, 1992).

In Experiment 1, Maio et al., (2012) primed childless Dutch students in the child salience condition (write about what it would be like to have a child, what she/he would look like, and what kind of personality this imaginary child would have) vs. no prime in the control condition; before all participants completed an adapted version of the Schwartz Value Survey (Schwartz, 1992). There was a significant main effect of priming condition on endorsement of self-transcendent values, such that participants in the child salience condition endorsed self-transcendent values more strongly than participants in the control condition. Underlying this was a significant interaction between prime and sex, such that men's endorsement of self-transcendent values increased following the child prime, but not women's (although,

this was likely due to a ceiling effect in this sample). The circular structure of Schwartz's (1992) values model contrasts motivationally opposing higher-order value dimensions (e.g., openness vs. conservatism; self-transcendence vs. self-enhancement) and research suggests that participants who attach particular importance to one higher-order value domain tend to accord lower importance to the contrasting value dimension (i.e., participants who emphasise the importance of self-enhancement value orientations attach less importance to self-transcendent value orientations, and vice versa; Schwartz & Sagiv, 1995). In line with this theorizing, Maio et al., (2012) found main and interaction (again with sex, male value differences underlying the effect) effects of child salience prime on decreasing endorsement of self-enhancement values (Experiment 1).

To test that the effect was not accounted for by activation of nurturing motives in particular following the prime, Maio et al., (2012) changed the priming manipulation and added additional comparison conditions in Experiment 2. Participants in the two child priming conditions had to write about either what (they think) it is like to care for a child (child nurturing prime); or what a typical child is like (child prime). In the comparison prime conditions participants had to write about what they think it is like to care for an elderly person (elderly nurturing prime); or what a typical elderly person is like (elderly prime). There was a final control condition in which participants received no prime. Using participants recruited from the UK, USA and India, Maio et al., (2012) found that the child prime condition lead to significantly greater endorsement of self-transcendent values than the control condition, whereas the differences in self-transcendent value endorsement between the other three priming conditions (child nurturing, elderly nurturing, and elderly prime) and the control were non-significant. This provides evidence that our mental

representations of children *per se* are spontaneously associated with pro-social value orientations independently of activating nurturing motivations; highlighting the importance for studying the ways in which adults represent children, to better understand the wider impact on adult social behaviour.

Key Questions in this Dissertation

My research began with the aim of understanding the effects of adult mental representations of children on how adults perceive other ethnic and religious groups, then it moved to a focus of the effects of these mental representations on perceptions of individuals, and finally it turned to closely examining the content of adult mental representations of children. The reasons for this progression will be made clear in each portion of the thesis. For now, it is useful to given a brief outline of each topic.

Effects of children on attitudes toward groups. I began my research by testing whether inclusion of children in the conceptual representation of a prejudiced outgroup can affect attitudes towards that outgroup. In what ways might our attitudes towards children be expected to affect an overall group attitude? This might depend on the way in which we represent children. Are they agentic and independent, or cultural cut-outs of their parents? Could thinking about children in the context of prejudiced others increase feelings of affinity and familiarity, or reduce prejudice towards that outgroup? Do children spontaneously elicit a need to protect? If inclusion of children in thinking about outgroups could affect attitudes towards the target group, it might do so for the following reasons:

Longstanding perspectives in social psychology indicate that common category membership facilitates more positive attitudes. For example, it is possible to reduce feelings of prejudice by incorporating immigrants as part of the ingroup by highlighting common identity (Esses, Wagner, Wolf, Preiser, & Wilbur, 2006). The

explanation for this finding is that ingroup members receive positive bias (Tajfel & Turner, 1979) and so categorizing immigrants as ingroup members based on a common group identity serves to impart ingroup positivity on previously outgroup members (Gaertner and Dovidio, 2000). This process may backfire however if the new common identity is threatening to the initial identities (Hewstone, 1996; Branscombe, Ellemers, Spears, & Doojse, 1999; Esses et al., 2006). Inclusion of children in evaluative judgements of an outgroup might give rise to a common group identity because all humans were members of this group in early life, and so lead to more positive attitudes of the outgroup. This positivity would be a direct result of the common category membership.

Another way in which children might affect attitudes towards outgroups when they are explicitly included in conception of others is because of the representative distinctions of the child as "an apprentice" vs. "a person in their own right" (Mills & Mills, 2000, pp. 19, 21; see also Jenks, 2005). To view cultural transmission in the hands of adults, such that children learn their culture from their parents and replicate it, rather than help create it, is to expect children to be relatively similar to the whole outgroup. From this perspective, inclusion of children in judgements of outgroups may have no effect on overall attitudes, because the children are essentially being evaluated by the same criteria as the adults. In the case of prejudiced outgroups this may exacerbate negative attitudes as the children could represent a resurgence or continuation of, for example, values or cultural norms which are the root of the prejudice. On the other hand, if children are viewed as independent persons to their adult population, then there is at least the possibility of discontinuation of those values which generate the prejudice, as well as room for the emergence of new value systems to take their place (when the prejudice is not based solely on ethnicity).

I used immigrants as the target outgroup, because they often receive prejudice from citizens of host nations, and for the historical focus of using immigrants as the target group in other empirical studies interested in intergroup attitudes. I manipulated whether children were likely included in attitude judgements toward immigrant outgroups by including or excluding information relating to immigrant children from a larger body of information about immigration prior to participant's attitude ratings.

Effects of children on attitudes toward individuals. To follow from the investigations of child salience on attitudes towards groups, I hoped to simplify the picture by focusing on how child salience might affect perceptions of individuals. It turned out that the picture was actually more complicated, with child salience manipulations interacting with implicit evaluations of children, and perceptions of the target (that were independent of the prime) that had moderating influences on whether primed category information would be assimilated or contrasted from implicit evaluations in way that adds to the picture of previous research on these effects (e.g., Lepore & Brown, 1977; Gaertner and Mclaughlin, 1983).

A fine-grained analysis of adult mental representations of children. I will end this dissertation with a more exploratory investigation into the ways in which children are mentally represented by adults. After the first two experimental paradigms failed to find straight forward effects of children salience on attitudes towards groups (Chapter 2), and individuals (Chapter 3), it seemed prudent to return to a ground up investigation of the composition of adult beliefs, emotions and behaviours associated with children. Starting out by defining exactly what is meant by "a typical child", participants were asked to provide age boundaries to different stages in early life (e.g., infancy, childhood, adolescence, etc.). These age boundaries

helped to standardize what participants imagined when asked to provide their emotions, behaviours and beliefs towards different age groups of children. After collecting a wide range of statements within these three domains, – and for each age subgroup of children, – any synonymous emotion, belief or behaviour responses were collated into a set of unique responses. Different participants then rated their agreement that these unique emotions, beliefs, and behaviours are indeed associated with their respective age group of childhood. Analysis on ratings of agreement to the applicability of associated emotions beliefs and behaviours within each age group indicated the most consensually held components to our mental representations of children. Exploratory factor analysis revealed the structure of associations of these components to latent factors, and allowed for a reductionist approach to creating a scale from a consensual subset of emotions, beliefs, and behaviours (this was done for children only, and not for the other age groups: babies, toddlers and teenagers). This scale I called the Child Attitude Component Scale (CACS), and it can be used as a measure of stereotype content endorsement towards children. This scale might help improve predictive power of future studies interested in understanding child salience and priming effects by providing a measure of participants' endorsement of particular aspects of their representations of children. The formation of the CACS, as well as convergent and discriminant validity of the scale with other measures is discussed in Chapter 4.

Chapter 2 Prejudice and Immigration

This chapter summarizes an investigation into whether attitudes towards children can affect attitudes towards larger outgroups to which the children belong. I argue that, if one were to conceptualize groups of people, for example, based on nationality, race or faith, the mental representations of the outgroup (or ingroup) will consist of prototypical *adult* members of the group. People will rarely incorporate children into these mental representations of outgroups, unless situational factors prompt them to do so.

Nonetheless children are valid members of many groups, whilst existing also as members of their own distinct subgroup (e.g. Jenks, 2005; Mills & Mills, 2000). It is possible that attitudes towards outgroup children could be different from attitudes toward outgroup adults, and from attitudes toward the outgroup as a whole. If this is the case, then perhaps the explicit incorporation of the child in the outgroup representation might affect attitudes toward the outgroup.

One important possible effect of this integration of children into an outgroup representation is reduced prejudice toward the group. This effect could emerge in at least two ways. First, it may be helped, in part, by the representation of childhood as a transitory and inclusive time of growth, which everyone has experienced (Jenks, 2005). As a result, similarities can be drawn between ingroup and outgroup children through their joint existence as "children". In addition, adults could draw similarities with their own past existence as children. Because all adults were once children, inclusion of children in outgroup concepts may increase perceptions of similarity, familiarity, and experience with the outgroup.

According to Social Identity Theory (SIT, Tajfel & Turner, 1979) and Self Categorization Theory (SCT, Turner, Hogg, Oakes, Reicher & Wetherell, 1987), there is not a fixed conception of self, rather "the self" can be categorized at various levels

of abstraction (such as personal identity, "I"; or the social self, "we"). The categorization of the self will fluctuate between groups to which we belong depending on salient contextual factors such as perceiver readiness (past experience, current motivations), and comparative fit with other members of salient groups(the degree to which we see ourselves as similar to other members of the group, and different from members of another group; Turner et al., 1987). When ingroup-outgroup categorization is salient, people engage in efforts to maintain ingroup superiority relative to the comparative outgroup, by emphasising the differences that confer positive advantages to the ingroup (such as greater prestige, image or entitlements) while derogating the outgroup (e.g., Hewstone, Rubin, & Willis, 2002). In particular, when group identity is salient, and the outgroup poses a threat to group identity, increased prejudice and discrimination is more likely (Branscombe, Ellemers, Spears, & Doosje, 1999). However, the effects of intergroup prejudice can be reduced by re-categorizing self and other into a common group identity based on shared superordinate social category distinctions that include both the outgroup and the ingroup together (Gaertner and Dovidio, 2000). This common identity model posits that creating an inclusive common social identity will allow for ingroup positivity biases to be conferred to the (previously) outgroup members, and serves to make attitudes more favourable towards these members (Gaertner & Dovidio, 2000). In an experiment to test the effects of inducing a common identity on German and Canadian nationals' attitudes towards immigrants, Esses, Wagner, Wolf, Preiser and Wilbur, (2006) made salient either participants' national identity, or induced a common national ingroup identity that included immigrants. They also took a measure of social dominance orientation (SDO, Pratto, Sidanius, Stallworth, & Malle, 1994), a measure of preference for maintaining intergroup inequalities, as individuals with

higher social dominance orientation are more prejudice against immigrants (Sidanius & Pratto, 1999).

Participants in the national identity condition were asked how important it is to them to be Canadian/German and how much they identify with being German/Canadian. Participants in the common national ingroup condition were asked to think about the percentage of Canadians/Germans that have parents who were not born in Canada/Germany, and to what extent they thought Canadian/German nationals and immigrants goals and values were the same. There was also a control condition in which participants were asked about TV and newspaper consumption rates among the general public.

For Canadian participants, higher social dominance orientation predicted more negative attitudes towards immigrants for the participants in the national identity and control conditions, but not the common national ingroup condition. For participants especially high in social dominance orientation (+1 *SD*), the common national ingroup manipulation lead to significantly more favourable attitudes towards immigrants than the other conditions, but there was no effect of experimental manipulation for participants low in social dominance orientation in the Canadian sample. For Canadian participants, inducing a common ingroup identity that included immigrants worked to reduce prejudice in participants with high social dominance orientation (who are most likely to hold prejudiced attitudes). However the less favourable attitudes of the national identity and control conditions indicate that a common ingroup identity does not happen spontaneously, but needs to be prompted for an inclusive identity to guide social cognition (Esses et al., 2006).

For the German participants, social dominance orientation did not predict more negative attitudes towards immigrants in the control and national identity

condition, but did predict *more* negative attitudes in the common national ingroup condition. For the German sample, there were no significant differences in favourability towards immigrants between the conditions for participants who were low on social dominance orientation. Participants who scored relatively high on SDO in the German sample reported significantly more negative attitudes towards immigrants in the common national ingroup condition, than the other two conditions. For the high SDO participants from the German sample, the manipulation to create a common identity backfired leading to greater prejudice towards immigrants. The explanation for this effect given by Esses et al., (2006) is that an attempt to induce a common inclusive ingroup in German participants with their immigrant population was threatening to their sense of national identity.

Important to explaining the different effects of the same manipulation for Canadian and German participants is an understanding of the historical context of immigration within these nations. Canada has had policies that support multiculturalism for over 30 years, and has historically considered immigration an important part of national development (Knowles, 2000, as cited in Esses et al., 2006). Germany, on the other hand, and despite having a large immigrant population, has an establishment discourse of denying being a nation of immigrants (Graßler, 2005, as cited in Esses et al., 2006); perceiving its immigrants as guest workers despite the fact that many immigrants become permanent residents (Zick, Wagner, van Dick, & Petzl, 2001, as cited in Esses et al., 2006); and possessing relatively strict processes to naturalization.

Strategies to improve intergroup attitudes using the common identity model (Gaertner & Dovidio, 2000) therefore need to take into consideration the contextual factors that will influence the efficacy of an inclusive identity, if the desired outcome

of reducing prejudice, rather than heightening it, is to be achieved (Hewstone, 1996; Branscombe, Ellemers, Spears, & Doojse, 1999; Esses et al., 2006).

A second mechanism that could decrease prejudice involves spontaneous effects of children on social values. Recall from Chapter 1 that there is evidence of an increase in self-transcendence values after child priming (Maio et al., 2012). Maio et al., (2012) argue that the increase in importance of self-transcendent values was a particular effect of activation of representations of children *per se*, independent of activating a motivation for nurturing, or activating representations of vulnerable groups in general (i.e., the elderly). Therefore inclusion of children as part of an outgroup concept while forming evaluations of the larger group might lead to more positive attitudes because of the activation of self-transcendent values such as benevolence and universalism that promote caring and tolerance towards others.

Nonetheless, it is also possible that integration of children into an outgroup representation *increases* prejudice toward the group. This possibility arises because children are also seen as more animalistic than adults (Loughman & Haslam, 2007; Mills & Mills, 2000; Jenks, 2005). In the study by Loughnan and Haslam, (2007) children were perceived to possess many human nature traits, such as being friendly or aggressive, but few uniquely human traits, such as humility and broadmindedness. This animalistic representation could influence attitudes towards outgroups, which are often derogated by representations of animalistic nature. The salience of children might reinforce prejudicial attitudes by further reducing the extent to which the groups are seen as possessing uniquely human qualities.

A third potential effect of including children is more nuanced; it depends on the valence of attitudes toward children. Specifically, people may project their attitudes toward children on to their attitudes toward the outgroup. Recall from

Chapter 1 that people vary in their attitudes toward children, often with greater negativity detected in implicit measures of attitude toward them than in explicit measures of attitude toward them. It is conceivable that negative attitudes towards children will act to increase the negativity of attitudes towards the outgroup, while positive attitudes toward children will act to increase the positivity of attitudes toward the outgroup.

These mechanisms raise three separate possibilities. First, the common category and self-transcendence activation mechanisms may cause people to express more positive attitudes towards outgroups when children are salient members of the outgroup than when they are not. Second, the children-as-less-uniquely-human mechanism may cause people to express more negative attitudes toward outgroups when children are salient members of the outgroup. Third, the projection of attitude mechanism may cause people to develop more negative attitudes towards the outgroup when their attitudes to children are negative, while developing more positive attitudes toward the outgroup when attitudes towards children are positive.

The Present Research

To examine the effects of integrating children into perceptions of outgroups, I wished to use outgroups that were known to be targets of prejudice among the British public. This was preferable to using a neutral or positively-appraised outgroup for two reasons. First, it would be important to avoid ceiling effects with positively regarded groups. An upward change in favourability toward the outgroup would be difficult to detect if the group is already favourably regarded. Second, the inclusion of a negatively evaluated target group has applied ramifications for interventions to reduce prejudice.

With these issues in mind, I chose to use "immigrants" as the target group. Immigration is a controversial topic in the UK and public opinion is divided between prejudice and acceptance of immigrants. Worry over immigration takes the form of fear of declining national standards, less employment opportunity to nationals, and fear of social loafing. Even a cursory glance at the UK border agency website reveals an emphasis on "controlling," "strengthening" and "enforcing" immigration law (http://www.ukba.homeoffice.gov.uk). Previous studies on prejudice and immigration (e.g., Esses et al., 2006) have found that immigrant groups are the targets of more prejudice when there is a perceived threat to the ingroup.

I conducted two experiments to examine whether making salient that children are a constituent subpopulation of immigrant groups would have any effect on attitudes towards the group as a whole, compared to attitudes towards immigrant groups when children were not salient. Salience of children as outgroup members was manipulated by including or omitting statistics pertaining to rates of child immigration in a larger body of text about general immigration statistics. Self-report attitudes towards two immigrant groups, asylum seekers and migrant workers; attitude strength ratings, and experience with the outgroups were measured (Experiment 1). Implicit measures of attitudes towards immigrants, and an order effect manipulation were also added in Experiment 2.

EXPERIMENT 1

I wished to investigate whether including children in representations of the outgroup can affect later attitude judgements towards the group, using immigration as the focal issue. In the contemporary UK context, it made sense to distinguish between two immigrant groups: migrant workers and asylum seekers. Participants were presented with statistics released from the Home Office, UK (2009) about current levels of immigration. These statistics related separately to the immigration of migrant workers from other EU countries and to the immigration of asylum seekers. The Home Office release also contained statistics relating to asylum seekers under the age of 18, and the number of underage dependents living with migrant workers. These statistics relating to children were presented or removed as a manipulation of the inclusion of children in the outgroup representation. Participants then rated their attitudes and strength of their attitudes towards the outgroups.

Method

Participants

Seventy-five Cardiff University students participated in this study for course credit or £3. Analyses excluded two participants of Eastern European nationality (for whom the experimental outgroups were not outgroups) and five participants who failed to complete all parts of the questionnaire properly, leaving a final sample of 68 students (54 women; 14 men; *M*age = 21 years).

Design

The experiment utilized a 3 (condition: child absent, child present, child rights) x 2 (outgroup: Asylum seekers, Migrant workers) mixed-model design, with condition as a between-subjects variable and outgroup as a within-subjects variable.

Procedure

Participants were tested one or two at a time. They were told that the research was examining people's attitudes towards Migrant workers, Asylum seekers, and UK Immigration in general. The experimenter indicated that people often do not know much about the issue and, therefore, he was providing summary information from the Home Office in 2009. Each participant then received a booklet containing the experimental manipulation, followed by measures of attitudes toward either asylum seekers or migrant workers and then measures of the strength of these attitudes. Participants first read the passage containing the manipulation and then completed all the measurements towards one outgroup before doing the same for the other outgroup. Participants were then debriefed.

Presentation order for the different outgroups was counterbalanced. Because the passage was on the inside page of the booklet, the experimenter was also blind to the experimental condition.

Experimental Manipulation

The manipulation passage described statistics regarding immigration in the UK. The passage was an actual press release from the Home Office in the first quarter of 2009, with some of the material deleted for the purpose of the experiment. The passage highlighted recent changes in immigration from the eight newest accession countries to the European Union: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia. The passage identified the percentage of these immigrants that find employment. The statistics also indicated the number of applications for political asylum from outside the EU, the number of asylum applications with decisions, and the percentage of asylum applications that were successful. Conveniently, this distinction in the statistics gave rise to the two

outgroups used in the experiment: Migrant workers and Asylum seekers. Both groups are stigmatized to a certain extent in the current British culture, with fear of loss of job opportunity on the one hand, and fear of "free-loading" on social welfare on the other.

In the original press release, the statistics also contained information on the number of young dependents (children under 18) living with European migrants in the UK, as well as the number of asylum applications from persons under the age of 18. This information was included in the child-present condition, but not in the child-absent condition. In the child rights condition, the information about child applicants was followed by a statement from The Children's Society claiming that the Government could do more to protect the rights and welfare of children, particularly with respect to detaining child asylum seekers awaiting assessment.

Attitude Valence

Participants rated their attitudes toward each outgroup using five 7-point (1 to 7) bipolar scales anchored by *bad-good, harmful-beneficial, foolish-wise, negative-positive* and *worthless-valuable*. These five measures had good inter-item reliability for both the Migrant Worker ($\alpha = .91$) and Asylum Seeker ($\alpha = .91$) outgroups. Scores were therefore collapsed across the measures to a single measure. This new measure is the first of three general attitude ratings towards the outgroups.

The second general attitude measure asked participants to indicate their general attitude towards the outgroup, using a 7-point scale from *extremely unfavourable* (1) to *extremely favourable* (7). The third general attitude measure was an attitude thermometer (Campbell, 1971; Haddock, Zanna, & Esses, 1993), with responses ranging from 0 (*negative*) to 100 (*positive*). A space was provided for participants to indicate any number between 0-100.

Responses to the three general attitude measures were highly correlated, *r*s > .75, *p*s < .001. Thus, scores on each measure were converted to z-scores and then averaged in order to form one overall indicator of general attitude for each outgroup.

Attitude Strength

Participants rated the strength of their attitudes toward each outgroup by indicating the certainty, strength, accessibility, knowledge, personal relevance, extremity, and importance of their attitude (Wegener, Downing, Krosnick, & Petty, 1995). Participants used a 9-point scale from 0 (*not at all*) to 8 (*extremely*) to rate how *certain*, *strong*, *personally relevant*, and *important* their attitudes were. Knowledge was measured on the same 9-point scale, but using a novel item that asked "*How closely do you pay attention to information about Asylum Seekers/Migrant workers?*" which had significant positive correlations with the other attitude strength items for both target groups. Attitude accessibility was measured using the item "*How frequently do you think about Asylum Seekers/Migrant workers?"* using a 5-point scale from 1 (*Never*) to 5 (*Very often*). Scale reliability for the attitude strength measures were α=.85 in the case of asylum seekers and α= .88 in the case of migrant workers. For ease of analysis, z-scores were calculated for the strength items, and then a mean z-score strength rating towards asylum seekers and migrant workers was calculated.

Experience with Outgroup

Participants rated their experience with the outgroup using 4-point response scales from *1* (*none at all*) to 4 (*A lot*). Participants indicated their ambivalence on a dichotomous item that asked if their feelings were certain or mixed.

Results and Discussion

Preliminary analyses revealed no simple effects or interactions involving sex of participant. Therefore, sex of participant was not included as a factor in the analyses below.

Attitude Valence

As shown in Tables 1 (asylum Seekers) and 2 (migrant workers), attitudes were mildly favourable toward towards asylum seekers and migrant workers

Table 1. *Mean attitude rating scores and standard deviations towards asylum seekers, by condition*

Child Inclusion	Mean Semantic Differential		General Favourability		Thermometer	
	Mean	SD	Mean	SD	Mean	SD
Child Absent	4.32	.80	4.32	1.25	57.62	16.18
Child Present	4.34	1.14	4.43	1.70	59.78	23.47
Child Rights	4.43	1.26	4.52	1.53	58.96	23.77

Table 2. *Mean attitude rating scores and standard deviations towards migrant workers, by condition*

Child Inclusion	Mean Semantic Differential		General Favourability		Thermometer	
	Mean	SD	Mean	SD	Mean	SD
Child Absent	4.91	.65	4.77	1.15	65.55	13.08
Child Present	4.56	.99	4.48	1.37	63.04	20.62
Child Rights	4.97	.94	4.87	1.29	64.26	19.87

Effects of the Experimental Manipulations

A mixed model ANOVA was conducted on the combined z-score of the three general attitude measures (here on referred to as total attitude score), with outgroup (asylum seekers, migrant workers) as a within-subjects factor and the experimental manipulation as a between-subjects factor (child rights salient, child salient, child absent). No significant effects were obtained, *p*s > .05. For extra rigor, I repeated the ANOVA separately for the semantic-differential scale scores, the overall favourability judgment, and the attitude thermometer. These three ANOVAs also failed to reveal significant effects, *p*s > .05.

The Role of Attitude Strength

Means and standard deviations for the strength items can be found in Table 3 (composite mean for the 9-point attitude items, and the 5-point attitude accessibility item given separately). As shown in the table, participants tended to report only weak

strength in their attitudes towards asylum seekers and migrant workers. Participants also tended to be more ambivalent in their attitudes towards both outgroups, with 73.5 % of participants reporting ambivalent attitudes towards asylum seekers, and 66% of participants reporting ambivalent attitudes towards migrant workers.

Table 3. *Means and standard deviation of attitude strength towards asylum seekers and migrant workers by condition*

Child Inclusion	Attitude strength asylum seekers				Attitude strength migrant workers			
	9-point items		Attitude accessibility		9-point items		Attitude accessibility	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Child Absent	3.56	1.32	2.09	0.68	4.1	1.55	2.45	0.80
Child Present	3.42	1.48	2.22	0.95	4.10	1.55	2.30	0.76
Child Rights	3.45	1.48	2.17	0.58	4.01	1.67	2.57	0.95

Two regression analyses were conducted to test whether the effects of the manipulation were moderated by the self-reported strength of attitudes toward each immigrant group. These analyses regressed either attitudes toward asylum seekers or attitudes toward migrant workers on experimental condition (dummy coded), and mean attitude strength (centred separately for attitudes towards asylum seekers and migrant workers) and their interaction.

For asylum seekers, the regression revealed no significant effects or interactions, *p*s > .10. For Migrant workers, the regression analysis revealed a significant main effect of attitude strength, R^2 Change =.128, $F(3,64) = 3.12$, p=.03, such that more positive attitudes were rated as stronger. There was no significant difference between the child absent and child present, $t(3,64)$=-.96, or child rights conditions, $t(3,64)$=.08, *p*s >.10. The interaction of experimental manipulation with attitude strength, R^2 Change = .01, $F(2,62) = .19$ p>.1, was non-significant.

The Role of Experience with the Outgroup

Experience with the target outgroup, child inclusion and their interaction were regressed on total attitude scores towards Asylum Seekers and Migrant Workers. There were no significant effects or interactions, *p*s > .1.

Summary

The experimental manipulation of including children in statistics relating to immigration did not affect attitudes towards the larger immigrant population compared to when the statistics relating to children were omitted. When strength of attitudes was entered as a predictor into a regression on attitudes towards migrant workers, there was a significant main effect such that participants felt more strongly about positive attitudes. This effect was not found for asylum seekers, and all interactions of attitude strength with experimental manipulation were non-significant.

EXPERIMENT 2

Experiment 2 was primarily a replication of Experiment 1, using a simplified approach to remove potential confounding factors: Migrant workers were dropped as a target outgroup in Experiment 2, and only asylum seekers were used as the attitude target. As implied by the name, migrant workers were a group defined by their eligibility to work, which cannot legally include children. For participants that received the migrant worker group first, it's possible that exclusion of children from the group concept carried over to their judgements of asylum seekers.

The Child Rights condition was also dropped for Experiment 2. This condition did not differ from the others in Experiment 1, and I was more interested in potential spontaneous effects of inclusion of children in the group concept, without leading participants too much on the duty to care for children.

This experiment also included a supplementary manipulation of child inclusion by varying the order of question items. In past research, the order in which participants are asked to rate their attitudes to different attitude objects can affect responses (e.g., Haddock & Carrick, 1999; Schwarz, Strack & Mai, 1991; see also Schwarz, 1999, for attitude self-report issues other than question order). For instance, Schwarz et al (1991) asked participants to rate both marital and general life satisfaction, as either part of the same conversational context, or in two separate contexts. When the questions were asked in separate contexts there was a higher correlation between high marital satisfaction and high life satisfaction, than when the questions were asked as part of the same context. The authors attribute this to the inclusion of one's marital satisfaction in judgements of life satisfaction when the questions are given in separate contexts (Schwarz & Bless, 1992a, b). On the other hand, when the participants are asked to serially rate marital then life satisfaction,

marital satisfaction is excluded from the judgement of life satisfaction, because the participant has already provided this information and assumes that the experimenter is looking for something qualitatively different (Schwarz et al, 1991; Schwarz & Bless, 1992b). The conversational maxim of quantity is violated by asking again for information that has already been provided (Grice, 1975, as cited in Haddock & Carrick, 1999), so people exclude information that has already been provided from subsequent judgements.

This effect exists also for attitude judgements towards individuals and groups (Haddock & Carrick, 1999). When attitudes towards the Queen Mother were provided on the same page as attitudes towards the Royal Family, correlations between the two attitudes were low and the Royal Family was appraised less favourably as a result of the Queen Mother's exclusion. When the two attitude judgements appeared as part of two separate questionnaires, the correlations between the attitudes toward the Queen Mother and the Royal Family were higher (Haddock & Carrick, 1999).

Experiment 2 therefore included a supplementary manipulation of question order as a means of examining the effect of child inclusion: half of participants in the child absent condition were asked to indicate their attitude toward children prior to their indicating attitudes towards asylum seekers. This was to test the assumption that children are not naturally included as part of outgroup concepts. If children are generally included in the concept of the outgroup when making attitudinal ratings, then asking about attitudes towards children prior to rating the group as a whole should lead to their exclusion from the secondary rating towards the whole group. As a result, there should be lower correlations between the two attitude ratings than when attitude ratings towards children are provided by participants subsequent to the group

attitude (Haddock & Carrick, 1999). If children are not included in the outgroup concept, then this latter correlation should be non-significant and weaker than the former correlation.

Experiment 2 also included both an explicit measure of attitudes towards children, as well as an implicit child attitude measure, adapted from the pen-and-paper IAT developed by Mori, Uchida, and Imada (FUMIE test, 2008). Tests of implicit evaluations tend to be better predictors of spontaneous behaviour than self-report measures (Dovidio et al., 2002). Implicit measures of attitudes towards children also tend to be more negative than explicit measures (Maio et al., 2009). As these experiments were concerned with the spontaneous effects of child inclusion in group concepts, the FUMIE test was included to explain the direction of effects if differences arise in attitudes towards the group as a whole between the child inclusion and exclusion conditions. If including children in outgroup concepts causes attitudes towards the group as a whole to shift based on spontaneous activation of implicit evaluations, then this effect should be more pronounced for participants with more extreme scores on implicit measures of attitudes towards children.

Method

Participants

Ninety-eight participants took part in this study for £3 payment. Participants were staff and students at Cardiff University, sampled via reply to an email announcement asking for participants to help in psychological research. There were 49 women and 49 men.

Design

The experiment utilized a between-subjects design of child inclusion manipulation on attitudes to asylum seekers. There was a supplementary manipulation of child-first vs child-second attitudinal rating order for participants in the child absent condition.

Procedure

As in Experiment 1, participants were informed that we were interested in their attitudes towards Asylum seekers and UK immigration in general, and that the Home Office (2009) statistics were there to help inform them. Participants then completed the same series of questionnaires as in Experiment 1, as well as an explicit measure of attitude towards children, measured on a 7-point scale ranging from 1, *Extremely unfavourable*, to 7 *Extremely favourable*. A mean for the five semantic differential perception scales (α=.91) of asylum seekers items was calculated and used as an attitude measure. Correlations between the mean attitude rating, the favourability rating and the attitude thermometer were all very high, *r*s>.84, *p*s< .001. The internal consistency of the average of the three z-scores was excellent, α=.95. Therefore, the z-scores were combined into a single measure of attitude towards asylum seekers (total attitude score).

Next in the questionnaire were instructions for a paper IAT. This measure was an adapted version of Mori, Uchida, and Imada's (2008) FUMIE test, where positive and negative words are arranged in thirteen columns. After the first column, subsequent columns contained combinations of the positive and negative words and five child-related (target) words, interspersed in the set: *child, kid, girl, boy*, and *infant*. Instructions explained that the task for the first column was to tick as many positive words, and cross as many negative words as possible in 20 seconds, working

down the column. The task for the second column would be to mark as many child-related words with a cross, in addition to the ticking of positive words, and the crossing of negative words, as possible in 20 seconds. For the following (third) column, the participants' task was to tick child-related words, as well continuing the same pattern of marking for the positive and negative words. The ticking and crossing of child-related words was then alternated for a further eight columns, for a total of eleven columns including the first three just described (i.e., tick child words in columns five, seven, nine and eleven; cross child words in columns four, six, eight, and ten). Of the ten target columns (two through eleven), there were five word order presentations, repeated once each, and arranged such that each order would be part of a child-negative and a child-positive trial. Columns twelve and thirteen were dummy columns to prevent participants trying harder on the last trial. Before each column, I (as the experimenter) described the pattern of marking to be used for the current column (ticking or crossing child-related words), and made sure the participant was ready before timing them on the column.

Results and Discussion

Preliminary analyses revealed no effect of participant gender, and so gender was not included for further analysis.

Order Effects

General favourability towards Asylum Seekers and Children were not significantly correlated in both the child attitude first, $r(18)$=.02, and the Asylum Seeker attitude first, $r(31)$=-.09, conditions, and the general favourability ratings were not significantly different between the conditions, $t(47)$=1.46, p=.15. Therefore, the data were combined into a single "child absent" condition for the remaining analyses.

Attitude Valence

Mean ratings for the combined semantic-differential scales, general favourability, attitude thermometer are presented in Table 4 below.

Table 4. *Means and standard deviations for attitude measures by child inclusion condition*

Child Inclusion	Mean Semantic Differentials		General Favourability (Asylum Seekers)		Thermometer		General Favourability (Children)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Child Absent	4.51	1.09	4.53	1.42	58.49	19.09	5.76	1.18
Child Present	4.65	0.92	4.86	1.27	63.90	19.07	5.24	1.30

Effects of Experimental Manipulations

Independent samples t-test revealed a significant difference only for general favourability towards children $t(96)=2.03$, $p=.05$, such that participants were more favourable toward children in the child absent condition than in the child present condition (all other *p*s >.1). The t-tests were repeated for the individual semantic differential scales, but no significant differences were obtained, *p*s>.1.

The Role of Attitude Strength

Mean strength ratings of the 9-point strength measures and the 5-point attitude accessibility measure are presented in Table 5 below. Inclusion or exclusion of children from the group concept did not lead to any significant differences in mean attitude strength in an independent sample t-test, $p>.1$. I then conducted a regression analyses that entered z-mean attitude strength, child inclusion condition and their interaction as predictors of attitudes towards asylum seekers. Results indicated a significant main effect of mean attitudes strength, R^2 Change = .26, $F(2,95)= 16.35$, $p<.01$, such that more positive attitudes towards asylum seekers tended to be rated as being stronger attitudes. The main effect of child inclusion condition, $t(3,97)=.84$, $p>.1$, and the interaction, R^2 Change = .001, $F(1,94)= .17$, $p>.10$ were not significant.

Table 5. *Mean attitude strength scores and standard deviations, by condition*

Child inclusion	Mean attitude strength on 9-point items		Attitude accessibility	
	Mean	SD	Mean	SD
Child absent	3.71	1.40	2.31	0.82
Child present	3.88	1.16	2.43	0.74

The Role of Experience with Asylum Seekers

Frequencies for ratings of experience with Asylum Seekers were 37 for *None at all*, 44 for *Very Little*, 15 for *A Moderate Amount* and 2 for *A lot*. When experience was entered into a regression analyses with child inclusion condition as predictors on attitudes to asylum seekers, there were no significant main effect of experience, β=.16, $t(2,95)=1.54$, $p>.1$, or experimental manipulation, β=.10, $t(2,95)=0.99$, $p>.1$. However, there was a significant interaction effect, R^2 Change = .05, $F(1,94)=2.91$, $p=.03$ (shown in Figure 1 below). Greater experience with asylum seekers was associated with more positive attitudes towards them, particularly for the child absent condition. An independent sample t-test revealed no significant differences in ratings of experience with Asylum Seekers between the child inclusion conditions, $t(96)=-1.06$, $p>.1$.

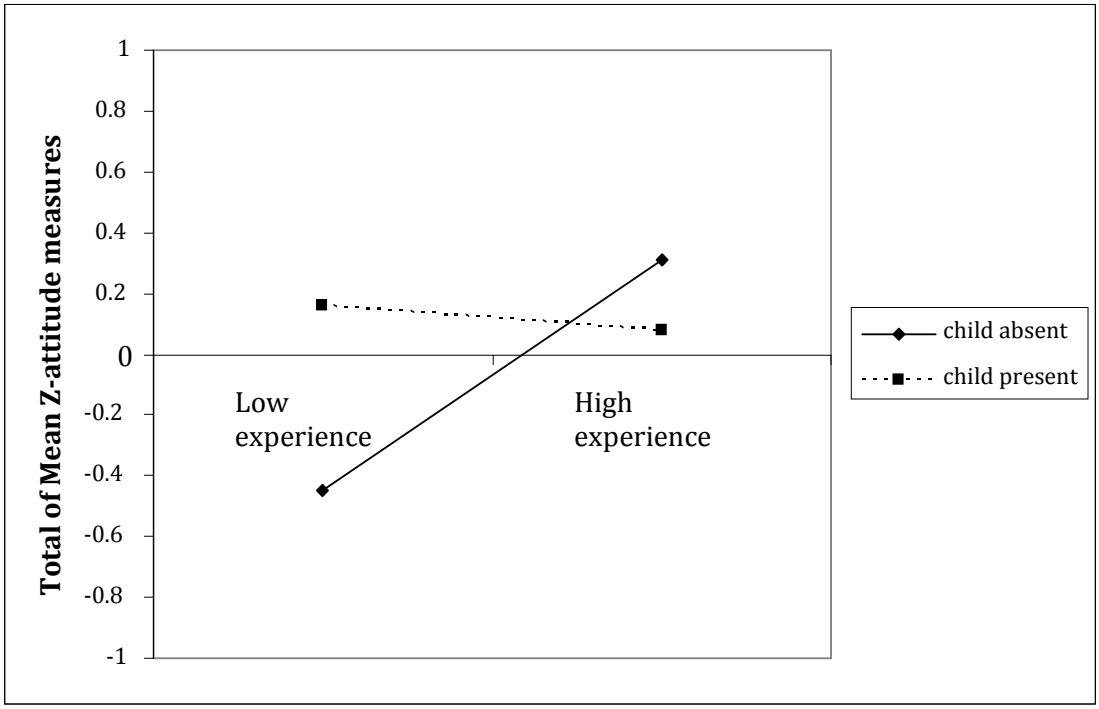

Figure 1. *2-way interaction of experience with outgroup and child inclusion condition on mean z-attitude scores.*

Implicit and Explicit Attitudes towards Children

There were no significant correlations between explicit attitudes towards children and attitudes towards asylum seekers, *p*s>.1. General favourability towards children was entered as a predictor into five multiple regression analyses with different combinations of child inclusion condition, attitude strength, experience with asylum seekers, FUMIE test scores, and their interactions on total mean z-attitude scores, but no main effects or interactions involving general favourability towards children were found, all *p*s>.1

Implicit attitudes towards children (FUMIE) were also entered into four regression analyses with child inclusion condition, attitude strength, experience with asylum seekers, and their interactions on total mean z-attitude scores, but no main effects or interactions involving FUMIE test scores reached significance, all *p*s>.1.

Summary

Experiment 2 also failed to find an effect of child inclusion on attitudes towards an immigrant group. Stronger attitudes predicted more positive attitudes towards asylum seekers, as it had done for migrant workers in Experiment 1. Neither explicit, nor implicit measures of favourability towards children were able to predict attitudes towards asylum seekers. There was evidence that greater experience with asylum seekers is predictive of more positive attitudes towards them; however this was only for participants in the child absent condition. The pattern of results presented in Figure 1 is a potentially promising finding that attitudes towards groups can be made more favourable when child membership is made salient, but only when experience with the outgroup is not already accounting for the effect. However, this

interpretation should be made cautiously because only two participants (one in each experimental condition) reported having a lot of experience with asylum seekers.

General Discussion

I wanted to investigate whether including children as part of an outgroup representation when making evaluative judgements would affect attitudes towards the group. In both Experiments 1 and 2, the experimental manipulation of including or excluding children from the immigration statistics had no effect on attitudes towards migrant workers (Experiment 1) and asylum seekers (Experiments 1 & 2). Including children in the outgroup concept did not lead to attitudes towards immigrants becoming either more positive or more negative. In addition, the valence of attitudes towards children did not interact with the manipulation of child inclusion to shift attitudes towards the whole group. In other words, there was no evidence that inclusion of children in the outgroup caused individuals to project their attitudes toward children on to their attitudes toward the outgroup.

Notwithstanding these null results, the interaction with child inclusion condition found in Experiment 2 provides provocative support for the hypothesis that including children in the concept of the outgroup can increase positivity of attitudes towards the group as a whole, but perhaps only when experience with the group is lower. This is important because, as shown in Figure 1, the inclusion of children brought attitudes up to the level of positivity shown by participants with higher outgroup experience. Hence, there may be more room for attitudes to children to influence outgroup attitudes when these attitudes are not already made positive by outgroup contact. The outgroup contact might also entail some experience with child members of the ougroup, making the further inclusion of children superfluous. Nevertheless, this pattern is somewhat incongruent with the lack of effects of explicit

or implicit attitudes towards children on attitudes towards the outgroup. It is important for future research to further investigate whether the impact of child inclusion depends on familiarity with outgroup members. Furthermore, experience with the target outgroup in this study was low (only two participants reporting a lot of experience with asylum seekers), it is possible that actual positive experiences some participants in the child absent condition have had that explained this effect. I also do not preclude the possibility that inclusion of children had the effect of reducing attitudes towards asylum seekers for participants who also rated higher experience with asylum seekers in the child inclusion condition. The lack of significant differences in attitudes towards asylum seekers as a result of experimental manipulation means a more likely explanation is that the manipulation failed to adequately lead to inclusion of children in evaluations of immigrant outgroups.

Given the null effects obtained, it is uncertain whether inclusion of children as part of a group concept usually defined by adult members can influence attitudes toward the group. It is perhaps more likely that the manipulation used in these experiments failed to successfully incorporate the child into the outgroup representation. It may also be the case that people base their attitudes towards immigrants on economic concerns—where the relative influence of children is less than that of adults—or moral obligations (particularly in the case of asylum seekers), where the rights of immigrants to enter this country are the basis of the evaluation. If children are seen as less relevant to the attitudinal bases of attitudes toward immigrants, then the impact of children on these attitudes should be small, even if they are included in the group representation.

The order effect manipulation used in Experiment 2 supported the assumption that children are not typically included in conceptions of general outgroups, because

there was no significant correlation between attitudes towards asylum seekers and children in both order conditions. Haddock and Carrick (1999) demonstrated attitudes towards subordinate and superordinate groups can vary as a function of question order: if children were included in the outgroup concept then asking participants about their attitudes towards children prior to their attitudes towards the entire group should lead participants to exclude them from the subsequent judgement. There were however, no differences and no significant correlations between judgements regardless of question order, suggesting that children are indeed not part of typical outgroup concepts. In hindsight, it would have been informative to have included the same question order manipulation for the child present condition. If correlations between attitudes towards children and the wider group had varied as a result of question order when participants were supposedly induced to include children in the whole group representation, this would have provided stronger evidence that the experimental manipulations had succeeded. It would also have been interesting to potentially include open-ended measures that prompt participants to offer the demographics of the outgroup, in order to detect whether they spontaneously include younger age groups. Such a device might help to further check the spontaneous incorporation of children in mental representations of an outgroup.

In addition to these methodological issues, there are theoretical reasons why the inclusion of children may be less powerful than anticipated. For instance, the dominant representation of children in our culture is that of children as 'apprentices' (Mills & Mills, 2000; see Jenks, 2005 'the social child'), whereby children directly learn their traits, skills and culture from their parents and adults. From this perspective, one might expect that children will grow up endorsing the same values of their group, and so inclusion of children adds nothing new to the evaluative

dimensions of the outgroup representation which gives rise to the attitudes. This possibility fits Western societies' emphasis on the emergent adult within the child (see Chapter 1), whose progress towards complete development is tracked and examined in education and social relations. Future investigation would benefit from examining the representations of children (e.g., social apprentice, more virtuous than adult, tabula rasa) endorsed while making evaluative judgements and whether multiple representations are active simultaneously.

In sum, the research presented in this chapter failed to find evidence that inclusion of children into the representation of an outgroup can affect attitudes towards the group as a whole, compared to when children are not included in the concept at evaluation. Due to methodological limitations, it is not possible to ascertain fully whether children are able to affect attitudes towards a superordinate outgroup, and there are important theoretical issues regarding the exact nature of child representations (and how these might affect the contribution of children to outgroup attitudes). Future research could include measures of the representations of children, perceptions of similarity and familiarity between ingroup and outgroup children, and perceptions of expected change in values or attributes between one generation of outgroup members and the next, in order to help better understand this issue.

Chapter 3 Child Priming and Attitudes towards Individuals

Chapter 3 Summary

Western children tend to be treated with ambivalence by their adult populations. As a group, they are both cared for, and discriminated against, and attitudes towards children tend to be more positive on explicit, but not implicit measures (Maio et al., 2009). If spontaneous mental representations of children have negative associations, what is the effect of priming the concept of children on impressions of an ambiguous target? This chapter describes two experiments that examined this question. Participants were primed with either children or adults, using a modified Stroop task, prior to receiving neutral information about an individual whose age was unspecified. Using this design, the experiments tested the hypothesis that nonconscious negativity toward children as a group is spontaneously mapped on to new targets. Evidence across experiments failed to consistently support this hypothesis. Discussion considers potential future tests that may be more rigorous.

The research described in the prior chapter revealed that the impact of children on perceptions of other groups of people may be complex. The research in this chapter attempted to detect effects of children by simplifying the aim. Instead of focusing on effects of children on perceptions of groups, I sought to examine the effects of children on perceptions of individuals. By restricting the focus in this way, I sought to obtain clearer information on adult mental representations of children.

The Case for Studying Representations of Children

While the psychological development of children has received vast empirical study (see, e.g., Siegler, DeLoache, & Eisenberg, 2010), relatively little attention has been paid to adults' views about children. One potential reason is that explicit attitudes towards children are generally positive. Our young represent our future; we perceive a psychological, and a social obligation to care for and protect them. Indeed, evolutionary scientists emphasize the role of nurturing instincts in promoting the survival of our genes in the face of environmental challenges (Buss, 1996).

At the same time, however, there is widespread evidence of discrimination against children in society. Children are often marginalised and neglected within law, policy, healthcare and social norms (Gilbert et al., 2009; Webb, 2004). In fact, implementation of the United Nations Convention for the Rights of the Child has been fought in many Western nations (see Reading et al., 2009). The discrepancy between these observations and the evolved need to care for children raises an important issue: what are adult attitudes toward children?

In light of the institutional biases mentioned above, adults' cultural environment may include many negative associations with children as a group, independently of any personal experiences with particular children. As a result,

implicit measures of attitude, such as the Implicit Association Test (IAT, e.g., Greenwald, McGhee, & Schwartz, 1998) and the Simple Association Test (SAT, Blanton, Jaccard, Gonzales & Christie, 2006), may reveal ambivalence or negativity toward children, because of the potential for such implicit measures to tap broader cultural associations (Karpinski & Hilton, 2001; Olson & Fazio, 2004). In contrast, explicit, self-report measures of attitude may suggest more positive attitudes, because responses to these measures can be overtly controlled to reflect personal experience, motives, and social desirability concerns.

Several recent studies have supported this reasoning: Explicit, self-report measures of attitude toward children reveal significantly more positive attitudes towards children than toward adults (Maio et al., c.2009). At the same time, however, implicit tests (e.g., IAT, SAT) reveal that automatic attitudes towards children tend to be negative or ambivalent (Maio et al., 2009). That is, the implicit measures reveal relatively more negative attitudes towards children than adults, even among parents (Maio et al., 2009). This negativity even occurs irrespectively of the respondents' assessed risk for perpetrating child abuse (Risser, Skowronski & Crouch, 2011). Risser et al. suggest that there is a general out-group bias among adults against children, at least as reflected in knowledge structures and schemas assessed implicitly.

An independent line of enquiry corroborates this view. Specifically, research on infrahumanization of outgroups has shown that outgroups may be denied uniquely human traits (and so likened to animals) or denied human nature traits (and so likened to automata; Loughnan & Haslam, 2007). Saminaden, Loughnan, and Haslam (2010) note a relationship between animal-like and child-like perceptions of outgroups. Children as a group are reported as possessing relatively fewer uniquely human traits (Loughnan & Haslam, 2007).

These findings raise interesting questions about the content of people's mental representations of children. These mental representations may encode a mix of ambivalent goals, feelings, beliefs, and behaviours, only some of which become included (in some form) within responses to explicit measures. Moreover, these spontaneous, potentially nonconscious mental representations of children may influence judgment and behaviour in ways that have gone undetected thus far.

One method for detecting a global impact of such representations is to examine the effects that occur when the group is "primed" – a procedure that makes people temporarily aware of the group but not consciously mindful of the group. A well-known example of a relevant group priming effect is provided by Bargh, Chen, and Burrows, (1996). In their experiment, participants were primed with an elderly stereotype by unscrambling sentences that contained words stereotypically related to the elderly such as "*Florida*, *lonely*, *grey*, *wise*" or neutral words (e.g., "*thirsty"*). Participants who completed the task involving words related to the elderly then walked significantly slower down the hallway after the experiment.

It is difficult to know the precise reason for Bargh et al.'s (1996) effects, except that the answer lies within mental representations of elderly people. We may stereotype them as being slow, leading us to automatically incorporate the slowness in our own thinking. We may store a goal to move more slowly around them, in order to make things easier for them. We may mentally represent them as possessing more depressed mood, and assimilate ourselves to that mood state, which slows us down. Regardless of which possibility is correct, it is clear that mere salience of the category itself is exerting an important impact.

There is an important practical reason for wondering too about the effects of priming the age group at the opposite end of the age spectrum from the elderly. Like

the elderly, children are often excluded from adult environments. If their inclusion, either in presence or in thought, can affect behaviours, then there may be important implications for practices that include or do not include children. Inducements to include or think of children might lead to different outcomes in decision making, particularly for policy makers, health care professionals, educators, and social workers. It is also possible that interpersonal behaviour and perceptions are influenced by whether or not children are salient.

Priming and Impression Formation

Of note, however, there are both the positive and negative aspects of adults' behaviours and attitudes towards children, and there is the possibility for both assimilation and contrast of primed concepts. Both of these complications are revealed by considering classic effects in priming research. One of the best-known priming paradigms is the "Donald" paradigm (e.g., Higgins, Rholes, & Jones, 1977; Srull & Wyer, 1989). In this paradigm, participants are primed with a concept of interest. This is typically a stereotype trait or an exemplar of that trait (e.g., hostility, a tiger, Hitler). Participants then read a paragraph explaining a day in the life of an ambiguous target (i.e., Donald), and provide their impression of the target.

In the original Higgins et al., (1977) study, participants were primed with the traits "reckless" or "adventurous" prior to reading a paragraph about the daily activities of "Donald", in which his behaviour could equally be described as either adventurous or reckless. When asked to ascribe trait terms to Donald, participants' impressions of Donald were congruent with the traits that had been primed. Subsequent studies using this paradigm replicated this result using different traits (e.g., Higgins et al., 1977; Srull & Wryer, 1979). These findings illustrate the *assimilation* of primed information into the characterization of ambiguous characters

(Schwarz & Bless, 1992a). It would appear that recently activated information is more accessible and so more readily used to explain ambiguous behaviour (e.g., Bargh, 1994).

However, it was quickly noted and demonstrated by other research that this assimilation effect does not always occur; in some conditions, this effect is replaced by a contrast effect (e.g., Herr, 1986; Lepore & Brown, 1997). Instead of integrating primed information in the perception of an ambiguous target (as in assimilation), a contrast effect arises from the exclusion of primed information from the perception of an ambiguous target. This exclusion *lowers* the likelihood that ambiguous characteristics will be interpreted in a manner consistent with the primed information. For example, a contrast effect resulting from hostility primes means that the target will be rated as less hostile than after neutral primes.

Many factors determine whether assimilation or contrast effects occur. The original studies used trait words (e.g., aggressive, reckless) for primes (e.g., Higgins et al., 1977; Srull & Wyer, 1979), and found assimilation effects. Herr, (1986) was able to show that priming moderate person exemplars (e.g., Alice Cooper for hostility) will lead to assimilation effects of the primed trait (hostility) on impressions of an ambiguous target (i.e., Donald is rated as being more hostile). On the other hand, priming with extreme person exemplars (e.g. Hitler for hostility), leads to contrast effects in impressions of an ambiguous target (i.e. Donald is rated as being less hostile; Herr, 1986). This is because, rather than affecting the encoding of the target, extreme exemplars serve to act as a comparison standard for the target (Stapel, Kooman, & Van der Plight, 1997). Priming moderate exemplars of traits, therefore, seems to affect the *interpretation* of targets by activating traits that are used to frame the impression of the target (Stapel et al., 1997), whereas using extreme exemplars

makes the target seem less involved with the trait by contrast. This comparison affects the *judgement* of the target, and causes the final evaluation of the target along the dimension of interest to be significantly lowered (Stapel et al., 1997).[1]

Mussweiler's Selective Accessibility Model (SAM; Mussweiler, 2001c, 2003) posits another explanation for obtaining assimilation or contrast effects from similar information: when participants engage in target comparison they first make a judgement on target-standard (trait) similarity. As a result of determining that the target is either similar to the standard, or different from the standard, participants then engage in more thorough hypothesis testing of the target-standard comparison along the determined dimension of either similarity or dissimilarity. That is, participants who form an initial judgement of target-standard similarity then engage in similarity testing, generating reasons that the target *is* similar to the dimension of interest. Alternatively, if the initial target-standard comparison is one of differences, people may generate reasons that the target is *dis*similar on the dimension of interest. Engaging in similarity testing will lead to assimilation effects of target impression to the standard (or dimension/trait of interest), while dissimilarity testing leads to contrast effects.

Mussweiler (2001c) was able to manipulate this effect by first asking participants to either spot the similarities or note the differences between two nearly identical pictures. Following this prime, participants then read a description of a student like themselves and their experience of moving to university. After which, participants were asked to rate their own experiences of university life. Those who had picked out similarities in the pictures rated their experience of university in an

[1] The authenticity of Stapel's work is now unclear because he admitted to charges of later academic misconduct. Nonetheless, his theoretical explanation of interpretation vs. judgement of information about an ambiguous target can nonetheless be applied as a potential explanation for the results found in Herr, (1986).

assimilative fashion, that is, similar to the experiences of the student they had previously read about. Participants who picked out differences in the pictures rated contrastive patterns to the experience of the fictional person whose experience of university life participants read about. The manipulation had engaged participants into a mind-set of similarity or dissimilarity hypothesis testing (respectively) leading to assimilative or contrastive judgments of their experiences with those of a fictional other.

Prejudice and Endorsement

Devine (1989) demonstrated that both high and low prejudiced persons have knowledge about the negative aspects of a stereotype, and that priming these negative stereotype associations can cause assimilation effects for both high and low prejudiced people, when the stereotype is automatically (as opposed to consciously) activated. Devine (1989) argued that conscious control processes were necessary to inhibit negative automatic processing in order to preserve a non-prejudiced identity.

However, Lepore and Brown (1997) argued that methodological issues with Devine's study led to stereotype assimilation even among low prejudiced participants because both the stereotype and category were primed. Specifically, in the case of Devine's study, all participants were primed with stereotype content words (usually negative), which were associated with Blacks (e.g., poor, lazy). Because even low-prejudiced participants have knowledge of the stereotype, these and related associations were activated and assimilation effects were likely (Lepore & Brown, 1997). Priming the category, on the other hand, should lead to different impressions among high and low prejudice perceivers, because the negative and positive characteristics of a stereotype are differentially associated with the category among high and low prejudiced people (e.g., Gaertner & McLaughlin, 1983). When the

category is primed, participants that endorse the negative associations between the category and the stereotype (i.e., high-prejudice individuals) should show assimilation effects (i.e., greater prejudice), to the stereotype information. When the negative aspects of a stereotype are not endorsed, priming the category should lead to greater activation of remaining endorsed associations, typically positive, and lead to contrast and lower levels of prejudice.

Lepore and Brown (1997) obtained support for these predictions across three experiments that separately manipulated stereotype and category priming. When only negative stereotype words were primed, all participants rated a target more negatively on a subsequent impression judgement, showing that both high- and low-prejudiced people understand the negativity (in this case) of the stereotype (Experiment 1). However, if the category labels were also included in the prime, then participants had an opportunity to incorporate their other beliefs (i.e. that do not match typical stereotypes) about the category in question into their judgement, because these relevant beliefs became active, and not only the (negative) stereotype content. Thus, participants whose extant beliefs about the category were different from the (negative) stereotypes being primed (i.e., the low-prejudiced group in Lepore & Brown, 1997) used this information in judgements when the category was also primed (leading to more favourable impressions).

The Current Research

As a first step toward detecting the spontaneous associations embedded in mental representations of children, I conducted three experiments that tested whether there are any systematic effects of priming both the category of children and the stereotype of children on impressions of novel targets. Specifically, does the activation of the category and stereotypes of children bias judgments of a new, novel

target in a particular negative or positive direction, just as simultaneously priming other social categories and stereotypes (e.g., Lepore and Brown, 1997) can bias subsequent actions and behaviour? Using a modified version of the Donald paradigm (Higgins et al., 1977), participants were primed with either child, or adult related words, and read a paragraph about Donald, which was ambiguous regarding Donald'sage, and then rated their attitudes toward Donald.

EXPERIMENT 3

Child prime words included *child, kid, boy, girl, naïve,* and adult prime words included *adult, grown-up, man, woman,* and *mature*. The primes focused primarily on the category, for which common labels for the category members were chosen, with only one word reflecting a trait (i.e., naïve or mature), and the trait word was closely related to actual age-dependent behaviour. In this way, I tried to ensure that the child stereotype was more negative than the adult stereotype, but not in a manner that was dependent on a lot of a priori knowledge about exact stereotype content in participants.

Priming occurred immediately prior to reading the paragraph about Donald. I expected that the spontaneous representations of the stereotype content associated with the prime would affect impressions of Donald. Based on past evidence that implicit attitudes towards children tend to be more negative than implicit attitudes towards adults (i.e., Maio et al., 2009), I expected assimilation effects of the primed content, such that those participants primed with children would report more negative attitudes towards Donald than participants primed with adults.

Method

Participants and Procedure

Forty psychology undergraduates from Cardiff University took part in this experiment (34 women; 6 men, *M*age= 19) for course credit. Participants took part individually in an ostensible memory experiment, which contained the priming manipulation. Participants then completed an impression formation task, which contained the dependent measure. Participants were then probed for suspicion, debriefed, and thanked for their participation.

Priming Manipulation

A modified version of the Stroop task was used to deliver the priming manipulation. There were 21 trials in this task. Each trial presented white crosses in the centre of a black computer screen (1500 ms). These were followed by a colour word (e.g., yellow) appearing in a discordant font colour (e.g., red) on the same black background (1000 ms), and finally a message saying "Please respond now!" in blue font in the centre of the screen (1200 ms). While the fixation crosses appeared on the screen, participants heard a word spoken via headphones connected to the laptop. These words related to adults (e.g., man, woman, grown-up, adult), children (e.g., child, boy, girl), or inanimate objects (e.g., desk). Participants were instructed to say aloud, at the end of each trial, the auditory word that had been presented during the fixation screens (i.e., prime and neutral words) and then the colour of the letters used for the word.

Measure of Impression Formation

I measured stereotype activation using a classic procedure developed by Higgins, Rholes, and Jones (1977). Participants read a paragraph describing the daily

events of a person named Donald. As in the original paragraph, the description was ambiguous on key trait dimensions; it highlighted positive and negative traits.

> *Donald likes to keep himself busy. When he gets home, rather than to sit and watch TV, Donald prefers to take a long bike ride, often going to the library to read something interesting. On weekends, Donald plays football in a local 5-a-side league with friends but also enjoys other sports. His favourite sport is tennis and he is a member at his local club. Donald practises tennis year round and enjoys watching the tennis "Opens" on TV. He takes part in tennis tournaments but always seem to place better in the 'Doubles' competition with his partner. Donald doesn't understand why, because he feels he is a much better player than his partner, so should generally do better on his own. Donald's other hobbies include baking and writing. His room is always messy and disorganized because he is always too busy doing something else to tidy it. This means he loses his keys and phone at least once a week.*
>
> *Despite being generally popular with his peers, Donald can also be selfish at times, and often requires a lot of motivation when it comes to doing something that doesn't interest him. Winter is Donald's favourite season because he also gets the opportunity to go skiing and ice skating, which he particularly enjoys, as his town is at high altitude and it snows there every year.*

Participants then read a questionnaire asking about Donald. Among the items were filler questions (e.g., what is Donald's favourite sport?) and items asking participants to estimate Donald's age (years) and height (inches). In addition, participants used 7-

point scales (*-3* to *+3*) to rate the extent to which he was *unlikeable-likeable*, *unapproachable-approachable*, and *friendly-hostile*.

Open-ended Perceptions

Participants also responded to an open-ended question: "Do you think that Donald is mature?" This question was included to better understand participants' impressions, and to check that the content of the passage was not affecting perceptions of Donald over and beyond the prime.

Results

Manipulation check. T-tests revealed that participants who were primed with children perceived Donald as being shorter (M=67.8) than participants primed with adults (M=70), $t(38)$= -2.12, p= .04. In addition, participants primed with children perceived Donald as being younger (M=17.2) than participants primed with adults (M=21.6), $t(34)$=-1.97, p= .057.

Impressions of Donald. T-tests revealed no significant differences in ratings of Donald's likability, approachability, or hostility, all ps > .1 by condition. Correlations between these measures are shown in Table 6 below. Perceptions of Donald as hostile-friendly were negatively correlated with how likeable he seemed, and were not significantly correlated with how approachable he seemed. After perceptions of Donald's hostility were reverse scored (so higher scores meant more friendly), summation of the hostility scores with likeability ratings created a scale with moderate reliability, α=.77. However, no significant effects of prime on this composite scale were found, p>.1

Table 6. *Correlations between ratings of Donald*

	Likeable	Approachable	Hostile
Likeable	1		
Approachable	-.446**	1	
Hostile	-625**	.256	1

Discussion

Results from Experiment 3 indicated that the priming manipulation affected perceptions of Donald. Donald was seen as being younger and shorter after the child prime than after the adult prime. This pattern is consistent with the hypothesis that impressions of Donald were assimilated to the primed stereotype.

Despite these shifts, perceptions of Donald's likeability, approachableness, and friendliness were unaffected by the manipulation. If participants assimilated Donald to a negatively valenced stereotype of children, then I would expect scores on these measures to be lower (more negative) following the child prime than the adult prime. In contrast, if participants contrasted Donald with a negatively valenced stereotype of children, then scores on these measures should be higher (more positive) following the child prime than following the adult prime. Neither of these effects emerged in the data.

Perceptions of Donald's hostility were negatively correlated with how likeable he seemed. I considered in my analyses that these measures taken together might provide a measure of Donald's warmth, given the conceptual overlap of these positive attributes with perceptions of warmth in others. Nonetheless, there were no main effects of prime on this composite measure.

It is possible that the null effects are due to no difference in participants' attitudes towards adults and children, contrary to past research (Maio et al., 2009). However, there were problematic parts in the content of the passage describing Donald. These may have made it difficult for the priming manipulation to influence perceptions of Donald. Specifically, in response to the open-ended question "Is Donald mature?", participants cited (primarily two) parts of the passage: "Donald doesn't understand why, because he feels he is a much better player than his partner, so should generally do better on his own;" and "Donald can also be selfish at times," as examples of arrogance and laziness. These excerpts may have fixed a strong perception of Donald in participants' minds, making it difficult to detect effects of the primes on perceptions of him. To further investigate whether the lack of differences in attitudes towards Donald between priming conditions was due to no differences in attitudes towards adults and children, or type II error brought about by confounds of the Donald passage, Experiment 4 included a new version of the Donald paragraph and additional measures.

EXPERIMENT 4

Experiment 4 removed the portions of the Donald paragraph that implied some arrogance (or immaturity). In theory, this would leave more room for participants' impressions of Donald to vary, enabling the manipulation to exert a stronger effect.

I also included measures of warmth and competence towards Donald. Loughnan and Haslam (2007) note the similarity between uniquely human traits with competence, and human nature traits with warmth – measures developed by Fiske, Cuddy, Glick and Xu (2002) in the study of perceptions of outgroups. It should follow then that children are rated higher in warmth than competence, and vice versa

for adults. Thus, I opted to include measures of warmth and competence (Cuddy, Fiske, & Glick, 2008) in this experiment.

For exploratory purposes, this experiment also included explicit measures of warmth and competence stereotypes of children and adults in general.

I also included an implicit measure of participants' attitudes toward children and adults (Greenwald et al., 1998). Based on the work of Lepore and Brown (1997), whether assimilation or contrast effects occur can depend on the valence of pre-existing evaluations towards the target. Rather than assuming the relative negative implicit evaluations towards children than adults found by past researchers (Maio et al., 2009) as I did in Experiment 3, assimilation or contrast to the negative child stereotype content should vary as a function of individual evaluations towards children and adults. I felt the best way to measure this would be to use an implicit measure of evaluation, the IAT (Greenwald et al., 1998) towards children and adults to avoid social desirability responding.

The warmth and competence, and implicit measures were included *after* the primes and measures of impressions of Donald. .

Method

Participants and Procedure

Thirty-three participants (22 women; 11 men, *M* age = 38 years) were recruited via an email sent to staff at Cardiff University. They took part individually and were told that they would be taking part in different studies. The first study primed participants with words referring to adults, children, or control objects. The second study contained our dependent measures, followed by an evaluative child-adult IAT, and an item determining whether participants were parents. Participants were then probed for suspicion, debriefed, and thanked for participation.

Procedure

Priming manipulation. The prime was manipulated through the same Stroop task as in Experiment 3.

Stereotype activation. Stereotype activation was again measured using the Donald paradigm developed by Higgins *et al*., (1977), but with small modifications to the paragraph description that was presented to participants. Specifically, I removed the portions that implied some arrogance in Donald. The new Donald paragraph is below:

> *Donald likes to keep himself busy. When he gets home, rather than sit and watch TV, Donald prefers to take a long bike ride, often going to the library to read something interesting. On weekends, Donald plays football in a local 5-a-side league but also enjoys other sports. His favourite sport is tennis and he is a member at his local club. Donald practises tennis year round and enjoys watching the tennis on TV. He takes part in Doubles and Singles competitions with his tennis partner. They generally place well in the doubles competition,*

but coaches say Donald underachieves in his singles games. Donald also likes baking and writing. His room is always messy and disorganized. His mum says he's too lazy; he says he's too busy. This means he loses his keys and phone at least once a month.

Despite being popular with his peers, Donald can also be selfish at times, and often requires a lot of motivation when it comes to doing something that doesn't interest him. Winter is Donald's favourite season because he also gets the opportunity to go skiing and ice skating, which he particularly enjoys, as his town is at high altitude and it snows there every year.

Perceptions of Donald. Participants then completed the same set of filler questions, questions about height and age, and questions about Donald's approachability, likeability, and friendliness as in Experiment 3.

Using scales developed by Cuddy, Fiske, and Glick (2008), participants additionally rated the warmth (*6 items: warm, friendly, good-natured, well-intentioned, trustworthy, sincere*) and competence (*6 items*: *competent, intelligent, confident, efficient, skilful, capable*) of Donald, and then children and adults (randomized order) on twelve 7-point Likert scales from (*1 not at all*) to (*7 Extremely*). Scale reliabilities for warmth items were good for Donald (α= .78), children (α=.79), and adult targets (α=.86), and so were collapsed into a single scale rating of warmth for each target. Scale reliability of warmth measures for Donald was then improved by removing the *trustworthy* item (α=.84). Scale reliabilities for measures of competence for Donald (α=.70), children (α=.83), and adults in general (α=.69) were good. Scale reliability for Donald was then improved by removing the item "*confident"* (α=.77).

Child-Adult Evaluative IAT. The task involves categorizing adult- (e.g., man, woman, grown-up) and child-related (e.g., boy, girl, kid) words as adult or child terms, and evaluative words (e.g., pleasant, nice, terrible, horrible) as good or bad terms and was adapted from Maio et al., (2009). Words to be categorized appear in the centre of a screen, with category labels in the upper corners. Participants indicated which category the central word belonged to by pressing keys on either side of the keyboard. The IAT includes 7 blocks. Blocks 1 and 2 familiarized participants with the task of separately categorizing evaluative words as either good or bad (Block 2); and child and adult related words as either child or adult (Block 1). Blocks 3 and 6 were practice blocks for the critical trials. Block 4 was the first set of critical trials where the child category was paired with the bad category, and adults with good. In Block 7 this pattern was reversed. In the critical blocks, participants categorized both the adult/child related and good/bad words simultaneously, with category labels paired together on the same key press (e.g. adult-good, child-bad, and vice versa).

The difference in speed of categorizing when the target categories (adult and children) are associated with negative vs. positive evaluations (Blocks 4 and 7) gives an indication of the valence of the evaluative associations with these groups. I subtracted the speed of completing the block containing the child-positive and adult-negative associations from the block containing the child-negative and adult-positive associations. Consequently, higher scores indicated a longer time to respond to negative (than positive) associations with children (than with adults). To further refine the IAT score, Greenwald's improved d-score algorithm was utilized. In this procedure, the d-score was calculated as the mean of the difference in mean latency from the practice blocks, divided by their pooled standard deviation, and the difference in mean latency for critical blocks divided by their own pooled latency.

Half of participants had the child-bad pairing as the first set of critical trials, and vice versa for the other half of participants. The IAT was run using DirectRT (Empirisoft, 2006) on a Windows XP operating system.

Results

Manipulation Check

Unlike Experiment 1, t-tests revealed no significant differences in estimations of Donald's height, $t(28)=1.54$, $p=.14$, or age, $t(31)=.27$, $p=.73$, between the adult and child prime conditions. Participants estimated Donald's age at 21.1 years (SD=7.57, *min-max*=10-45 years), which was not significantly different from estimations of his age in Experiment 3, $t(67)=-.77$, $p=.44$.

Perceptions of Donald

T-tests revealed no significant effects of the manipulation on ratings of Donald's likeability, $t(70)=-.10$, $p=.93$, and approachability, $t(70) = -.84$, $p=.41$. In contrast, there was a significant effect of the manipulation on ratings of Donald's friendliness, $t(70)=-2.28$, $p=.03$, such that participants primed with children perceived Donald to be *less* friendly (M=0.69) than those primed with adults (M=1.56).

Correlations between these measures are shown in Table 7, below. Perceptions of Donald's approachability were negatively correlated with how likeable he seemed, and were not significantly correlated with how hostile-friendly he seemed. After perceptions of Donald's hostility were reverse scored (so higher scores meant more friendly), summation of the hostility scores with likeability ratings created a scale with low-moderate reliability, $\alpha=.62$. However, no significant effect of prime on this composite scale were found, $t(31)= -1.27$, $p=.21$. As in Experiment 3, these measures together were not as reliable test of Donald's warmth as I had hoped, which is why separate measures of warmth and competence were used.

Table 7 *Correlations between ratings of Donald*

	Likeable	Approachable	Hostile
Likeable	1		
Approachable	.166	1	
Hostile	-.445*	.200	1

When parental status was entered as an additional factor in the analyses, there were no significant effects or interactions with parenting status.

Warmth and Competence

Paired samples t-tests revealed that children (M=4.88, SD=.85) were rated as significantly warmer than adults (M=4.11, SD=.74), $t(32)=4.00$, $p=.001$. Also, adults were rated as significantly more competent (M=5.04, SD=.44) than children (M=3.63, SD.84), t(32)=-8.95, p=.001. There were no significant differences in ratings of warmth and competence for adults and children by priming condition, *p*s>.05, although child competence approached significance $t(31)=1.96$, $p=.06$, with children being rated as more confident in the child prime ($M=3.90$, $SD=.84$) than adult prime condition($M=3.34$, $SD=.76$).

Also, there were no significant main effects of prime on ratings of warmth or competence for Donald, children, or adults, all *p*s >.058, with only a marginal difference emerging for child competence, $t(31) = 1.20$, $p=.059$ (indicating slightly higher child competence after child priming).

Exploratory analysis

Although the original intention was to use the IATs scores and manipulation checks as DVs in separate analyses of the effects of condition, the weak effects of the manipulation led me to consider the possibility that the effects of the manipulation were moderated by other factors. In particular, I tested whether there were interactions between the manipulation, participants' perceptions of Donald's age, and their spontaneous attitudes toward children. To examine this issue, I conducted a regression analysis that entered all three variables as predictors of the attitude and stereotype ratings of Donald, with the continuous variables (age, IAT scores) standardized and the manipulation dummy coded (Dawson & Richter, 2006; Aiken & West, 1991). Results indicated a three-way interaction between estimations of Donald's age, IAT scores, and the manipulation on ratings of Donald's competence R^2 Change=1.55, $F(1,24)=5.25$, $p=.03$, shown in Figure 3. Slope difference tests (Dawson & Richter, 2006) revealed when Donald was perceived as being older *and* they were primed with children, participants who exhibited more positive attitudes toward children rated Donald as significantly more competent than participants who imagined Donald as younger, $t(25)= 2.28$, $p= .032$; than participants who were primed with adults and imagined a younger Donald, $t(25)= -2.22$, $p= .036$; and than participants primed with adults and imagined an older Donald, $t(25)= -2.67$, $p= .033$. Spontaneous attitudes toward children did not significantly predict ratings of Donald's competence in the adult prime conditions, ps >.05, but there was a significant effect of spontaneous attitudes in the child prime condition and when they saw Donald as being *younger* on ratings of Donald's competence, $t(25)=-2.19$, $p=.04$, in the opposite

direction.

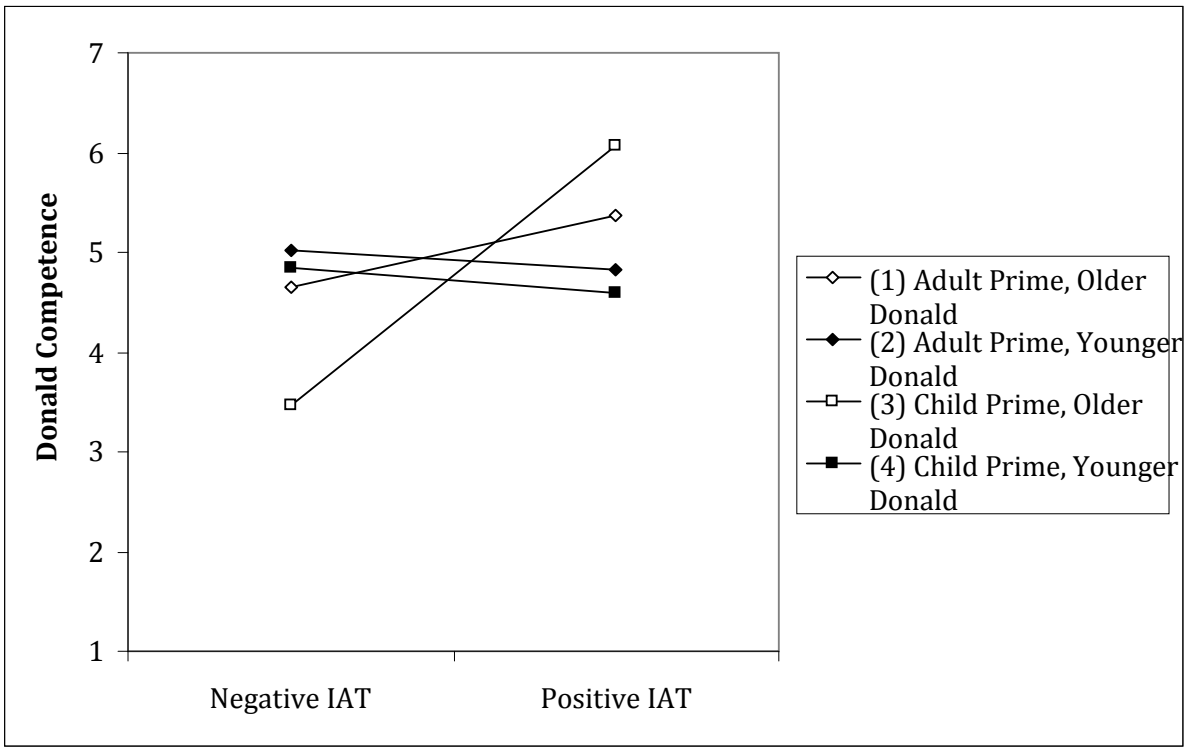

Figure 2 *3-way interaction of prime, IAT and estimations of Donald's age on perceptions of Donald's competence*

Discussion

As expected, children were perceived as relatively warmer and less competent than adults. This finding is consistent with prior assumptions that children are seen as warmer but less competent than adults (Fiske, Cuddy, Glick & Xu, 2002; Loughnan & Haslam, 2007).

Nevertheless, priming children did not exert a strong impact on perceptions of Donald. Unlike Experiment 3, participants in Experiment 4 rated Donald as less friendly following a child prime than adult prime. This result is consistent with past findings that spontaneous mental representations of children tend to be more negative than representations of adults (Maio et al., 2009). This past result emerged in parents and non-parents, and parenting status exerted no significant effects in the present analyses. Presumably, therefore, both the spontaneous negativity and the present finding reflect learned cultural associations, regardless of experience with children (Maio et al., 2009; Karpinski & Hilton, 2001).

However, these results should be taken with caution. The effect was only obtained differences on one attitude dimension (friendly-hostile). It remains unclear why the other attitude-relevant traits were unaffected. Also, the effects of child priming on ratings of Donald's warmth and competence were not consistent with this simple effect. Instead, the prime interacted with the perceived age of Donald and spontaneous attitudes toward children (as recorded by the IAT). When participants were primed with children and perceived Donald as being older, participants with more negative attitudes to children rated Donald as less competent. This effect may have arisen because participants that had negative implicit attitudes towards children had the incompetent stereotype of children activated following the prime. Upon

imagining that Donald is older, application of their low competence expectations may have made him seem particularly low in competence for his age. In contrast, when participants had more positive implicit attitudes towards children, they were perhaps more willing to attribute higher competence to children following the prime. Applying this stereotype to the older target would have matched the age-appropriate competence expectancies. This interpretation fits past research (e.g., Lepore & Brown, 1997), where category primes exerted differential effects for participants who were either implicitly positive or negative (in this case) in their attitudes toward the target group. However, this interpretation does not explain why, when Donald was imagined to be younger, participants with positive implicit evaluations towards children rated Donald significantly less competent in the child prime condition than did participants with negative implicit attitudes towards children. It is also unclear why ratings of warmth were unaffected.

The three-way interaction seems to suggest that the prime affected the *judgement* of Donald, rather than the *interpretation* of the information. This is unlike the results in Experiment 3, where the primes made Donald seem younger and shorter to participants. In contrast, in Experiment 4, judgements of his age and height were independent of the manipulation. In Experiment 4, estimations of Donald's age came before items about Donald's competence, potentially allowing for it to interact with the prime and implicit associations to affect the judgement of competence, but not the encoding of the information. What remains unclear is whether participants had a clear idea of Donald's age before asked, and if asking them to estimate his age led to the creation of a more concrete idea of Donald that allowed his age to play a stronger role in judgments.

Experiment 5

In Experiment 5, I placed the implicit measure of participants' evaluations of children in a pre-test session several weeks prior to the main session. The measure was the same as in Experiment 4, but Experiment 4 included the measure after the manipulation, making it conceivable that this measure was influenced in some (undetected) manner by the manipulation. The new design helped to more robustly test the role of attitudes to children as a predictor.

In addition, I changed the priming task to a sentence-unscrambling task. This method has been used successfully in a number of past experiments (e.g., Chartrand & Bargh, 1996; Srull & Wyer, 1979), and I sought to apply it to using adult or children-related statements.

Method

IAT Pre-Test

Approximately 200 first-year psychology undergraduate students enrolled at Cardiff University participated in a battery of measurements during their induction to the course. During this session, participants completed the child-adult evaluative IAT described in Experiment 4.

Participants

Fifty-nine first-year Cardiff psychology undergraduates (56 women; 3 men, *M*age = 19) who volunteered after the pre-test took part in this experiment.

Procedure

Priming manipulation. The priming task was changed to a sentence-unscrambling task (e.g., Chartrand & Bargh, 1996). Participants were asked to rearrange seven scrambled words, drop one of them and make a cogent sentence with the remaining six words. For example, "Horses hay to drink grass prefer eating" can

be rearranged, and the word "drink" dropped, to make the sentence "Horses prefer eating hay to grass". There were 15 scrambled sentences in total: five neutral filler sentences (e.g., "Paper mountains were walls thin the as") and ten prime sentences that related to either children or adults. Prime sentences described a child or adult in action (e.g., "the girl/woman brushed her long hair"), or described an irrelevant category (e.g., "clowns/drinks are popular at birthday/dinner parties"). Sentences between child and adult prime conditions were matched as closely as possible.

Stereotype activation. The Donald story used in Experiment 4 was used again for Experiment 5.

Perceptions of Donald. Participants completed the same perception questions used in Experiment 4 (i.e., perceptions of how friendly, likeable, approachable Donald is, and measures of warmth and competence towards Donald), with the exception that Experiment 5 did not contain the warmth and competence items regarding adults and children generally. High inter-item consistency for warmth and competence items towards Donald were obtained (competence, $\alpha = .73$; warmth, $\alpha = .86$). Thus, the mean warmth and competence ratings were calculated for each participant.

Attitudes towards children. Participants completed an explicit measure of general favourability towards children, using a favourability thermometer. As in past research using the thermometer to assess intergroup attitudes (e.g., Haddock et al., 1993; Maio et al., 1996), participants rated their favourability to children on a thermometer-like scale from 0 (*not at all favourable*) to 100 (*extremely favourable*).

Results

Manipulation Check

Mean age and height estimations of Donald are shown below in Table 7. T-tests between conditions revealed no significant differences in these estimations of Donald's height, $t(53)=-.14$, $p=.90$, or his age, $t(53)=-.72$, $p=.42$.

Table 8.*Means and standard deviations for estimations of Donald's height (inches) and age (years)*

		M	*SD*
Height (Inches) -	Child Prime	70.24	2.73
	Adult Prime	70.35	2.94
Age (years)	Child Prime	17.59	2.37
	Adult Prime	18.35	5.14

Perceptions of Donald

A one-way ANOVA revealed no significant effects of prime (child vs. adult) on perceptions of Donald's likeability, approachability, and friendliness, all *p*s > .05. Regression analysis that entered prime, IAT d-scores, general favourability towards children, and their interactions as predictors of these variables revealed no significant effects.

Warmth and Competence Ratings

Regression analysis that entered prime, IAT d-scores, general favourability towards children, and their interactions as predictors of Donald's warmth and

competence revealed no main or interaction effects of general favourability towards children on any perception measures. However, there were significant interactions between IAT score and priming condition in the analyses of Donald's warmth, R^2 Change = .084, $F(1,50)=4.96$, $p=.03$, such that participants primed with adults rated Donald as significantly less warm when they had more positive implicit attitudes towards children (than toward adults), $t(50)=-2.98$, $p<.01$.

A significant interaction between IAT scores and priming condition on ratings of Donald's competence was also found, R^2 Change = .10, $F(1,50)= 5.71$, $p=.02$, such that participants primed with adults rated Donald as marginally less competent when they had positive implicit attitudes towards children, $t(50)=-1.83$, $p=.07$, than participants primed with children. These interactions are plotted in Figures 3 & 4 below.

There was also a significant three-way interaction of prime condition, IAT scores, and estimations of Donald's age on ratings of Donald's warmth, R^2 Change =.073, $F(1,42)=4.29$ $p=.045$. Simple slope analysis revealed that, when participants were primed with Adults, had more positive implicit associations towards children (than to adults) *and* they saw Donald as being younger, they rated Donald as significantly less warm than the other three conditions, $t(43)=-3.07$, $p<.01$. No other slopes in the interaction were significant.

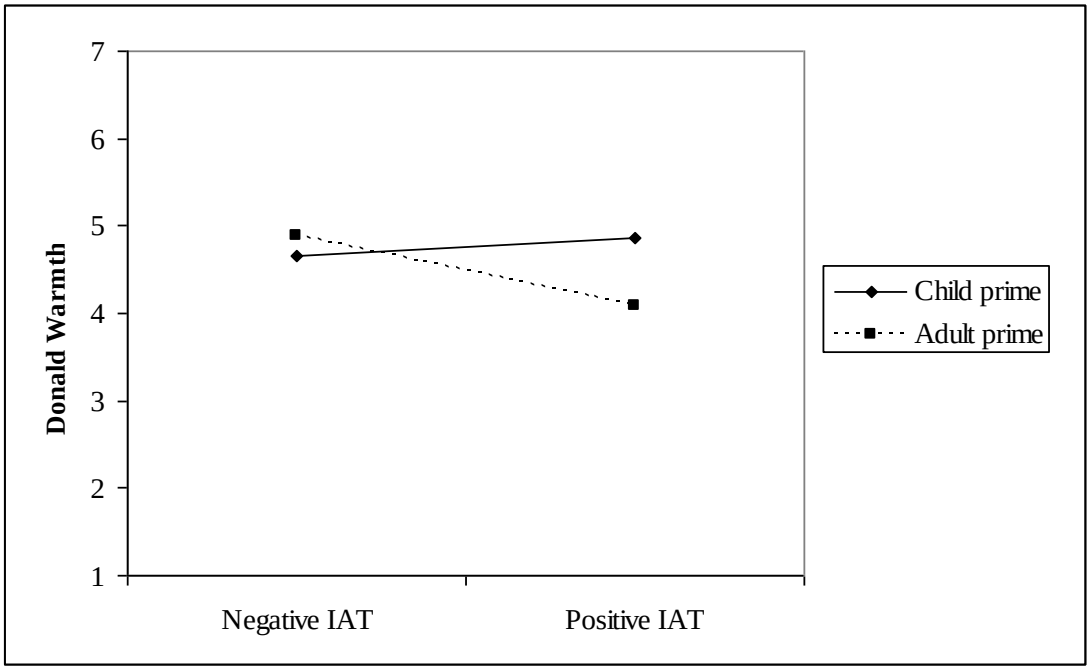

Figure 3 *2-way interaction of IAT scores and Priming condition on ratings of Donald's warmth.*

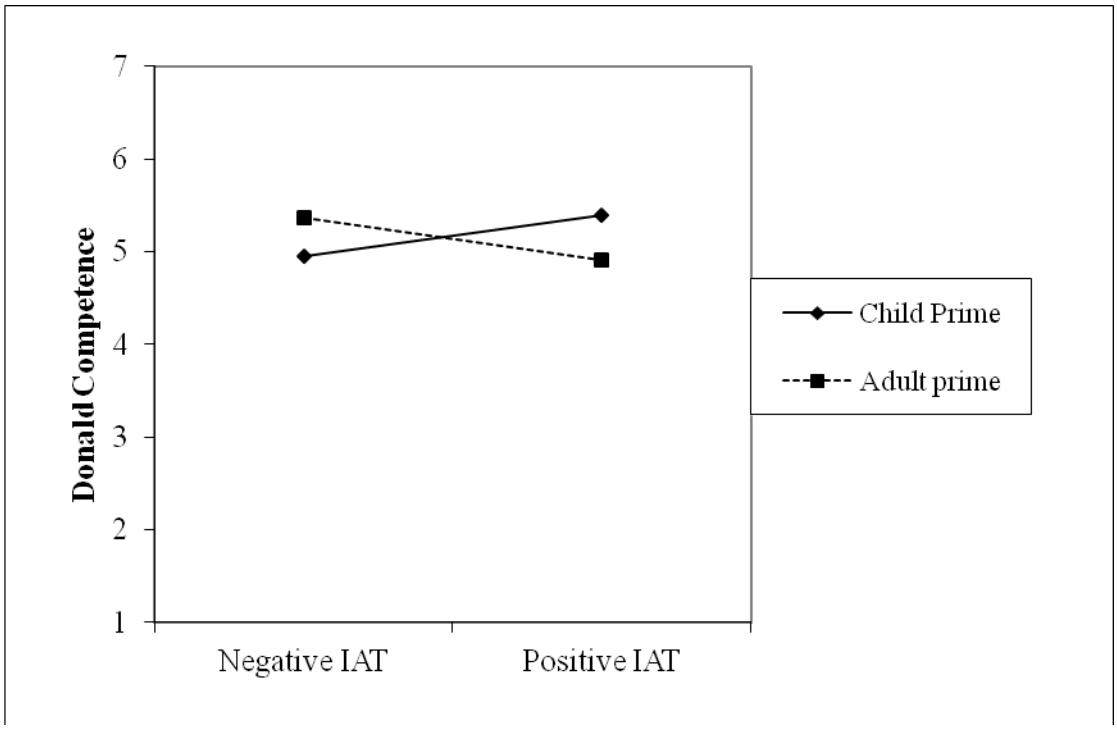

Figure 4 *2-way interaction of IAT scores and Priming condition on ratings of Donald's competence.*

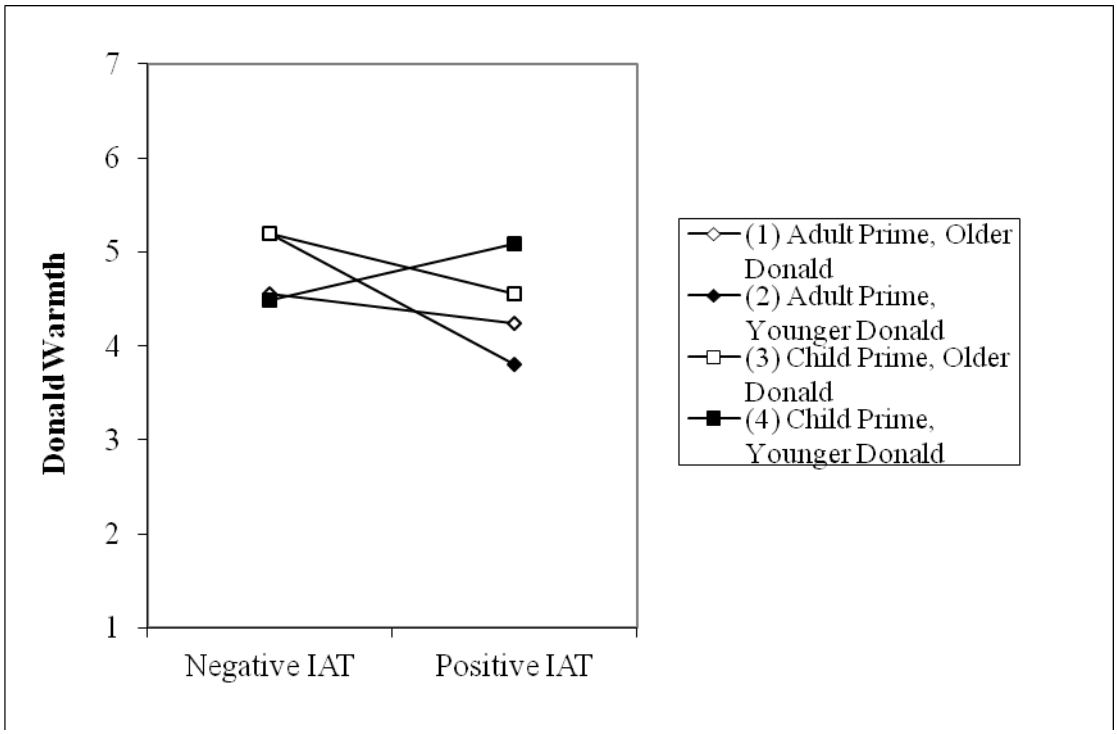

Figure 5 *3-way interaction of IAT scores, priming condition, and estimations of Donald's age on ratings of Donald's warmth*

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Discussion

Experiment 5 replicated none of the effects obtained in Experiment 3. There were again no main effects of prime on ratings of Donald's warmth and competence. The prime was not sufficient in itself to lead to different perceptions of Donald, without also taking into account implicit associations towards adults and children.

The main reliable results were the interactions between implicit associations towards children, and priming condition. In the three-way interaction, ratings of Donald's warmth were affected in a prime assimilative direction – adult primes lead to lower ratings of warmth – but only for the participants with relatively stronger positive associations towards children. As with Experiment 4, this interaction also relied on participants' estimations of Donald's age: when Donald was imagined as younger, he was perceived as less warm if participants had been primed with adults – so assimilation of the prime was greater when his perceived age was further from the prime category, and incongruently matched with greater implicit positivity towards children – but contrasted to the primed category of adults (greater warmth) when matched with greater implicit negativity towards children. When implicit evaluations were relatively more negative towards the age group with which participants had been primed (adults), participants more often rated Donald's warmth in a prime assimilative direction, when Donald was seen as younger. However, when there was a relative implicit positivity in evaluations towards the group with which participants had been primed, then the ratings of competence and warmth were contrasted from the prime, and more in line with expected ratings given the estimated age of Donald.

Therefore, following a priming manipulation, it is the constructed implicit associations towards an attitude object that becomes activated and can influence later judgements. Past research suggests that priming the category of children to

participants with positive implicit evaluations of children should lead them to rate Donald as warmer, and less competent than participants who had more negative implicit evaluations of children. Especially as category priming should lead to activation of non-conscious evaluative content, namely participants' implicit evaluations of children, which I expected to lead to congruent evaluations of Donald (Gaertner & McLaughlin, 1983; Lepore & Brown, 1997). As category priming should lead to attitudinal differences towards a target based on people's pre-existing prejudices (more so than stereotype trait priming, Lepore & Brown, 1997) there should have been a congruent interaction between implicit evaluations of children-adults and priming category. However the incongruent interactions suggests that implicit evaluations may be counteracting the stereotype content when implicit evaluations are positive towards the category which was primed and the age of target is mismatched, and reinforcing them when implicit evaluations are negative.

General Discussion

These results show that impressions of a target can be simultaneously both assimilative to the prime, and incongruent in terms of implicit evaluations of the target category. These findings differ from those of Lepore and Brown (1997; see also Gaertner & McLaughlin, 1983): priming the category does not always lead to implicit evaluation-congruent impressions of the target. When implicit evaluations were relatively more negative towards the age group with which participants had been primed, participants more often rated Donald's competence (Experiment 4) or warmth (Experiment 5) in a prime assimilative direction, (i.e., child prime and relative negativity towards children lead to lower ratings of competence, Experiment 4; adult prime and relative negativity towards adults lead to lower ratings of warmth, Experiment 5), even against the congruency of Donald's imagined age (where the

older age should be associated with greater competence, and younger age with greater warmth). However, when there was a relative implicit positivity in evaluations towards the group with which participants had been primed, then the ratings of competence and warmth were contrasted from the prime, and more in line with expected ratings given the estimated age of Donald.

Unlike the findings of Lepore and Brown (1997), participants with negative implicit evaluations towards the target age group (i.e., relative negativity towards children and younger Donald) are more likely to *reject* the negative stereotype content, but the picture is more complicated here, because this only occurred when the age of Donald was incongruent to the prime (young Donald-adult prime; older Donald-child prime) to which they have more positive implicit evaluations. Positivity of implicit evaluations towards the primed category, therefore, seems to have the effect of mitigating the stereotype content, leading to contrast to the prime, when the perceived age of the target is incongruent with the primed age group, but not when the age of the target is congruent with the prime. In this scenario (prime-evaluation congruency, but prime-age of target mismatch) participants are more likely to take into account their perceptions of the target's age, and decide to rate against the commonly held stereotypes if the prime and age of target do not match, and concede to the stereotypes when the prime and age of target are matched. Furthermore, the judgement of the target can be affected in prime-assimilative directions, and contrastive directions, but this does appear to depend on the interpretation of other information (Donald's age) not affected by the prime.

Methodological issues with the prime words used in Experiments 3 and 4 could have been improved by pretesting common labels for the child and adult categories, to confirm that the categorical labels used were indeed typical.

Furthermore, the valence of adult and child primes respectively was not well controlled, with greater negativity associated with the word "naïve" used in the child primes relative the more neutral or positive "mature" that was included in the adult prime.

Furthermore, the concept of "child" (and "adult" too, to an extent), that were used for the prime categories, and as the targets of the warmth, competence, and general favourability measures, were poorly defined. On the one hand, I was interested in the spontaneous effects of activating the general categories of children vs. adults on impressions of a novel target, without providing a concrete instantiation of a category member, even if the subtle priming paradigm could allow for it. On the other hand, there is no way to control whether "children" is conceptualized and instantiated in the same way between participants. The same issue arises for the dependent measures towards children: are participants providing ratings towards a consistent instantiation of "a child," or are the targets qualitatively different?

In retrospect, it seems clear that the effects of priming children on impressions would be easier to deduce if there were solid empirical bases for divining the traits that adults associate with children, as well as what exactly is meant by "a child". A study into the positive and negative traits associated with children and adults may be crucial for assessing differences in stereotype content. Obtaining a set of stereotypical associations will allow for better exploration of the issue as priming effects on impressions of novel targets can be investigated along more relevant dimensions than those used (e.g., approachability) in this study.

Chapter 4 Mental Representations of Children and the Child Attitude Component Scale

Chapter 4 Summary

In the previous chapters, five experiments attempted to predict impressions of ambiguous targets following child versus adult primes, and the effects of inclusion of children in outgroup representations on attitudes towards the group as a whole. The designs were based on prior work on implicit and explicit evaluations of children and sociological studies of representations of children, but they failed to yield consistent results. I therefore decided to take a different approach to understanding mental representations of children. Instead of seeking priming effects based on past theory and indirectly relevant evidence, I decided to directly investigate the traits that adults typically associate with children, their behaviours towards children, and the emotions experienced through interaction with children. As a first step, I empirically examined adults' preferred grouping of children into different age categories. I then assessed the traits, behaviours, and emotions associated with children in each age range. In this way, the research has helped to set the foundation for determining individual differences in mental representations of children, and for further examining the potential effects of priming children on our judgments and behaviour.

Previous investigations into the representations of children have focused on analysis of language used by parental diarists (Pollock, 1983), trying to picture the world from the child's perspective (Waskler, 1991). Other studies have brought together discourse on the parental-child relationship, religious views towards children, and other historically relevant contexts (e.g., children in the workplace), to inform and speculate on (un)changing representations of children (Heywood, 2001; Jenks, 1996; Mills and Mills, 2000; Pollock, 1983). To my knowledge, there has not been a systematic investigation that asks participants to provide their stereotypically held representations of children by self-report.

Without this solid base in understanding the ways in which adults mentally represent children, and individual differences in endorsement of these different representations, my attempts to predict effects of attitudes towards children, or priming the child concept on participant attitudes of previous chapters was to some degree less well guided than had I taken approach of first fully exploring the way adults represent children from the ground up. With a better understanding of the way in which adults conceptualize children and the implications of interaction with children on adults' own behaviour and feelings it may be possible to begin to address this issues of dissociation between positive explicit and negative implicit evaluations of children (Maio et al., c.2009); and the gaps in dutiful care of children's welfare and rights in policy and legislation (e.g., Webb, 2004) raised in Chapter 1.

Part of the issue may be due to certain assumptions about the universality of representations and attitudes towards children. As explained in Chapter 1,

assumptions about the universality of representations of children may have lead to a kind of institutionalized "childism," which has presupposed the exploration of this area (Heywood, 2001). Coupled with children not having a voice for themselves, it is easy to imagine why assumptions about shared views of children have led to their neglect in legal and societal discourse (e.g., Webb, 2004). If we take for granted our views of children as being socially shared, there is little motivation to hold these truisms up to inspection. This seems equally true in the psychological literature, where there has been no systematic study of mental representations of children.

The Present Research

To tackle this issue of assumptions about shared conceptions of children, I commenced two new studies to address this issue. In the first study, participants were invited to list aspects of their own representations of children in an open-ended listing exercise. I was interested not only in the traits and beliefs typically associated with children, but also in how interacting with children affects the emotions that adults experience and the behaviours they perform. These cognitions, emotions, and behaviours help to gain a broader understanding of the ways in which adults think about children than focusing on one set of psychological elements alone, consistent with contemporary tripartite models of human evaluative judgment (e.g., Breckler, 1984).

With this broad list of attitude components of adults' mental representations of children in hand, it was then feasible to develop a scale to measure the endorsement of this attitude content. The first stage of this scale development entailed administering a large set of items to several hundred participants, and then using exploratory factor analysis to discover key

dimensions in individuals' mental representations of children. Exploratory factor analysis of participants' responses facilitated mapping of key dimensions in a way that escapes any *a priori* assumptions about the way in which children are represented.

To be useful, it was important to conduct the exploratory factor analysis on responses to items that vary in the extent to which they are endorsed. The open-ended listing method may yield many traits, emotions, and behaviours that are universally associated with children and other traits, emotions, and behaviours that are often but not always associated with children. To form the Child Attitude Component Scale that can be useful as a predictive or explanatory tool, attitude components that are endorsed almost always or very rarely is not useful. To facilitate predictions for individuals' attitudes and behaviour, it is necessary to have individual variability in stereotype endorsement. I therefore sought to produce a Child Attitude Component Scale out of the more variably endorsed attitude content of resulting emotions, beliefs and behaviours associated with children.

EXPERIMENT 6

We tend to break up childhood into a series of distinct age ranges (e.g., infancy, childhood, adolescence, etc.) which typically reflect boundaries that account for different developmental stages for the child. These boundaries, however, also represent distinct subgroups of childhood to which adults have different behavioural tendencies, and possibly also different representations. As a first step to understanding adult mental representations of children, it is imperative to probe the age ranges that people contemplate when they imagine

"a child." Before establishing a shared conception of children, we must determine whether people regard different age groups in qualitatively different ways. Also, by establishing shared age ranges, it may be possible to elicit more concrete perceptions of children when people provide their ratings of emotions, beliefs and behaviours towards children.

In a pre-test measure, participants provided start and end ages for the different "age groups" younger than adults. Participants could add as many age groups as they felt were necessary until they reached the group "adults," along with labels for these groups.

Method

Participants

Thirty-two participants (*M*age = 47 years; 19 women, 10 men, 3 unspecified) were recruited via Mechanical Turk (www.mturk.com) and linked to the survey which was hosted on Qualtrics (www.qualtrics.com).

Procedure

Participants were asked to list when different stages of life (from birth to thirty years) start and end, and what they would label these stages. To begin with, participants were asked: "Starting from birth, when does the first age group end?" Participants indicated when they thought the first age boundary ended using a sliding bar that as you moved the pointer from left to right showed greater numbers which represented ages in years (it was possible to leave the pointer between whole years, and though this provided a decimal feedback to participants, as it was not possible to program twelve points between each whole year to represent the months, participants nonetheless were comfortable in using less than whole year ages as boundaries, particularly for the younger age groups). After providing the end age of the first age boundary, participants were asked to provide a label for this age group in

an open-ended response box. For subsequent age boundaries participants were provided with two sliding bars, one for start age, and the other for end age of a given boundary. Participants typically set the start slider to the age at which they ended the age boundary that preceded it, but there was some flexibility. After each set of start of boundary and end of boundary sliders, participants were prompted to provide a label for what they would call the age group they had just defined. The maximum value on the sliders was 30, and participants were instructed to keep adding age boundaries until they reached adults, but there was no limit to how many times they could create an age group prior to reaching that end, and participants were free to make as many or few age groups as they felt necessary. All participants listed eight early life age groups, or fewer.

Results and Discussion

The analysis proceeded in three stages. I first explored the labels at each consecutive response (e.g., 1^{st}, 2^{nd}, …8^{th}), to determine what the most common label for (e.g.,) the first stage was. I then cross referenced the minimum, and maximum age participants had given for the most common label with age ranges for this label if it appeared in later responses. This achieved two things: firstly it provided the most typical order of common age labels up to adulthood. Secondly, after having explored each unique label inferences could be drawn, based on the age ranges, about when participants were considering the same age group, but under different labels.

As an example, "babies" was the most common (*N*=13) label given in the first response, with "infants" the second most common (*N*=9). Based on the reported age at which this stage ended, some participants evidently were conceiving the same age group but calling it different things, while others clearly imagined a broader age group of children (*min-max* baby = .13 – 5 years, *M*endage = 1.66 years; *min-max*

infant = 1-10 years, *M*age = 3.36). For the second response, infant again appeared (*N*=2), with a minimum start age of 1.7 years (*M*startage = 2.6 years), and a minimum end age of 4.8 years (*M*endage = 5.4 years). "Toddler" (*N*=10) was the most common label given for the second response (*min-max* start age = 1.1-2 years, *M*start = 1.46 years; *min-max* end age = 2.8 – 4 years, *M*end = 3.33 years). Babies is selected as the label for the earliest age group on the basis that it was more commonly given as a label, but we can also be confident in selecting toddler as the label for the next age group because, although it was given one instance less often, the age ranges better match up with the end of the baby age group, with less overlap. I can therefore be more confident that this age group is distinct from babies.

The third step to this process was to look at the frequency of label usage and age ranges provided for labels across all responses. This allowed me to confidently excluded labels such as "young adult" or "early adolescent" which were quite common labels among participants that split birth to adulthood into a greater number of responses; where other participants (who were more numerous in this approach) had provided fewer labels but included the age ranges ascribed to (e.g.,) "young adults" in their label "teenagers".

The most common age group labels were babies (*M* age range = birth-1.5 years); toddlers (*M* age range = 1.5 – 3.5 years); children (*M* age range = 4 – 11 years); and teenagers[2] (*M* age range = 12- 18 years). Less common age group labels worth mentioning were "infant" (synonymous with toddlers in upper age boundary but often including from birth as a lower boundary), and young adults (*M* age range = 18 – 21 years).

[2] Adolescence was given equally frequently as a label for this group, but teenagers was chosen for the follow up experiments because participants who chose the adolescent label were more likely to also define an early adolescence and late adolescence period, but these labels were not as frequent as the singular teenage or adolescent stage.

EXPERIMENT 7

Experiment 7 presented participants with open-ended measures of the traits, emotions, and behaviours they associate with children. Open-ended measures have been successfully used to help elucidate many stereotypes. For instance, Haddock, Zanna, and Esses, (1993) used an open-ended measure of past experiences with homosexuals which helped improve the prediction of later attitudes towards this group; and Maio, Esses, and Bell (2000) used open ended measures to separately assess the components (emotions, stereotypes, and symbolic beliefs) of participants attitudes towards Oriental people (for review see, Esses & Maio, 2002).

I used the most frequently used labels for the names of the groups in future studies, and the mean start and end ages for these labels to help define "a child" for the belief, behaviour and emotions listing task. Thus, participants completed the open-ended measures for different child age groups, enabling the detection of similarities and differences between the groups.

Method

Participants

One hundred and nineteen participants (*M* age = 49.2 years; 87 women, 31 men, one unspecified) were recruited via Mechanical Turk.

Design

Participants were randomly assigned to one of the four age groups in a between-subjects design.

Materials and Procedure

Participants were asked to provide *their* emotions, *their* behaviours and beliefs about the four age groups obtained from the pre-test: babies, toddlers, children, and teenagers. Each age group was defined with the age ranges obtained from the pre-test

to guide participants. The response format was open-ended, with new response boxes that would appear at the completion of the previous response, prompting participants to provide as many or as few responses as necessary. The order in which participants provided their emotions, beliefs and behaviours to a given age group was randomized between participants.

Results

The data were coded independently by two raters. Many beliefs about the target group were listed in the emotion-listing portion of the open-ended measures. These beliefs were kept as part of the overall beliefs towards these groups if they were not already repeated in the beliefs section later. The same approach was employed when behaviours were encountered in the emotion or belief sections, or an emotion was encountered in the behaviour or belief sections.

Synonymous words and phrasing (e.g., they make me feel "glad", "happy") were collapsed into conceptual clusters between participants, and synonymous responses by participant were not counted twice. Responses were reduced to the simplest form of expression (e.g. "they make me laugh" and "they amuse me" became "[toddlers] are amusing"). Contradictory responses (e.g., "they are smarter than you might initially give them credit for"; "[teens] have lots of energy, but not in the morning") in a single statement were omitted because the content of the attitude component was unclear (i.e. are children smart or dumb? Are teenagers energetic or lazy?), or could not be split into two (i.e., "Teens are lazy" *and* "teens are energetic") with confidence. However, contradictory information (e.g., "teens are lazy"; "teens are energetic") given as separate responses were included. Other responses that were vague as to the particular emotion, behaviour or belief, or to the possessor of the

emotion, behaviour or belief, were also omitted (e.g., “precious” and “attention” listed as emotions).

The two raters discussed their lists of emotions, beliefs and behaviours for each target age group until consensus was reached to reduce the responses to the smallest list of unique emotions, behaviours and beliefs listed for each target group. The inter-rater reliability (the number of matching clusters created by each rater, out of the total number clusters) per age group per construct (emotions, beliefs or behaviours) is given in Table 8, alongside the type of discrepancies.

Table 8

Inter-rater reliability of response reduction and notes on inter-rater discrepancies.

	Babies; Emotions
Inter-rater reliability (not including cluster naming discrepancies	94 %
Number of discrepancies (including cluster naming)	2 (3)
Type of discrepancy	2 clusters dropped for being too vague. Fear cluster renamed to "feel scared"
Additional Information	"Standoffish" removed as it was a unique response, probably a better description of a behaviour, with underlying emotions such as "hate", "disgust" and "anxiety" which were already in the pool. "Strong" too vague and a unique response.
	Babies; Behaviours
Inter-rater reliability (not including cluster naming discrepancies	88%
Number of discrepancies (including cluster naming)	2
Type of discrepancy	Removed "maternal" cluster as mothering, like fathering, consists of many distinct behaviours. Unpacked "I am friendly" and "I am loving"
Additional Information	
	Babies; Beliefs
Inter-rater reliability (not including cluster naming discrepancies	96%
Number of discrepancies (including cluster naming)	1

Type of discrepancy	Babies are… "responsive" and "tactile" clustered together
Additional Information	
	Toddlers; Emotions
Inter-rater reliability (not including cluster naming discrepancies	95%
Number of discrepancies (including cluster naming)	1
Type of discrepancy	"Wary" unpacked from "worried"
Additional Information	Wary was an emotion directed towards interactions with toddlers, while worry was concern for the toddlers.
	Toddlers; Behaviours
Inter-rater reliability (not including cluster naming discrepancies	100%
Number of discrepancies (including cluster naming)	
Type of discrepancy	
Additional Information	
	Toddlers; Beliefs
Inter-rater reliability (not including cluster naming discrepancies	100%
Number of discrepancies (including cluster naming)	
Type of discrepancy	

Additional Information	A number of participants wrote that “toddlers are hard work” in the emotion section. This was added to the beliefs about toddlers. The emotions associated with finding toddlers hard work might include “frustrated” which was listed. Unfortunately other emotions that might be associated such as “stressed” were not given.

	Children; Emotions
Inter-rater reliability (not including cluster naming discrepancies	91%
Number of discrepancies (including cluster naming)	2(3)
Type of discrepancy	1 Cluster naming; Caring and protective unpacked into 2 clusters; 1 vague emotion dropped
Additional Information	
	Children; Behaviours
Inter-rater reliability (not including cluster naming discrepancies	81%
Number of discrepancies (including cluster naming)	3(5)
Type of discrepancy	"Enjoying" dropped – not a behaviour; "knowing" dropped – too vague; "Paternalistic" – vague or inconsistent items; "Intolerance" cluster renamed from "need to escape" "Being kind" cluster renamed from "giving"
Additional Information	"Knowing" included items such as "my friends have children" and "interacting with siblings" which were too vague with respect to an actual behaviour. "Paternalistic" was the best fit word for responses such as "slightly paternal" and "with parent's consent" which we felt was not descriptive enough of a particular behaviour.
	Children; Beliefs
Inter-rater reliability (not including cluster naming discrepancies	97%
Number of discrepancies (including cluster naming)	1
Type of discrepancy	"Not positive" dropped as a cluster

Additional Information	[Children are] “positive” already a cluster.

	Teenagers; Emotions
Inter-rater reliability (not including cluster naming discrepancies	91%
Number of discrepancies (including cluster naming)	2(4)
Type of discrepancy	“Anger” and “Frustration” unpacked into 2 clusters; “Concern” unpacked into self vs. other focus clusters; cluster name changed from “lively” to “enthusiasm”; “confident in their future” relabelled “hopeful”
Additional Information	

	Teenagers; Behaviours
Inter-rater reliability (not including cluster naming discrepancies	100%
Number of discrepancies (including cluster naming)	
Type of discrepancy	
Additional Information	

	Teenagers; Beliefs
Inter-rater reliability (not including cluster naming discrepancies	100%
Number of discrepancies (including cluster naming)	
Type of discrepancy	
Additional Information	

EXPERIMENT 8

The open-ended methodology of Experiment 7 had allowed for the collection of emotions, behaviours and beliefs towards babies, toddlers, children and teenagers, but is not informative about whether any given statement is a consensually held component of representations of children. To explore this issue, new participants were recruited to provide ratings of endorsement of the emotions behaviours and beliefs provided by participants in Experiment 7. This allows the determinations of which statements are more typical associated with each age group, and provide a first basis for reducing the number of items, for the end goal of producing a variably endorsed set of stereotypical content about children.

Method

Participants

Seven hundred and seventeen participants (364 women, 278 men, 75=unstated, *M* age= 35 years) recruited via three online surveying websites: Mechanical Turk (www.mturk.com), Social Psychology Network (www.socialpsychology.org), and Online Psychology Research (www.onlinepsychresearch.co.uk).

Design

Participants were randomly assigned one of four target age groups: babies, toddlers, children, and teenagers in a between-subjects design.

Materials

Using a 7-point scale from *strongly disagree* (-3) to *strongly agree* (+3), participants responded to items describing beliefs, emotions, and behaviours regarding each target group. Because these beliefs came from the open-ended measures in Experiment 7 (where participants were asked to generate the associated emotions, beliefs and behaviours associated with each of the age groups), the number of statements for each construct was different across the target groups.

Results and Discussion

The mean and standard deviations of endorsement of the emotions, behaviours and beliefs of each of the age groups is presented in Tables 9-12 below. Before

conducting an exploratory factor analysis, I first removed those items with extreme high or low endorsement: $M > \pm 2.00$ or low variability $SD < \pm 1.00$. Such items offer less predictive power in the final Child Attitude Component Scale because they are typically endorsed or not endorsed by most participants.

Table 9. *Mean and standard deviation of agreement to emotions, beliefs and self-behaviours associated with babies***.**

	Mean	Std. Deviation
Babies make me feel caring	1.59	1.652
Babies make me feel happy	1.25	1.721
Babies make me feel love	1.41	1.746
Babies give me mixed feelings	-.05	1.880
Babies make me feel pride	.32	1.901
Babies make me feel protective	1.62	1.579
Babies make me feel scared	-1.21	1.697
Babies make me feel warm	1.33	1.632
Babies make me feel affectionate	1.45	1.681
Babies make me feel amazed	1.14	1.737
Babies make me feel annoyed	-1.11	1.774
Babies make me feel anxious	-.57	1.772
Babies make me feel concerned	.56	1.811
Babies make me feel indifferent	-1.42	1.729
Babies make me feel hatred*	-2.35*	1.303*
Babies make me feel optimistic	1.14	1.666
Babies make me feel bored	-1.44	1.662
Babies make me feel amused	1.34	1.595
Babies make me feel disgusted	-1.95	1.576
Babies make me feel supportive	1.26	1.599
Babies make me feel responsible	1.41	1.767
Babies make me feel enthusiastic	.91	1.823
Babies make me feel excited	.76	1.793
Babies make me feel tired	.15	1.832
Babies make me feel fascinated	1.16	1.775
Babies make me feel hope	.99	1.765
Babies make me feel nostalgic	.38	1.980
Babies make me feel frustrated	-.95	1.768
Babies make me feel overwhelmed	-.11	1.795
Babies make me feel playful	1.37	1.672
Babies make me feel fragile	-.75	1.856
Babies make me feel defensive	-1.04	1.944
A babies' behaviour reflects their care	1.24	1.338

	Mean	Std. Deviation
Babies require consistency of care*	2.43*	1.054*
Babies are cute	1.84	1.497
Babies are innocent*	2.24*	1.162*
Babies are totally dependent*	2.09*	1.708*
Babies are vulnerable*	2.46*	.996*
Babies are demanding*	2.08*	1.274*
Babies are intelligent	1.32	1.484
Babies are noisy	1.86	1.219
Babies are often crying	1.58	1.355
Babies are messy	1.90	1.254
Babies are a source of wonder	1.79	1.472
Babies are instinctive	1.81	1.226
Babies are endearing	1.70	1.472
Babies are open to learning*	2.04*	1.233*
Babies are empathic	.40	1.674
Babies are resilient	1.23	1.385
Babies smell nice	.85	1.739
Babies are life changing*	2.45*	1.090*
Babies are emotionally driven	1.48	1.470
Babies are our future*	2.14*	1.201*
Babies are responsive	1.94	1.160
Babies are tactile	1.38	1.386
Babies need stimulation*	2.22*	1.137*
Babies are not a blank canvas	.33	1.886
I am protective towards babies	1.78	1.607
I am caring towards babies	1.77	1.561
I am interested towards babies	1.11	1.791
I play with babies	1.26	1.782
I try to avoid babies	-1.04	2.035
I am friendly towards babies	1.89	1.402
I am supportive towards babies	1.66	1.477
I am enthusiastic towards babies	1.08	1.885
I coo at babies	.56	2.068
I feed babies	.41	2.260
I worry around babies	.37	1.921
I behave childlike towards babies	.42	1.772
I behave responsibly towards babies*	2.15*	1.288*
I try to educate babies	.97	1.687
I am exhausted by babies	.16	1.787
I am irritated by babies	-.93	1.876
I am loving towards babies	1.66	1.595

	Mean	Std. Deviation
N	133	

* indicate items removed for high or low agreement or low deviation in agreement/disagreement.

Inspection of the emotions provided for babies in Table 9 shows a prevalence of positive emotions associated with love and affection, with few items describing negative emotions towards babies, and these typically receive strong disagreement from most participants about experiencing them. The beliefs and behaviours associated with babies principally centre around their need to be nurtured and cared for, included the more negative aspects associated with this, such as babies being noisy and messy (but unlike the negative emotion items, these receive greater endorsement as being true).

Table 10. *Mean and standard deviation of agreement to emotions, beliefs and self-behaviours associated with toddlers***.**

	Mean	Std. Deviation
Toddlers make me feel amused	1.44	1.495
Toddlers make me feel happy	1.19	1.643
Toddlers make me feel caring	1.36	1.554
Toddlers make me feel excited	.35	1.784
Toddlers make me feel scared	-1.60	1.727
Toddlers make me feel curious	.49	1.672
Toddlers make me feel worried	-.58	1.831
Toddlers make me feel frustrated	-.20	1.800
Toddlers make me feel annoyed	-.34	1.798
Toddlers make me feel adoration	.72	1.780
Toddlers make me feel warm	1.10	1.670
Toddlers make me feel friendly	1.29	1.541
Toddlers make me feel creative	.24	1.771
Toddlers make me feel patient	.01	1.704
Toddlers make me feel innocent	.07	1.838
Toddlers make me feel positive	1.16	1.603
Toddlers make me feel envy	-1.81	1.414
Toddlers make me feel wary	-.78	1.853
Toddlers make me feel pride	-.10	1.852
Toddlers make me feel sad*	-2.05*	1.329*
I am caring towards toddlers	1.66	1.543
I am curious when around toddlers	.53	1.689
I am playful with toddlers	1.37	1.603
I am friendly toward toddlers	1.74	1.510
I am kind towards toddlers	1.96	1.327
I am engaging towards toddlers	1.10	1.606
I am humorous with toddlers	1.28	1.575
I teach toddlers	.67	1.961
I am patient towards toddlers	1.21	1.586
I get annoyed at toddlers	-.25	1.857
I am anxious around toddlers	-.58	1.842
I am happy towards toddlers	1.56	1.545
I am practical with toddlers	1.28	1.233
Toddlers are hard work*	2.14*	1.180*
Toddlers are curious*	2.52*	.709*
Toddlers are energetic*	2.49*	.802*
Toddlers are adorable	1.58	1.494
Toddlers are naïve	1.94	1.313

	Mean	Std. Deviation
Toddlers are difficult	1.30	1.487
Toddlers have a desire to learn*	2.17*	1.124*
Toddlers are developing*	2.60*	.839*
Toddlers are fun	1.59	1.386
Toddlers are dependent	1.91	1.608
Toddlers are loving	1.83	1.214
Toddlers are trusting	1.72	1.309
Toddlers are naughty	.31	1.711
N	144	

* indicate items removed for high or low agreement or low deviation in agreement/disagreement.

Inspection of the emotions provided towards toddlers reveals they are predominantly warm and affectionate, with a focus also on the curious, exciting and creative aspects of interaction with toddlers. The behaviours also emphasise this interaction with toddlers in play (I am… "playful", "friendly", "engaging", "humorous"; "I teach"). Beliefs about toddlers focus around their development, learning, energy, and also difficulty to manage.

Table 11. *Mean and standard deviation of agreement to emotions, beliefs and self-behaviours associated with children*.

	Mean	Std. Deviation
Children make me feel active	.94	1.599
Children make me feel amused	1.33	1.335
Children make me feel annoyed	-.51	1.812
Children make me feel frustrated	-.48	1.709
Children make me feel anxious	-.59	1.824
Children make me feel protective	1.56	1.482
Children make me feel curious	.81	1.529
Children make me feel exhausted	.35	1.729
Children make me feel love	1.40	1.633
Children make me feel friendly	1.37	1.447
Children make me feel happy	1.42	1.511
Children make me feel kind	1.38	1.483
Children make me feel angry	-1.30	1.526
Children make me feel carefree	.12	1.790
Children make me feel hopeful	1.12	1.665
Children make me feel sad	-1.71	1.442
Children make me feel nostalgic	.65	1.711
I am caring towards children	1.92	1.372
I am protective towards children	1.88	1.402
I am playful with children	1.53	1.580
I talk with children	1.60	1.475
I smile at children	1.95	1.445
I am friendly towards children	1.90	1.369
I teach children	1.06	1.865
I am helpful to children	1.72	1.394
I am kind to children	1.97	1.267
I am patient with children	1.46	1.509
I am intolerant towards children	-1.22	1.844
I am encouraging towards children	1.75	1.403
I discipline children	.30	1.794
Children are positive	1.47	1.302
Children are happy	1.62	1.086
Children are fun	1.59	1.409
Children are innocent	1.84	1.226
Children are naïve	1.64	1.300
Children are good learners	1.77	1.201
Children are vulnerable*	2.13*	1.084*
Children are impressionable*	2.15*	1.060*
Children are selfish	.52	1.487

	Mean	Std. Deviation
Children are loving	1.76	1.144
Children are important*	2.21*	1.232*
Children are disrespectful	-.30	1.425
Children are expensive	1.90	1.279
Children are mischievous	1.07	1.229
Children are energetic*	2.21*	.977*
Children are carefree	1.50	1.361
Children are noisy	1.60	1.233
Children are deserving of happiness*	2.44*	.985*
Children are deserving of care*	2.49*	.960*
Children are well behaved	.15	1.261
Children have more opportunities than when I grew up	.99	1.723
Children dislike anger	1.56	1.378
Children are challenging	1.74	1.229
Children are interesting	1.62	1.393
Children are lazy	-.58	1.566
Children are independent	-.56	1.591
Children are kind	1.03	1.292
N	156	

* indicate items removed for high or low agreement or low deviation in agreement/disagreement.

Inspection of the emotions towards children reveals that positive emotions such as happiness and love are still among the most highly endorsed. Relative to babies, and similar to toddlers, however, there is less of a rejection of negative emotions such as anxiety or frustration. Behaviours towards children centre on nurturing them, being friendly, and teaching them. The beliefs about children is more mixed in terms of the positive aspects of character, as well as the more negative aspects such as being selfish, challenging, lazy, noisy and disrespectful.

Table 12. *Mean and standard deviation of agreement to emotions, beliefs and self-behaviours associated with teenagers***.**

	Mean	Std. Deviation
Teenagers make me feel curious	.01	1.497
Teenagers make me feel happy	.00	1.436
Teenagers make me feel hopeful	-.07	1.505
I feel misunderstood when communicating with teenagers	-.44	1.599
Teenagers give me mixed feelings	.67	1.517
Teenagers make me feel neutral	.02	1.476
Teenagers make me feel pride	-.44	1.425
Teenagers make me feel confused	-.64	1.619
Teenagers make me feel sympathy	-.08	1.563
Teenagers make me feel envy	-.95	1.644
Teenagers make me feel intimidated	-1.22	1.580
Teenagers make me feel anger	-.94	1.651
Teenagers make me feel anxious	-.67	1.630
Teenagers make me feel concern	.34	1.692
Teenagers make me feel concerned for their future	.92	1.468
Teenagers make me feel sad	-.88	1.602
Teenagers make me feel amused	.54	1.421
Teenagers make me feel frustrated	-.01	1.607
Teenagers make me feel energized	-.38	1.464
Teenagers make me feel annoyed	.18	1.663
Teenagers make me feel excited	-.58	1.397
I am encouraging towards teenagers	1.05	1.349
I get annoyed towards teenagers	.27	1.656
I am friendly towards teenagers	1.48	1.108
I treat teenagers as adults	.32	1.581
I try to understand teenagers	1.03	1.452
I am prepared to listen to teenagers	1.45	1.239
I am prepared to talk to teenagers	1.38	1.343
I try to reason with teenagers	.85	1.359
I am wary of teenagers	-.10	1.804
I am willing to interact with teenagers	1.39	1.389
I am keen to share in the interests of teenagers	.12	1.578
I am condescending towards teenagers	-.94	1.618
I try to ignore teenagers	-.67	1.625
I am amused by teenagers	.75	1.537
I am sympathetic towards teenagers	.82	1.395

	Mean	Std. Deviation
I praise teenagers	.30	1.456
Teenagers are at a difficult stage in their lives	1.86	1.293
Teenagers are good	.84	1.025
Teenagers are caring	.66	1.131
Teenagers show a lack of respect	.93	1.080
Teenagers are inconsiderate	.83	1.162
Teenagers are self-centred	1.48	1.028
Teenagers are misrepresented	.80	1.088
Teenagers are immature	1.57	1.154
Teenagers are noisy	1.46	1.156
Teenagers are image conscious*	2.02*	1.064*
Teenagers are insecure	1.42	1.140
Teenagers are under a lot of academic pressure	1.38	1.259
Teenagers are arrogant	1.13	1.130
Teenagers are hard working	.37	1.189
Teenagers are hormonal*	2.01*	1.075*
Teenagers are creative*	1.31*	.914*
Teenagers are lazy	.67	1.326
Teenagers are under a lot of peer pressure	1.95	1.092
Teenagers are misunderstood	.78	1.202
Teenagers are carefree	.91	1.389
Teenagers are certain	.09	1.428
Teenagers are polite	.07	1.301
Teenagers are irritating	.77	1.373
Teenagers are intimidating	-.60	1.858
Teenagers need to be respected	1.02	1.355
Teenagers need to be liked	1.52	1.283
Teenagers want to have fun*	2.23*	.859*
Teenagers are confused*	1.53*	.990*
Teenagers are rebellious	1.36	1.019
Teenagers are secretive	1.06	1.345
Teenagers are careless	1.00	1.141
Teenagers are facing future problems	1.68	1.168
Teenagers are impatient	1.45	1.028
Teenagers are unreliable	.72	1.253
Teenagers are challenging	1.38	1.059
Teenagers are sociable	1.47	1.129
Teenagers are lacking guile	.38	1.122

	Mean	Std. Deviation
Teenagers are blinkered	.41	1.047
N	130	

Inspection of emotions towards teenagers reveals more negativity towards them than the other three age groups, with new emotions such as "concern" and "intimidated" appearing, as well as the first positive endorsement of feeling "annoyed" (which appeared in the emotions towards the other age groups, but was not typically endorsed). The behaviours towards teenagers also suggest something qualitatively different about behavioural approaches to members of this group. Specifically, the presence of a number of "I try…" items suggests an implicitly understood expectation that behavioural interactions with this group is less one-sided in terms of expected outcomes than the other age groups. Beliefs about teenagers are also a lot more mixed in terms of positive and negative content than beliefs towards the other age groups, with higher endorsement of the negative characteristics attributed to this group (such as "arrogance," "self-centred[ness]", "rebellious[ness]"), and weaker endorsement of the positive beliefs.

Comparison of the composition of emotions, beliefs about, and behaviours towards the four age groups seems to portray a trend away from predominantly positive representations of the group to an increasingly mixed set of positive and negative aspects as the age group gets older. Endorsements of the overarching positive components tend to get weaker; at the same time negative components become more numerous and more typically endorsed.

Exploratory Factor Analysis

The remaining stereotype content was explored for its latent structure through exploratory factor analyses. The exploratory factor analysis utilized a scree plot and the minimum-eigenvalue-of-one criterion to select factors. These were then rotated using Varimax rotations.

Items were retained if they loaded heavily on one factor with at least a .42 value difference between their loadings on other factors. Also, if an item loaded on one factor, it could not load too negatively (< -.30) on a second factor. I wanted to keep the number of emotions, beliefs and behaviours roughly equal. However, emotions tended to load most heavily on their factors, followed by behaviours and finally beliefs. Consequently, I decided to require that emotion items possess a loading greater than .725, while behaviours (because they were fewer) and beliefs (because they loaded less heavily) required a loading greater than .60 for retention. Although they appear arbitrary, these levels helped to distinguish between clusters of items that I found to be dissimilar in structure and relevance to the factors, while preserving the demand for very high loadings. (Many researchers rely on loadings as low as .25 or .30 for factor interpretation and item selection.)

As described in more detail below, the factor structure for each age group were best described by two factor solutions, with positive and negative attitude components loading on each factor respectively. As there were fewer negative items, the heuristics above were relaxed somewhat for the negative items; the alternative was to keep the same criteria and have very few negative items for some groups, reducing the value of the final item lists. To avoid this consequence, items were retained if they had >.40 loading on the second factor, with a value difference greater than .20 between the loadings on factor 1 and 2

A few items were also dropped because I retrospectively noticed inadequate item specificity, or a lack of similarity to other items loading on a given factor (e.g., "Children make me feel active," "Children are expensive"). The remaining items were then explored using an Oblimin rotation and compared with the original solution; any further items that failed the criteria were removed. For each table of factor loadings, items not in bold were removed for failing to meet the criteria.[3]

[3] Some items were inadvertently retained when they should have been rejected in the construction of this scale. They are marked with an asterisk on the Table 15 below. In the end I decided to keep them through the convergent and discriminant validity testing, and confirmatory factor analysis because they

Attitude components for babies For the target group "babies", the initial scree plot seemed to suggest that a three-factor solution would best describe this pattern of results, however the third factor was ill-defined with only two items loading onto the third factor more than on the other two factors: *"Babies are noisy"* and *"Babies are emotionally driven"*. I decided to remove "*Babies are emotionally driven"* due to its lack of specificity and then test the two-factor solution. "*Babies are noisy*" then loaded strongly on the second factor (.575), and the factor loadings for a number of other items that were less well defined in the three-factor solution were improved in the two factor solution. Table 13 shows the two-factor solution to the statements about babies after Varimax rotation.

Table 13 *Item loadings for emotions, beliefs, and behaviours towards babies.*

Rotated Factor Matrix[a]

	Factor	
	1	2
Babies make me feel caring	**.936**	**-.045**
Babies make me feel happy	**.907**	**-.173**
Babies make me feel love	**.914**	**-.090**
Babies give me mixed feelings	**-.046**	**.534**
Babies make me feel pride	**.745**	**.012**
Babies make me feel protective	**.919**	**.040**
Babies make me feel scared	**-.108**	**.597**
Babies make me feel warm	**.909**	**-.101**
Babies make me feel affectionate	**.945**	**-.073**
Babies make me feel amazed	**.856**	**-.046**
Babies make me feel annoyed	-.588	.654
Babies make me feel anxious	**-.103**	**.669**
Babies make me feel concerned	.476	.303
Babies make me feel indifferent	-.555	.433
Babies make me feel optimistic	**.889**	**-.069**
Babies make me feel bored	-.528	.496
Babies make me feel amused	**.822**	**.004**
Babies make me feel disgusted	-.508	.407
Babies make me feel supportive	**.887**	**.003**
Babies make me feel responsible	**.852**	**.039**
Babies make me feel enthusiastic	**.870**	**-.050**
Babies make me feel excited	**.890**	**-.081**

loaded on to the negativity towards children factor, which had fewer items. As indicated above, a more relaxed set of criteria was employed for the negative items.

Babies make me feel tired	**.035**	**.533**
Babies make me feel fascinated	**.895**	**-.121**
Babies make me feel hope	**.844**	**-.082**
Babies make me feel nostalgic	.592	-.037
Babies make me feel frustrated	**-.319**	**.648**
Babies make me feel overwhelmed	**.063**	**.667**
Babies make me feel playful	**.891**	**-.075**
Babies make me feel fragile	.200	.348
Babies make me feel defensive	-.050	.385
A babies' behaviour reflects their care	.282	.185
Babies are cute	**.835**	**.012**
Babies are intelligent	**.670**	**.141**
Babies are noisy	**.080**	**.575**
Babies are often crying	**.062**	**.514**
Babies are messy	**.081**	**.526**
Babies are a source of wonder	**.880**	**.054**
Babies are instinctive	.448	.244
Babies are endearing	**.761**	**.115**
Babies are empathic	.268	.264
Babies are resilient	.469	.298
Babies smell nice	**.690**	**-.076**
Babies are emotionally driven	.289	.354
Babies are responsive	**.640**	**.188**
Babies are tactile	.373	.249
Babies are not a blank canvas	.015	.127
I am protective towards babies	**.868**	**.042**
I am caring towards babies	**.906**	**.001**
I am interested towards babies	**.884**	**-.192**
I play with babies	**.840**	**-.162**
I try to avoid babies	-.589	.631
I am friendly towards babies	**.845**	**.004**
I am supportive towards babies	**.915**	**.025**
I am enthusiastic towards babies	**.879**	**-.148**
I coo at babies	**.683**	**-.117**
I feed babies	**.682**	**-.119**
I worry around babies	.346	.249
I behave childlike towards babies	.499	.153
I try to educate babies	**.718**	**.018**
I am exhausted by babies	**-.078**	**.563**
I am irritated by babies	-.509	.588
I am loving towards babies	**.918**	**-.032**

*Items in bold should be retained in scale creation

Naming Factors 1 and 2:

Positive rewards from interaction with babies (Factor 1; 35 items): There are 18 positive emotion items. Ten of these emotions centered on the positive emotional rewards to self, received through interaction with babies (e.g. happy, amazed); and the other 8 associated with emotions that are positive to both adult and child (e.g. feeling caring, loving, protective). Six positive belief items: similarly, these belief items largely focus on the aspects of babies that make them appealing to adults (e.g. source of wonder), with fewer emphasising positive characteristics of babies separate from what appeals to us as adults (e.g., babies are responsive). The 11 positive behaviour items are associated with caring for babies.

Babies are hard work to care for (Factor 2; 10 items)**:** There are six negative emotions associated with worry, frustration, and the overwhelming aspects of caring for a baby. The three beliefs loading onto this factor (babies are messy, noisy, often crying) tie neatly with emotions also loading on this factor. And the one behaviour that loads on this factor (I am exhausted) further add to the picture of babies being hard work

Attitude components for toddlers. The factor analysis on responses to items about the group "toddlers," also yielded a two-factor solution. Table 14 below shows the two-factor solution with Varimax rotation for the statements about toddlers.

Table 14. *Factor loadings for emotions, beliefs and behaviours towards "toddlers" using Varimax rotation.*

Rotated Factor Matrix[a]

	Factor	
	1	2
Toddlers make me feel amused	**.809**	**-.101**
Toddlers make me feel happy	**.911**	**-.105**
Toddlers make me feel caring	**.863**	**-.203**
Toddlers make me feel excited	**.791**	**.035**
Toddlers make me feel scared	**.050**	**.655**
Toddlers make me feel curious	**.772**	**.046**
Toddlers make me feel worried	**.073**	**.689**
Toddlers make me feel frustrated	**-.213**	**.660**
Toddlers make me feel annoyed	-.479	.639
Toddlers make me feel adoration	**.811**	**.068**
Toddlers make me feel warm	**.880**	**-.073**
Toddlers make me feel friendly	**.851**	**-.122**
Toddlers make me feel creative	**.729**	**.040**
Toddlers make me feel patient	**.604**	**-.087**
Toddlers make me feel innocent	**.512**	**.090**
Toddlers make me feel positive	**.882**	**-.081**
Toddlers make me feel envy	.046	.396
Toddlers make me feel wary	-.330	.708
Toddlers make me feel pride	.685	.102
I am caring towards toddlers	.785	-.336
I am curious when around toddlers	**.742**	**-.050**
I am playful with toddlers	**.795**	**-.281**
I am friendly toward toddlers	**.754**	**-.331**
I am kind towards toddlers	**.734**	**-.313**
I am engaging towards toddlers	**.827**	**-.277**
I am humorous with toddlers	**.791**	**-.234**
I teach toddlers	**.725**	**-.182**
I am patient towards toddlers	.689	-.447
I get annoyed at toddlers	-.469	.572
I am anxious around toddlers	**-.047**	**.400**
I am happy towards toddlers	**.847**	**-.281**
I am practical with toddlers	.222	-.214

Toddlers are adorable	**.786**	**-.156**
Toddlers are naïve	-.069	-.090
Toddlers are difficult	-.366	.325
Toddlers are fun	**.780**	**-.233**
Toddlers are dependent	-.121	-.121
Toddlers are loving	**.624**	**-.160**
Toddlers are trusting	.231	-.217
Toddlers are naughty	-.117	.355

*Bold items to be retained for scale creation

Naming factors 1 and 2:

Positive experiences of Toddlers (Factor 1; 24 items)**:**

Thirteen positive emotions and eight positive behaviours expressing positive ways to interact with toddlers and the emotional benefits gained. Three positive beliefs express an affectionate relationship.

Negative emotions associated with caring for Toddlers; or *Worry and anxiety about toddlers* (4 items):

Three emotion items associated with worry and frustration at the task of caring for toddlers, and one similar behaviour item of acting anxiously around toddlers.

Attitude components for children. Table 15, below, shows the Varimax-rotated matrix of child attitude component items and their loadings on each factor. As noted above, positive emotions, beliefs and behaviours loaded onto Factor 1, with negative aspects of the group attitude components loading on Factor 2.

Table 15. *Factor loadings for emotions, beliefs and behaviours towards "children" using Varimax rotation*.

Rotated Factor Matrix[a]

	Factor	
	1	2
Children make me feel active	.704	-.193
Children make me feel amused	**.761**	**-.001**
Children make me feel annoyed*	**-.547***	**.624***
Children make me feel frustrated	**-.258**	**.750**
Children make me feel anxious	**-.197**	**.538**
Children make me feel protective	**.777**	**-.096**
Children make me feel curious	**.726**	**.098**
Children make me feel exhausted	**.029**	**.701**
Children make me feel love	.824	-.302
Children make me feel friendly	.807	-.345
Children make me feel happy	.860	-.300
Children make me feel kind	**.832**	**-.220**
Children make me feel angry	**-.333**	**.571**
Children make me feel carefree	**.801**	**-.002**
Children make me feel hopeful	**.797**	**-.287**
Children make me feel sad	-.158	.371
Children make me feel nostalgic	.400	.027
I am caring towards children	**.873**	**-.188**
I am protective towards children	**.821**	**-.102**
I am playful with children	.802	-.274
I talk with children	**.861**	**-.214**
I smile at children	**.842**	**-.201**
I am friendly towards children	.879	-.260
I teach children	.665	-.196
I am helpful to children	**.890**	**-.200**
I am kind to children	**.887**	**-.171**
I am patient with children	**.779**	**-.292**
I am intolerant towards children	-.442	.253
I am encouraging towards children	**.844**	**-.152**
I discipline children	.456	-.087
Children are positive	.654	-.262
Children are happy	.672	-.224

Children are fun	**.829**	**-.256**
Children are innocent	**.601**	**-.102**
Children are naïve	-.013	.315
Children are good learners	**.608**	**-.010**
Children are selfish	-.185	.391
Children are loving	**.732**	**-.198**
Children are disrespectful*	**-.337***	**.473***
Children are expensive	-.007	.500
Children are mischievous	**.161**	**.419**
Children are carefree	.561	.088
Children are noisy	**-.048**	**.625**
Children are well behaved	.499	-.225
Children have more opportunities then when I grew up	.281	.052
Children dislike anger	.418	.205
Children are challenging	.348	.332
Children are interesting	**.789**	**-.192**
Children are lazy	-.349	.435
Children are independent	.144	.124
Children are kind	**.683**	**-.143**

Items in bold were included in the final scale. * denotes oversight items, see footnote above

Naming factors 1 and 2:

Positive experiences with Children (19 items)**:**

There are five positive emotion items. There is more of an even split with this age group on whether the emotions refer to emotional boons- to-self of interaction (e.g. amused) and emotional benefits to the child (e.g. make me feel protective); eight behaviour items about caring for children, and making them feel liked; six beliefs.

Negative experiences with Children (7/8 items):

Four or five negative emotions associated with frustration and anxiety; three negative beliefs about children's naughtiness.

Attitude components for teenagers: The exploratory factor analysis conducted on the responses to statements about "teenagers" led to more complex results than for the other age groups. The extraction criteria revealed that it was possible to extract a three-factor solution. Using the three factor model, positive affect, beliefs and behaviours (e.g. "*I am sympathetic to teenagers"*) loaded on the first factor, with (predominantly) negative beliefs (e.g. "*teenagers are noisy"*) loaded on the second factor, and negative affect items loaded on the third factor (e.g. *"teenagers make me feel sad")*

However, in a three-factor solution, only three items would be kept on the third factor using the criteria listed above: "*teenagers make me feel intimidated"* (.621 loading), "*teenagers make me feel anxious"* (.600 loading), and *"teenagers make me feel sad"* (.618). With only moderate factor loadings and a small number of defining items, I decided to explore the two-factor solution instead. Table 16 below shows the Varimax rotation for the two-factor solution.

Table 16. *Factor loadings for emotions, beliefs and behaviours towards "teenagers" using Varimax rotation*.**.**

Rotated Factor Matrix[a]

	Factor	
	1	2
Teenagers make me feel curious	.460	.042
Teenagers make me feel happy	**.752**	**-.287**
Teenagers make me feel hopeful	.641	-.360
I feel misunderstood when communicating with teenagers	-.233	.534
Teenagers give me mixed feelings	**-.069**	**.439**
Teenagers make me feel neutral	-.365	.133
Teenagers make me feel pride	.548	-.375
Teenagers make me feel confused	**-.067**	**.527**
Teenagers make me feel sympathy	.367	.196
Teenagers make me feel envy	.108	.141
Teenagers make me feel intimidated	-.130	.279

Teenagers make me feel anger	**-.256**	**.528**
Teenagers make me feel anxious	**-.093**	**.435**
Teenagers make me feel concern	**.161**	**.409**
Teenagers make me feel concerned for their future	.251	.217
Teenagers make me feel sad	**-.154**	**.415**
Teenagers make me feel amused	.449	.169
Teenagers make me feel frustrated	**-.202**	**.630**
Teenagers make me feel energized	**.617**	**-.173**
Teenagers make me feel annoyed	-.506	.509
Teenagers make me feel excited	.504	-.199
I am encouraging towards teenagers	**.762**	**-.153**
I get annoyed towards teenagers	-.441	.518
I am friendly towards teenagers	**.725**	**-.227**
I treat teenagers as adults	.414	.098
I try to understand teenagers	**.768**	**-.162**
I am prepared to listen to teenagers	**.754**	**-.075**
I am prepared to talk to teenagers	**.722**	**-.190**
I try to reason with teenagers	**.572**	**-.050**
I am wary of teenagers	-.352	.423
I am willing to interact with teenagers	**.766**	**-.178**
I am keen to share in the interests of teenagers	.484	-.050
I am condescending towards teenagers	-.508	.208
I try to ignore teenagers	-.650	.354
I am amused by teenagers	**.588**	**-.020**
I am sympathetic towards teenagers	**.754**	**.032**
I praise teenagers	**.739**	**-.185**
Teenagers are at a difficult stage in their lives	.441	.479
Teenagers are good	.490	-.194
Teenagers are caring	.459	-.100
Teenagers show a lack of respect	-.270	.514
Teenagers are inconsiderate	**-.211**	**.739**
Teenagers are self-centered	**-.135**	**.558**
Teenagers are misrepresented	.354	-.005
Teenagers are immature	**-.107**	**.515**
Teenagers are noisy	**.116**	**.629**
Teenagers are insecure	.160	.496
Teenagers are under a lot of academic pressure	.412	.156
Teenagers are arrogant	-.304	.569
Teenagers are hard working	.480	-.112
Teenagers are lazy	-.239	.574
Teenagers are under a lot of peer pressure	.459	.228
Teenagers are misunderstood	.425	.038
Teenagers are carefree	-.049	.166

Teenagers are certain	.017	.028
Teenagers are polite	.213	-.310
Teenagers are irritating	**-.271**	**.666**
Teenagers are intimidating	-.216	.238
Teenagers need to be respected	.394	-.057
Teenagers need to be liked	.304	.392
Teenagers are rebellious	.175	.389
Teenagers are secretive	.110	.526
Teenagers are careless	-.128	.444
Teenagers are facing future problems	.163	.299
Teenagers are impatient	**-.096**	**.609**
Teenagers are unreliable	**-.074**	**.590**
Teenagers are challenging	.302	.394
Teenagers are sociable	.225	.200
Teenagers are lacking guile	.100	.177
Teenagers are blinkered	-.059	.224

Items in bold are to be retained in scale creation

Naming of factors 1 and 2:

Positive interaction facilitators (12 items):

Ten of these items referred to positive behaviours designed to facilitate interaction with teenagers. The remaining two items were positive emotions experienced in interaction with teenagers. No positive beliefs.

Negative emotions and beliefs (14 items):

Seven items on this factor refer to negative emotions experienced in interaction with teenagers. The remaining 7 items refer to negative beliefs about teenagers' dispositions.

A third factor of negative affect items could exist, but needs further exploration.

Discussion

The factor analyses revealed strong similarities in the way people think about each of the child age groups. For each group, emotions, beliefs, and our behaviours towards members of these groups can be divided into broadly positive and negative components of attitudes. At the same time, some responses appeared in the content of all of the target age groups explored here (e.g. caring, loving and protective feelings). Notwithstanding these similarities, closer inspection of the composition of the factors from the remaining items revealed important differences.

First, the emotional content changes from anxiety, frustration and worry in caring for individuals of the younger "babies" and "toddlers" target groups, to more of a focus on negative aspects of group individuals' dispositions and anxiety towards interaction as the age of the target group increases (e.g., "teenagers make me feel concern"). At the same time, there is a marked decrease in the number of positive "reward" emotions (emotions that would reinforce interaction with members of the target group because of pleasure gained) as the age of the target group increases (e.g., from the ten listed for babies, to the two listed for teenagers).

Second, the behaviours that load on the positivity factors are qualitatively different at either end of the age ranges used in this study. Behaviours are focused on the care and protection more for babies and toddlers than for older children and teenagers. This difference reflects the greater levels of constant care required in the early years of life. Simultaneously, however, the behaviours also reflect an increasing emphasis on trying to win over the target group as friends as they get older (e.g., being prepared to "talk to" and "smile" at children and being prepared to "listen" and "sympath[ise]" with teenagers; see Table 16.)

These differences in behavioural approaches may reflect the growing independence of character in the target individuals. That is, the older the child, the less they are seen as less dependent, respectful, or even friendly towards adults. Instead efforts must be made for the relationship to flourish. Of interest is that these behaviours could be seen as an effort to create a relationship where the emotions we see present for babies and toddlers could return. Whatever the case, there is certainly the argument to be made that these age groups should be treated separately when testing for adults' emotions, beliefs and behaviours associated with each group, and separate scales are needed to measure endorsement of attitude content for each age group.

Even within a given group, further testing of the remaining items needs to be completed to test their validity as a combined measure of attitude content towards that group by examining the convergent and discriminant validity of the scale with other well-known measures that would be theoretically expected to be associated or disassociated with the scale.

The following chapter will focus on assessing the validity of the scale towards the age group "children" only. From the original 57 unique emotions, beliefs and behaviours towards children listed in the open-ended paradigm of Experiment 7, the scale was first reduced to 51 items by removing items with high or low endorsement. The exploratory factor analysis conducted in Experiment 8 further reduced the scale by 23 items based on the exclusion criteria described above. The resulting set of emotions, beliefs and behaviours towards children consists of the 28 items found in bold in Table 15 above, and are hereafter referred to collectively as the Child Attitude Component Scale (CACS).

Chapter 5 Convergent and Discriminant Validity of the Child Attitude Component Scale

Chapter 5

Using the "child" items from the exploratory factor analyses, I sought to test the convergent and discriminant validity of the Child Attitude Component Scale (CACS) by examining the correlations between the child positivity and negativity factor scores with measures of other relevant constructs. Table 17 lists the scales that were examined. These measures examined individual differences in beliefs about humans in general, beliefs about hierarchy in humans, emotional expression and regulation.

Two scales examined beliefs about humans in general: the Humanity Esteem Scale, (HES; Luke & Maio, 2009) and the Polarity Scale (PS43; Stone & Schaffner, 1997). The HES examines people esteem for humanity as a whole (i.e., the positivity of their attitude toward humanity), whereas the 43-item Polarity scale examines two ideological life orientations, Humanism and Normativism, which integrate one's world view, beliefs about human nature, and values. Humanists see humans as basically good. Humanists value openness, acceptance, and the human experience, and they emphasize the importance of emotional reactions to life experiences. Meaning and value is derived from the human experience. Normatives, on the other hand, see human nature as basically flawed and evil. Normatives judge human action by external standards and extol restraint in response to life experiences. Meaning is derived from evaluation of experiences in relation to an external standard independent of space, time or action, and experiences that do not compare favourably to such standards are rejected. Both the HES and the Polarity scale are relevant to the Child Attitude Component Scale because the measures tap positive vs negative beliefs about

the character of people in general, and, of course, children are a subgroup of people. Thus, favourability in attitudes towards children may be expressed in somewhat more favourability toward people in general. Furthermore, Humanists tend to exhibit more positive emotions, less authoritarianism and more empathy, whereas Normatives express more negative emotions, fewer positive emotions, and are more authoritarian (Walter & Stone, 1997) suggesting that the child-positivity and child-negativity items might correspond to Humanist vs. Normative ideologies, respectively.

Two measures examined beliefs about hierarchy in humans: Right-Wing Authoritarianism (RWA, Altemeyer, 1996), and Social Dominance Orientation (SDO, Pratto, Sidanius, Stallworth, & Malle, 1994). Social Dominance Orientation measures individual differences in the preference for maintaining ingroup superiority over outgroups. Right-Wing Authoritarianism is characterized by deference to authority and traditional values, and prejudice towards both outgroups and ingroup members who threaten the status quo. On the one hand, children can be characterized as an outgroup. Consequently, high scores on RWA and SDO might predict higher agreement with the child-negativity items as a form of prejudice, especially for SDO, which is primarily concerned with maintaining ingroup-outgroup inequality and relies on faith in stereotypes as 'hierarchy-legitimizing myths' (p.741, Pratto et al, 1994). On the other hand, because we were all children at one time, children may also be partly viewed as ingroup members. Furthermore, children possess no intrinsic capacity to challenge the status quo or to reduce group inequalities between children and adults. This may make children less hierarchy-challenging and less relevant to RWA and SDO. Thus, on balance, endorsement of positive or negative components of our attitudes towards children may be at best only moderately correlated with SDO and RWA profiles.

Four measures examined processes of emotion regulation. The PANAS-X (Watson & Clark, 1994), which assesses participant moods over a specified time period; the Affect Intensity Measure (AIM, Larsen, Diener & Emmons, 1986) measures the intensity of one's emotional experiences; the Ambivalence over Emotional Expressiveness Questionnaire (AEQ; King & Emmons, 1990) examines individual differences in reluctance vs. willingness to express emotion when there could be consequences in how others view you; similarly, the Emotional Regulation Questionnaire (ERQ; Gross & John, 2003) assesses individual differences in the use of cognitive reappraisal and suppression of emotion as strategies to regulating emotional expression. In contrast to these measures, the Need for Affect Scale (NAS; Maio & Esses, 2001) examines respondents' attitude toward approaching emotional experiences – the focus is less on how people react to emotion than on whether they seek it out in the first place. The measure of mood was included because positive mood tends to lead to more positive attitudes to many things (e.g., Petty, Schumann, Richman, & Strathman, 1993), making it plausible that a relatively positive mood leads to greater endorsement of the child-positivity items than of the child-negativity items. The other scales all tap individuals' degree of openness to emotional experience to some degree. Because children express emotion more readily than adults, while also eliciting strong emotional reactions from adults, I expected that participants who show more openness to emotion on these scales should also be more open to children's emotional expressiveness, leading to more favourability in their attitudes towards children. This prediction may hold most strongly when examining items relating to children's emotion, which form a third of the CACS.

Two measures assessed participants' attachment styles: the Measurement of Attachment Qualities (MAQ; Carver, 1997), and the Relationship Structure

Questionnaire (ECR-RS; Fraley et al, 2006). These measures categorize people's attachment styles along dimensions of security (confidence, or lack thereof, in the strength and sustainability of relationships), avoidance (comfort in becoming close and relying on others), and anxiety/ambivalence (worry that attachment partners do not wish to become as close as one would like). The MAQ assesses adult attachment styles to other adults, and so may have a limited scope in relation to predicting scores on child attitude component endorsement. Nonetheless, this characteristic makes the MAQ potentially informative for discriminant validity, assuming that high endorsement of child-positivity with low child-negativity endorsement is not reflective of attachment scores in the MAQ. The ECR-RS, however, assesses attachment styles to mother and father figures. An avoidant attachment style to a parental figure can emerge from a punitive parenting style, which may convey a parent's negative attitude towards children in general. To the extent that the child acquires and later maintains the same attitude, negative attitudes towards children should ensue. Thus, assuming some parent-child transmission of attitude, there is more of a direct theoretical connection between endorsement of positive vs. negative attitude components in the CACS and ECR-RS scores than with the MAQ.

Other scales were included for specific ancillary tests. For instance, there is potential for weak associations with another personality measure: the Personal Need for Structure scale (NFS, Neuberg & Newsome, 1993; Thompson, Naccarato, Parker, & Moskowitz, 2001). This scale assesses the degree to which individuals like to organize their information about their environment into less complex and more manageable arrangements. In their motivation to simplify the world around them, people who score highly on NFS necessarily discount information that is inconsistent with their structuring of their world. Hence, people who score highly on PNS are

more likely to endorse existing stereotypes (Neuberg & Newsome, 1993), make trait inferences about others (Moskowitz, 1993), and encode and form new stereotypes (Schaller, Boyd, Yohannes, & O'Brien, 1995). This may lead to stronger endorsement of both the child-positivity and child–negativity items. Also, I included a measure that was intended to tap the positivity of participants' attitudes to children. The measure asked participants how they would divide £100,000 between no more than five charities of their choice from a list of nineteen possibilities. Five of the charities from the list are children charities, with others that include as their target focus: animals, women, mental health support, tragedy relief, and the aged. I expected small positive correlations between the total amount of money spent on charities for children and the child-positivity items, and small negative correlations to the child-negativity items, because willingness to donate money to children's charities will also weakly reflect favourability to the group as a whole. However, outside of the conclusions that can be drawn from the Budget Allocation Task itself, there is no way to know prior attitudes towards the other groups that may receive aid, or their importance to participants. Further, endorsement of either the positive or negative items is not indicative of children's relative need of aid relative to the other groups.

Other scales were included to develop a stronger nomonological net (i.e., map of associations) by including constructs that should have only weak or null associations with the CACS. The Marlowe-Crowne short form C (Reynolds, 1982) assess the extent to which people like to provide answers likely to be seen as socially desirable, rather than necessarily truthful. Publicly expressed positive attitudes towards children are probably more normative than negative attitudes, so this measure was included to check whether differences in endorsement of child-positivity vs. child-negativity items are linked to socially desirable responding. I expected a small

association, but any moderate or large association would be problematic for use of the scale. Similarly, I did not expect a connection between endorsement of child attitude components and scores on the Rosenberg Self-Esteem Scale (Rosenberg, 1979). Indeed, work on implicit social cognition has suggested that, if attitude objects are implicitly associated with the self, then they will be spontaneously evaluated in a manner congruent with self-esteem (Greenwald & Banaji, 1995). Thus, if there is no relationship between CACS and RSE, then this is a good indicator that participants are rating children in general, as instructed, and not imagining their own childhoods, younger siblings, or their own children only. Also, I expected few associations between CACS responses and basic dimensions of personality, as measured by the HEXACO-PI-R (Ashton & Lee, 2009). Because of the multi-component nature of the CACS' design (emotions caused by, beliefs about, and behaviours towards children), different personality dimensions might correlate, albeit weakly, with the overall CACS because of their potential relation to the components (i.e. Emotionality with the emotion component, Openness to Experience with the behaviour components).

Experiment 9

Method

Participants

Participants were 138 first-year psychology undergraduates, who had taken part in a pretest session at the beginning of the academic year. This session included the Child Attitude Component Scale among many other scales included for research on other topics in the School of Psychology. Participants were given a pre-test keycode to match responses from this session with responses for later experiments. Fourteen participants could not be included in the analyses because they had incorrect or missing keycodes; this left a final sample of 124 participants (112 female, 10 male, 2 not stated. *Mage* = 18).

Design and Procedure

Each session occurred in a computer lab. Between 8 and 10 participants completed the measures, which were hosted on www.Qualtrics.com. Participants took between 24 minutes to 1 hour and 8 minutes to complete the measures, after which they were given a verbal and written debriefing. The measures were presented in a single fixed order, as shown in Table 17. Separate scores for the mean child-positivity and child-negativity items were calculated before being correlated with other measures, in accordance with the two-factor solution from the exploratory factor analysis.

Table 17. Comparison scales in order of presentation

Scale	Source	Example items
Affect intensity measure	Larsen, Diener, & Emmons, (1986)	-When I feel happy, it is a strong type of exuberance; -When I talk in front of a group for the first time my voice goes shaky and my heart races
Ambivalence over Emotional Expressiveness	King, & Emmons, (1990).	-I try to control my jealousy concerning my boyfriend/girlfriend even though I want to let them know I am hurting. -Often I'd like to show others how I feel, but something seems to be holding me back.
Emotion Regulation Questionnaire	Gross & John, (2003	-When I want to feel less negative emotion, I change the way I'm thinking about the situation. -I keep my emotions to myself -When I am feeling positive emotions, I am careful not to express them
Need for Affect Questionnaire	Maio & Esses, 2001.	-I think that it is very important to explore my feelings -It is important for me to know how others are feeling
Measure of Attachment Qualities (MAQ)	Carver (1997)	- When I'm close to someone, it gives me a sense of comfort about life in general. - I often worry my partner will not want to stay with me.
Rosenberg Self-Esteem Scale	Rosenberg, (1979).	-On the whole, I am satisfied with myself -I certainly feel useless at times
Marlowe-Crowne Social Desirability Scale 13-item (form C)	Reynolds, 1982.	-It is sometimes hard for me to go on with my work if I am not encouraged. -I am sometimes irritated by people who ask favours of me. -I am always courteous, even to people who are disagreeable
HEXACO-60	Ashton & Lee, (2009).	-I make decisions based on the feeling of the moment rather than on careful thought. -I tend to be lenient in judging other people. –Even in an emergency I wouldn't feel like panicking
PANAS-x	Watson & Clark, (1994).	Participants rate their agreement with 20 emotion terms as descriptors of their current mood (e.g., cheerful, sad, active, angry at self etc.)
Social Dominance Orientation	Pratto, Sidanius, Stallworth, & Malle, (1994).	-It's OK if some groups have more of a chance in life than others -Sometimes other groups must be kept in their place

Scale	Source	Example items
Right-Wing Authoritarianism	Altemeyer,. (1996).	-We would have fewer problems if we treated people more equally -Our country needs a powerful leader, in order to destroy the radical and immoral currents prevailing in society today. -God's laws about abortion, pornography and marriage must be strictly followed before it is too late, violations must be punished.
Satisfaction with Life Scale (SWLS)	Diener, Emmons, Larsen, & Griffin (1985).	-The conditions of my life are excellent -If I could live my life over, I would change almost nothing.
Humanity Esteem Scale	Luke, & Maio, (2009).	-I feel that the human species is very valuable, at least on an equal plane with other species in the universe. -All in all, I am inclined to regard the human species as a failure
The Polarity Scale	Stone, & Schaffner, (1988).	-In order to live a good life you must satisfy both yourself and others. -Human beings should be treated with respect only when they deserve respect -So-called mystical experiences have most often been a source of delusion
Personal Need for Structure Scale	Neuberg, & Newsom, (1993).	It upsets me to go into a situation without knowing what I can expect from it -I find a well-ordered life with regular hours makes my life tedious
Budget allocation task		Participants have £100,000 to donate to 5 charities from a long list including charities for the old; children; the blind; search and rescue; RSPCA etc.
Relationship Structure (ECR-RS) Questionnaire	Fraley, Niedenthal, Marks, Brumbaugh, & Vicary, (2006).	-It helps to turn to this person in times of need. - I prefer not to show this person how I feel deep down. -I worry that this person won't care about me as much as I care about him or her.

Results and Discussion

The description below focuses on the correlations with the child-positivity and child-negativity items, rather than inter-correlations of established measures. For ease of presentation, the relationships of the two dimensions of the CACS with each set of related comparison scales are presented with a specific summary, with a more general summary of findings at the end of the chapter.

Child Positivity and Child Negativity

As expected from the factor loadings obtained from the exploratory factor analysis, participants' scores on the child-positivity items were significantly negatively correlated with their scores on the child-negativity items, r=-.26, $p < .01$. Also, consistent with the earlier results, this correlation was only small-to-moderate in magnitude, according to the effect-size guidelines recommended by Cohen (1992). Thus, rather than combine the child positivity and child negativity factors in to a single dimension for evaluating components of attitudes towards children (i.e., positive vs. negative), the remaining correlation analyses continue to examine child positivity and child negativity separately.

Beliefs about Humanity

Child positivity. Child-positivity endorsement was greater in individuals who have more positive Humanity Esteem, r=.21, p<.05. Child-positivity endorsement was also significantly negatively correlated with higher Normatism scores from the polarity scale r= -.19, p< .05.

Child negativity. Endorsement of the child-negativity items was not significantly negatively correlated with scores on the HES, r = -.02, p > .05, and higher child-negativity endorsement was associated with a more Normative ideology from the Polarity scale r=.19, p<.05.

Summary. The low magnitude of the correlations suggests that attitudes towards children are at least somewhat independent of attitudes about humanity in general. However, the significant correlations that were obtained are interesting from a few perspectives. For instance, the finding that people with positive attitudes to humanity to endorse the positive attitudinal components and that people with negative attitudes to humanity endorse the negative components of attitudes towards children gives credence to the idea that children represent a universal human subgroup, and that evaluations of humanity in general are also applied to children (or vice-versa). Also, the tendency for people with Normative views of humanity to endorse the negative child stereotypes is reflective of Normatives' view of people as essentially flawed. Normative items on the Polarity scale such as "*Children should be seen and not heard"* and "*Children should be taught to obey…"* are conceptually related to child-negativity items from the CACS such as *"Children are disrespectful"* and "*Children are noisy."* It is also interesting that there were no significant relationships between the Humanist responses on the Polarity scale and either the child-positive or child-negative items of the CACS. While the humanism and child-positivity scores are positively skewed (skewness = -.46 & -2.21, *std error*= .217 & .218, respectively) the overall pattern of results is not explained by a ceiling effect for child-positivity (*M* = 32.38, *sd*= 15.92, *variance* = 253.27) which has greater variance than child-negativity items (*M*= 1.47, *sd*=7.24, variance = 52.46); nor a ceiling effect on Humanism scores, which has greater variance than Normatism scores (*M*= 22.34 & 4.36, *sd*= 7.30 & 3.55, *variance*= 53.35 & 12.59, respectively). This result indicates that Normative vs. Humanist ideologies do not explain the full pattern of results on the CACS.

Beliefs about Hierarchy

Child Positivity and Negativity. There were no significant correlations between either factor from the CACS and either SDO, or RWA.

Summary. The lack of significant relationships between SDO and RWA with the child-positivity and child-negativity factors provides discriminant validity for the CACS as a measure of attitudes towards children, and not just a scale of outgroup prejudice; with children as the target outgroup. This is probably because children are conceptualized as ingroup children, or an encompassing children-in-general concept while completing the CACS. These findings help to convey the idea that there is something special about children in group dynamics: that not only can they be thought of as belonging to one's ingroup, as well as an outgroup in their own right, with their own set of attitude content; but that oneself (at some point in the past) was included as an ingroup member of childhood – and this same group membership applies to everyone. This last conceptualization may explain the significant correlations between the CACS and the broader humanity beliefs scales, HSE and Polarity scale which assess beliefs about self *and* others with a whole-humanity-focus, but not RWA or SDO which assess beliefs about differences *between* self and others, even when the dimensions of the Polarity scale are significantly associated with RWA and SDO (Walter & Stone, 1997). Children may act as the universal equalizer in intergroup attitudes, thus children could be used as a reclassifying tool to create inclusiveness between groups and reduce intergroup conflict (Dovidio, Gaertner, & Validzic, 1998; Wohl & Branscombe, 2005) while keeping existing beliefs about humanity in general intact.

Emotion Scales

Child positivity. Endorsement of positive child attitude components was greater in individuals that experience emotions more intensely, r=.19, p<.05. Mean scores on the child-positivity items were also positively correlated with scores on reappraisal items from the ERQ, r=.20, p<.05, such that individuals showing greater endorsement of the child-positivity items were more effective at reappraising their emotions to be more positive.

Child negativity. Participants who scored higher on the surprise subscale of the PANAS-X, r= -.18, p<.05, were more likely to report endorsement of the negative components of child attitudes. There were no other significant correlations with endorsement of the negative child attitude components.

Summary. Overall, there were few significant correlations with the emotion scales (AIM, ERQ, PANAS-X, AEQ). Given that over a third of the items on the CACS were emotion components, the correlations with affect intensity and emotion reappraisal may not be surprising. However, it is interesting that none of the other emotion measures were related to child attitude content, and there was only small and unexpected significant correlation with the child negativity items. On balance, it appears that high endorsers of child-positivity are individuals who frequently experience a high degree of positive affect. However, the lack of a relationship to the general positive affect dimension of PANAS-X (both reported below), and the small effect sizes, suggests otherwise. Further, the lack of a negative correlation between child negativity items and reappraisal scores on the ERQ suggest that endorsement of components of attitudes towards children is not simply a function of positive and negative affect towards the group, but also dependent on belief and behaviour components as well.

Attachment

Child Positivity. There were no significant correlations between endorsement of child-positive items on CACS and the attachment styles (MAQ) or attachment to parental figures (ECR-RS)

Child Negativity. Participants who had higher endorsement of child-negativity items showed greater avoidance towards a father figure on the ECR-RS; r=.19, p<.05.

Summary. These results are suggestive that at least some of the endorsement of child-negativity is the result of experience with father figures, where perhaps negative attitudes towards children conveyed by a father figure are adopted somewhat into the child's conception of children, when the nature of that father-child relationship is an avoidant one; however, the effect size was small.

Ancillary Measures: Budget Allocation Task

Child positivity and Child negativity. There were no significant correlations between money donated to children's charities and either the Child-positivity or Child-negativity factors of the CACS

Summary. Only small correlations were expected between child-positivity and monetary investment in the child based charities. However, there was no way to assess favourability towards children versus other groups that were represented in the Budget Allocation Task (which also included charities for animals, the aged, women, mental health problem sufferers, and tragedy relief) beyond the preference for investing in their charities using the measure itself, which make the lack of correlations difficult to interpret, as participant preference for the other target groups over children could have stifled any connection between child-positivity and child charity donation. Furthermore, the budget allocation task required participants divide

£100,000 between charities without donating the same amount of money more than once. This task proved difficult for many participants, 42% of participants failed to perform it correctly, and the problem of getting the budget to balance may have detracted from the intended use of this measure.

Personal Need for Structure

Child positivity and Child negativity. There were no significant correlations between either child-positivity, or child-negativity items and scores on the Personal Need for Structure scale (*p*s > .05).

Summary. The lack of correlations of either CACS factor with PNS was somewhat surprising given past research findings on the relationship between PNS and stereotype endorsement, given that highly endorsed components of attitudes towards children must reflect, to some degree, child stereotyping (Moskowitz, 1993; Neuberg & Newsom, 1993; Schaller et al., 1995). This result might be explained by the number of items that comprise the child-positivity and child-negativity scales: 20 and 8, respectively. Specifically, stereotypes based on so many items might be too numerous for the simplicity preferred by high NFS participants, whose stereotypic conceptions of children might be better represented to them in fewer dimensions (Schaller et al, 1995). Meanwhile, for participants low on NFS, children are too variable a social category to be represented as always possessing the traits, eliciting the emotions from interactions, and causing as narrow a range of behaviours towards them, as can be accounted for by the CACS. Another possibility is that – because the CACS was formed from the most consensual emotions, beliefs, and behaviours, listed in an open-ended paradigm – the stereotype content is likely widely disseminated knowledge available to all, regardless of actual endorsement of individual items. Therefore, the content is independent of participants' personal structuring or

formation, and can be rated item by item, rather than by comparing against ones' structured conceptions (as a whole) of children, explaining the non-relationship to PNS. That is, a person with high PNS, and so a simpler concept of children might prefer to use only few stereotypical aspects, rather than many, and so not endorse all the statements included on either the child-positive or child-negative dimensions.

Previous studies of PNS and stereotyping also differed from answering the CACS, by having provided a specific individual or (smaller) group of individuals as targets to be rated based on presented information about the individuals/groups recent difficulty with class electives (Neuberg & Newsome, 1993) or ability at solving anagrams (Schaller et al., 1995) about whom participants can form their own impressions, rather than being given a group category and asked to endorse stereotype content. The differences in previous PNS and stereotyping studies, and the present one, in allowing participants to form their own stereotypes based on given attitudinal component information, rather than endorsement of items based on wider disseminated emotions, beliefs and behaviours without specific information likely accounts for the difference.

Nomological Measures

HEXACO-PI-R

Child positivity. Participants who scored higher on child positivity scored higher on trait emotionality from the HEXACO-PI-R, r=.20, p<.05. However, analysis of the subscales of the Emotionality dimension reveal that this relationship is underpinned by a significant positive correlation between child-positivity items and the fearful subscale, r=.23, p<.01 (not listed), with higher endorsement of child-positivity items associated with more fearful individuals; and no significant correlations to the other subscales of the Emotionality dimension.

Child negativity. Higher scores on child-negativity items were associated with lower scores on two subscales from the HEXACO inventory: sociability and prudence, r= -.18 and r= -.19 respectively, both ps<.05; not shown.

Summary. Lower sociability scores helps to explain higher endorsement of child-negativity items such as "*Children make me feel frustrated, …angry,…annoyed; Children are noisy"*" but with small effect sizes, and the lack of a relationship to HES, there is more to the picture of endorsing the negative content of attitudes towards children than a preference to avoid people in general. Similarly, the relationship of trait emotionality to child-positivity endorsement reflects a relationship to the fearful subscale, which suggests that endorsement of child-positive attitude components is not simply a result of greater general positive affect states, albeit, greater child-positive endorsers are more emotional and feel emotions more intensely (see above).

Self-Esteem

Child positivity and Child negativity. There were no significant correlations between either factor of the CACS and Self-Esteem on the RSE, all ps > .05.

Summary. Although the group "children" is a group to which we are all ex-ingroup members, these results suggest that it was not their own childhood participants imagined while providing their ratings to the CACS, as past research has found that when attitude objects are associated with the self, self-esteem affects ratings of the target in a congruent manner (Greenwald & Banaji, 1995). This may weaken the argument above that children are a supra-inclusive group, however it should be possible to simultaneously conceptualize children as a humanity-synonymous group, and as an outgroup which one no longer belongs to or associates with when considering the current self. This adds to our confidence that the CACS is a measure of stereotypes of "the general child".

Individual Components

Inter-correlations of the individual emotion, belief, and behaviour attitude components, separated by valence, to the other measures was also explored. Positive child emotions were significantly positively correlated with the Affect Intensity Measure, r= .19, p<.05, emotional reappraisal items of the AEQ, r=.21, p<.05, and the ambivalence merger subscale of the MAQ, r= .19, p<.05. Positive behaviour components were positively associated with the AIM, r= .19 p<.05, the reappraisal items of AEQ, r= .21 p<.05, the Fear and Sincerity subscales of the HEXACO-PI-R, rs= .19, ps<.05, and the Humanity Esteem Scale, r= .19 p<.05. Positive behaviour items were also negatively associated with Normative scores from the Polarity Scale, r= -.18 p<.05. Positive beliefs about children were positively associated with the Fear, r= .26 p<.01 and Emotionality, r= .22 p<.05 subscales of the HEXACO-PI-R. Positive beliefs were negatively associated with the Fairness subscale of HEXACO-PI-R, r= -.18 p<.05, and Normatism scores on the Polarity scale, r= -.20 p<.05.

The negative child emotion components were associated with greater father avoidance, r= .21 p<.05. The negative beliefs about children were negatively associated with the Surprise subscale of the PANAS-X, r= -.20 p<.05

General Discussion

The findings of this experiment provide good convergent and discriminant validity to the Child Attitude Component Scale. Endorsement of the subscales of the CACS is mostly unrelated to personality types as measured by the HEXACO. Child-positivity items are weakly related to trait emotionality, which reflects a tendency for high child-positivity endorsers to feel emotions more intensely and reappraise their emotions to be more positive. Child-negativity items are weakly negatively correlated with the sociability subscale of the HEXACO which highlights a general preference to

avoid people in general, but cannot fully account for the negativity towards children. Taken together it might seem that endorsement of child-positivity is for people who feel a lot of positive emotion, and endorsement of child-negativity is for people who like to avoid others in general, however, the correlations were weak only, and a lack of relationship to the general positive affect states of the PANAS for positivity endorsers suggests that endorsement of the attitude components is not simply a measure of general positivity or negativity.

Normative ideologies about humanity (that humans are essentially flawed, Stone & Schaffer, 1988) account for some of the variance in scores on the CACS, with positivity endorsers having a more positive outlook on humanity as a whole, and negativity endorsers taking a more normative view of humanity in general. However there is something particular about children as a subgroup of humanity that allows positivity vs. negativity endorsement to be associated with Humanity Esteem, but not Self-Esteem, and the extent to which one holds Normative views about humanity, but unrelated to Right-Wing Authoritarianism, and Social Dominance Orientation. This duality between the relation of child attitude endorsement to beliefs about Humanity in general, but not beliefs about the hierarchies that subdivide humanity indicates children as a special group that is both representative of humanity as a whole, as well as a group that does not threaten the status quo. Further research is needed to determine whether the non-relation to RWA and SDO is because children lack group mobility or because they are simultaneously conceptualized as related to humanity as a whole and to one's own ingroup.

Chapter 6 General Discussion

Aims

The purpose of this thesis has been to explore adults' mental representations of children, and the effect on adult social cognition and behaviour. Though child development is its own sub-discipline of psychology, relatively little attention has been paid to what a child represents to adults, and the effects that child salience may have on adults' behaviour, motivations, goals, perceptions and decision making. Given the evolutionary importance of motivations to nurture children (e.g., Buss, 1996), the explicit positivity of attitudes towards children (Maio et al., 2009), and the importance of children to parents and society in general the lack of investigation in this area is somewhat surprising. The reason for this may be, in part, (seemingly) global assumptions about the universality of representations and importance of children (Heywood, 2001). Nonetheless, an understanding of the way in which adults think about children may help much needed acknowledgment of the failures of society to adequately protect the welfare of children (Gilbert et al., 2009), or adequately acknowledge their human rights, (Reading et al., 2009).

I hope that the Child Attitude Component Scale developed in Chapters 4 and 5 of this thesis will prove a useful tool in the exploration of individual differences in our representations of children, and the implications these differences may have on adult social cognition and behaviour.

Discussion of Findings

At the beginning of my Ph.D., I focused primarily on investigation potential beneficial effects of making children salient on reducing intergroup prejudice (Chapter 2) and affecting perceptions of individuals (Chapter 3), with mixed results. Based on past research on social categorization theory (Turner et al., 1987) and the common ingroup identity model (Gaertner & Dovidio, 2002), I had hoped that making

children salient as members of outgroups to which people tend to have prejudiced attitudes would help to reduce perceptions of intergroup differences and improve attitudes towards the prejudiced group. Unfortunately, the manipulation failed to lead to the inclusion of children in representations of the outgroup, and so whether or not children are able to exert a prejudice reducing effect on inter-group attitudes via the mechanisms discussed in Chapter 2 remains unclear, but would certainly continue to be an interesting avenue of investigation for the social benefits of prejudice reduction.

The focus of Chapter 3 was again interested in understanding the effects of child salience, this time on perception of individuals. Unfortunately the picture was quite complicated. Mere child salience was not sufficient in itself to lead to changes in perceptions of ambiguous targets, although this was likely due in part to limitations of the Donald paradigm for exploring targets across age ranges due to the distinct set of behaviours we associate with different stages of life. Nonetheless, there were some promising interaction effects of child salience with implicit evaluations of groups and perceptions of the target. Specifically, effects on perceptions of warmth and competence hint at the possibility that child salience, if manipulation could be improved, might lead to larger important social effects the way we perceive others, and might be applicable to group dynamics as well. Interestingly, the findings of Chapter 3 shed new light on assimilation and contrast effects of primed categories interacting not just with implicit evaluations (Lepore & Brown, 1977) on judgments of novel targets, also being moderated by other perceptions of targets that are not influenced by the primed category. Future research on the effects of primed information on perceptions of novel targets, in conjunction with implicit evaluations, should also focus on the possibility of participant generated assumptions to counteract or reinforce the expected direction of assimilation and contrast effects.

Having obtained fixed and complicated effects in Chapters 2 and 3, I sought to use the remaining time of my Ph.D to investigate adult mental representations more thoroughly without the a priori assumptions with which I based the hypotheses of my earlier research. This led to a fruitful avenue of investigation that has helped to define exactly what we mean by "a child" (and a baby, a toddler, and a teenager). Chapters 4 focused on understanding the components of adults' mental representations of different childhood age groups and found that within each group the representations span a wide range of both positive and negative emotions, behaviours and beliefs towards children, in line with past research that attitudes towards children are at least somewhat positive *and* negative (Maio et al., 2009). Furthermore, Chapter 4 has highlighted the specific differences in representations of different age groups of children, which will have important implications on the way adults interact and regard children at different stages of development.

Chapter 5 highlighted that the Child Attitude Component Scale developed from the open-ended responses to representations of children likely has explanatory power independent of scales that might reasonably be expected to measure similar constructs. Future research should look to examine how individual differences on the Child Attitude Component Scale might predict differences in attitudes, behaviours and perceptions of children and related issues such as support for child rights legislation.

Limitations

Chapter 2 confirmed assumptions that children are not readily included as outgroup members, but failed to find evidence that including children in outgroup representations can adjust attitudes towards the group as a whole. Past research has found evidence that attitudes towards children, at least on implicit measures, tend to be more negative towards children (Maio et al., 2009) and that child salience can increase the importance of self-transcendent values (Maio et al., 2012). Given these findings, it seems unlikely that explicit inclusions of children into outgroup representations when they may not be spontaneously included should have no effect on attitudes towards the group as a whole. Unfortunately, my manipulation seemed to have failed to properly induce the inclusion of children in the outgroup concept, or confounds of outgroup selection lessened the potential influence that child inclusion may have in that scenario. Future studies into the effects of child inclusion on intergroup dynamics may benefit from starting not with the spontaneous effects of child inclusion, but with a more heavy-handed approach that asks participants to provide attitudes towards an outgroup explicitly comprising children and adults.

The words used as the auditory prime in Experiments 3 and 4 raise a couple of potential issues: First, the valence of the primes between the adult and child conditions was not well controlled, with "naïve," used in the child prime, being more negative in connotation than "mature", which was included in the adult prime condition. The valence of the primes should have been more closely matched and kept neutral, with just categorical labels for each group. However, the second potential issue with the prime words used for Experiments 3 and 4 was that the categorical labels used were not pre-tested for representativeness of the category label. Based on the age boundary labelling from Experiment 6, "child" was a safe

choice of category label, "kid" was a more obscure label for the age group, being listed twice, whereas "boy" and "girl" were not given as labels at all, unsurprisingly, as the task requested participants provide labels to the age group as a whole. Thus, "girl" and "boy" were perhaps inadequate priming material, although they made it easier to match primes across conditions with the inclusion of "man" and "woman" in the adult prime condition. Arguably, "kid" was also inadequate as a word for priming the category of children; only given as a label twice. However, there would be few other options to use as category labels, as the overwhelming majority of participants referred to this age group as children, and "kid" being among the most common alternative labels for this group alongside "preschool", "junior", and "school child." Nonetheless, these would be more suitable words to use when interested in priming the category in future.

Experiment 4 found supporting evidence that children are seen as warmer, but less competent than adults (Saminaden et al., 2010). Arguably, measures of warmth and competence might not mean the same thing when used in the context of different age groups. For example, a child may be seen as competent unless explicitly compared with adults. However, participants were asked to rate the warmth and competence of children generally, rather than a particular instantiation of a child, and so engaged in the same comparison to an extrinsic, normative standard of warmth and competence as would be expected of any group being rated. I believe this to be the default judgement when asked to rate the competence and warmth of children, and that only in the case of some external standard by which we typically measure child competence (e.g., reading level) would participants engage in competence judgements to something other than a normative definition of competence. To ascertain for certain whether this is the case, differences in child vs. adult warmth and competence

could be measured between subjects. The differences and overall mean ratings on these measures may be comparable to those reported when participants are asked about adult and child warmth and competence within-subject. I would expect ratings of warmth and competence of the general child when rated in isolation to be similar to the same ratings provided in the context of also rating adult competence and warmth. In the case of these experiments it was the relative differences between children and adults' warmth and competence that were of interest.

One aspect of our representations of children that remains relatively unexplored is the situational variability in representations that may arise depending on relational aspects of the child concept. That is, although the CACS appears to provide a measure of one's attitudes towards children in general, endorsement of items of the CACS may vary when applying it to a particular child, or group of children. For instance, to the extent that a child in your family is salient in memory, endorsement of the protective and caring items may be stronger, relative to a distant other or outgroup child. Or perhaps the salience of a child (hopefully not one's own!) whose behaviour leaves much to be desired, would lead to greater endorsement of the disrespectful and noisy. In fact, varying the target of the CACS from general children to specific ones, for instance, British children vs. children seeking asylum, may be a way to predict whether including children in outgroup representations could have an affect on attitudes towards the group as a whole.

Different self-categorizations may also lead to relational variability in scores on the CACS. For example, to the extent that one self-categorizes as a teacher, neighbour to a noisy child, or a parent might lead to differences in scores on the CACS by virtue of the different roles, and the behaviours that accompany them, that these different self-categorizations impart on our interactions with children. The

positive and negative aspects of the CACS that are simultaneously endorsed to some degree emphasize the varied nature of the emotions, beliefs and behaviours we have towards children, and create a complex picture of representations of children, which are likely to vary depending on precisely which child we are interacting with. More work needs to be undertaken to elucidate how changing the nature of the relationship between adult and the child, or group of children, at the focus of the CACS may lead to variability in patterns of responding.

Future Directions

The Child Attitude Component Scale was designed primarily to understand the way in which we represent children in terms of our feelings, beliefs, and behaviour. The purpose of this information was to be a predictive tool for understanding the ways in which adult cognition and behaviour might be shaped in situations involving children; particularly where the needs of children may be overlooked. The validity of the scale therefore needs to be explored in a variety of settings to test the usefulness as a predictive implement in situations where the inclusion of children might be important. Such instances might include governmental ministries, policy bodies, and charitable organizations involved with welfare, healthcare, rights, and education of children; educational settings such as schools and extra-curricular activities; or to assess attitudes of persons directly involved with the care or education of children such as carers, teachers, and foster parents.

The Child Attitude Component Scale could also be used to explore how relational variability between adults and different children is represented. The endorsement of positive and negative components of our attitudes towards children may differ between the abstract child relative to a particular child, such as a family member, or pupil. This could have implications for the appropriateness of the CACS

to predict behaviours in different contexts, from support of child-related policies on the one hand, to implementation of different parenting or punitive styles on the other. Future research could investigate patterns of responding towards different children, be they familial or not, ingroup or foreign, cherished or stigmatized.

The natures of the multiple possible categorizations of the child as belonging to one's ingroup, to an age-defined outgroup, or a supra-inclusive humanity related group merits further exploration. When considering different age groups of children are the age subcategories representations of one's ingroup, and subject to the same ingroup favouritism biases; or are the different age groups representative of an outgroup in the context of intergroup perceptions? My suspicion is that both representations are true: different age groups can be articulated both in terms of special selection of ingroup members and distinct outgroup members. In fact, readiness to represent different age groups in terms of ingroup membership relative to outgroup membership may be inversely proportional to the age of the target. That is, due to evolutionary pressures to protect our vulnerable young, babies may be more easily represented as ingroup members, while teenagers seem altogether more foreign to adults in terms of their intergroup interactions. The trend for the emotions, behaviours and beliefs gathered in Experiment 7, and their endorsement in Experiment 8, seem to corroborate this idea, with a reduction in the number of positive items, but an increase in the number of negative items, associated with the age groups as they get older. Furthermore, for teenagers, there are more items that stress efforts to improve relations with this age group than are found for the younger age groups. Under what conditions do our conceptions of children move fluidly between these representations of ingroup vs. outgroup members, and what are the implications for psychological distance in intergroup dynamics?

Understanding our attitudes and representations of children might be most important in settings involving vulnerable or marginalised children. It would therefore be useful to investigate how atypical children are represented. For example, understanding the ways in which representations differ for disabled children, children with behavioural disorders, or children with histories of abuse could help design methods of attitude change towards stigmatized groups. They could also be used to better understand how care for particular groups of children is different, to better protect vulnerable children, and to better support adults involved in caring for these groups.

As other researchers have stressed (e.g., James & Prout, 1997; Jenks, 2005; Mills and Mills, 2000), cultural biases and assumptions about the universality of representations of children are deeply engrained in public and scholarly discourse. It is important to investigate representations of children with reference to the particular cultural and social context which the child inhabits. It would be fruitful, therefore, to explore the differences and similarities in representations of children cross-culturally.

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Appendix I

Inter-correlation matrix for the convergent and discriminant validity of the Child Attitude Component Scale with other measures

	Child Positive	Child Negative	Affect intensity measure simplified	Ambivalence of emotional expression AEQ	ERQ: Reappraisal Items	ERQ: Suppression Items	NFAQ	MAQ: Security	MAQ: Avoidance	MAQ: Ambivalence-worry	MAQ: Ambivalence-merger	RSE	M-C formC	HEXHonestyHumility	HEXEmotionality	HEXExtraversion	HEXAgreeableness	HEXConscientious	HEXOpenExp	PositiveAffect	NegativeAffect	SDO	RWA	SWLS	HumanityEsteem	Humanism	Normatism	Polarity Scale: Both	motherAvoid	motherAnxiety	fatheravoid	fatherAnxiety	PNFS	ChPosEmo	ChPosBeh	ChPosBel	ChNegEmo	ChNegBel
ChildPositive	1	-.256**	.192*	.117	.204*	-.005	.089	-.036	.059	.072	.092	-.076	.069	.073	.198*	.016	-.016	.008	-.025	-.022	.086	-.025	.094	-.044	.208*	.075	-.189*	-.007	.133	.028	-.042	-.009	-.020	.839**	.932**	.820**	-.338**	.112
ChildNegative	-.256**	1	-.057	-.177	-.063	.089	-.091	-.017	.110	-.067	-.007	.017	-.020	-.130	-.033	-.054	-.062	-.152	-.019	-.033	-.135	-.048	-.091	.093	-.022	-.077	.189*	-.063	-.168	-.086	.193*	-.105	-.035	-.141	-.295**	-.185**	.949**	.551**
Affect intensity measure simplified	.192*	-.057	1	.035	.326**	-.264**	.208*	.181	-.262**	.216*	-.043	.020	.065	-.072	.398**	.336**	-.052	-.118	.156	.214*	.039	.031	.152	.191*	.203*	.258**	-.088	-.137	-.142	-.021	-.257**	-.052	-.100	.188*	.188*	.122	-.035	-.081
ambivalence of emotional expression AEQ	.117	-.177	.035	1	.081	.508**	-.121	-.137	.436**	.336**	.453**	-.390**	-.033	.147	.216*	-.281**	.233*	-.064	.110	-.036	.254**	-.035	-.064	-.170	.001	.181	-.247**	.079	.130	.062	.152	.087	.094	.143	.129	.030	-.158	-.120
ERQ: Reappraisal Items	.204*	-.063	.326**	.081	1	-.072	.197*	.182*	.046	-.102	-.162	.335**	.224*	-.058	-.120	.407**	.165	-.018	.145	.512**	-.254**	.015	.013	.294**	.315**	.032	-.139	.072	.010	-.044	-.193*	-.099	-.185*	.214*	.205*	.110	-.073	.001
ERQ: Suppression Items	-.005	.089	-.264**	.508**	-.072	1	-.592**	-.326**	.511**	.135	.289**	-.411**	.037	.172	-.157	-.426**	.101	-.112	.022	-.232*	.169	-.051	-.076	-.306**	-.205*	-.070	.019	.081	.298**	.168	.401**	.176	.055	.102	.010	-.111	.081	.058
NFAQ	.089	-.091	.208*	-.121	.197*	-.592**	1	.362**	-.452**	-.169	-.145	.317**	-.045	-.061	.218*	.377**	.018	.013	.027	.219*	-.218*	.013	.128	.367**	.206*	.235**	-.247**	-.062	-.194*	-.155	-.428**	-.143	-.122	.040	.043	.161	-.116	.027
MAQ: Security	-.036	-.017	.181	-.137	.182*	-.326**	.362**	1	-.447**	.042	.014	.057	-.078	-.212*	.056	.195*	-.002	-.013	.071	.116	.028	-.087	.036	.101	.128	.096	.015	-.063	-.049	-.034	-.232*	-.122	.031	.017	-.001	-.116	-.013	-.016
MAQ: Avoidance	.059	.110	-.262**	.436**	.046	.511**	-.452**	-.447**	1	.102	.303**	-.287**	.058	.182*	-.243**	-.438**	.183	-.045	.049	-.082	.171	-.041	-.213*	-.268**	-.151	-.030	-.081	.031	.113	.084	.228*	.131	.061	.054	.093	-.011	.104	.062
MAQ: Ambivalence-worry	.072	-.067	.216*	.336**	-.102	.135	-.169	.042	.102	1	.481**	-.433**	-.191*	-.102	.298**	-.320**	-.161	-.204*	-.154	-.218*	.390**	.098	.057	-.343**	-.113	.128	.028	-.150	.174	.125	.092	.077	.065	.103	.063	.031	-.104	.072
MAQ: Ambivalence-merger	.092	-.007	-.043	.453**	-.162	.289**	-.145	.014	.303**	.481**	1	-.475**	-.273**	-.091	.146	-.454**	-.083	-.169	-.060	-.247**	.379**	.065	-.081	-.397**	-.133	.084	-.091	-.016	.173	.212*	.166	.164	.068	.189*	.047	.045	-.058	.131
RSE	-.076	.017	.020	-.390**	.335**	-.411**	.317**	.057	-.287**	-.433**	-.475**	1	.110	-.159	-.296**	.730**	-.012	.148	.036	.547**	-.520**	.084	.112	.640**	.361**	-.141	.015	.168	-.213*	-.208*	-.303**	-.199*	-.001	-.030	-.084	-.072	.026	-.017
MCformC	.069	-.020	.065	-.033	.224*	.037	-.045	-.078	.058	-.191*	-.273**	.110	1	.474**	-.018	.201*	.453**	.333**	.113	.244**	-.237*	-.146	-.148	.136	.204*	.241**	.054	-.199*	-.231*	-.261**	-.225*	-.163	-.062	.023	.150	-.043	-.013	-.025
HEXHonestyHumility	.073	-.130	-.072	.147	-.058	.172	-.061	-.212*	.182*	-.102	-.091	-.159	.474**	1	.171	-.097	.360**	.261**	.010	-.061	-.026	-.266**	-.182*	-.004	.019	.113	-.072	-.008	-.078	-.168	-.079	-.175	.070	.083	.147	-.074	-.088	-.165
HEXEmotionality	.198*	-.033	.398**	.216*	-.120	-.157	.218*	.056	-.243**	.298**	.146	-.296**	-.018	.171	1	-.130	-.008	-.009	-.183*	-.280**	.260**	-.087	.093	-.087	-.079	.208*	-.123	-.149	-.029	-.005	-.029	-.131	.200*	.162	.152	.216*	-.042	.009
HEXExtraversion	.016	-.054	.336**	-.281**	.407**	-.426**	.377**	.195*	-.438**	-.320**	-.454**	.730**	.201*	-.097	-.130	1	.031	.060	.094	.600**	-.377**	.117	.145	.582**	.398**	.046	-.022	.030	-.234*	-.249**	-.381**	-.189*	-.054	.075	-.015	.010	-.037	-.065
HEXAgreeableness	-.016	-.062	-.052	.233*	.165	.101	.018	-.002	.183	-.161	-.083	-.012	.453**	.360**	-.008	.031	1	.077	.242**	.033	-.188*	-.164	-.220*	.114	.162	.193*	-.069	-.087	-.116	-.138	-.194*	-.078	-.189*	-.070	.038	-.046	-.041	-.084
HEXConscientious	.008	-.152	-.118	-.064	-.018	-.112	.013	-.013	-.045	-.204*	-.169	.148	.333**	.261**	-.009	.060	.077	1	.050	.173	-.127	-.031	.056	.184*	.272**	.036	.029	-.028	-.034	-.108	-.128	-.059	.558**	-.031	.051	-.027	-.133	-.115
HEXOpenExp	-.025	-.019	.156	.110	.145	.022	.027	.071	.049	-.154	-.060	.036	.113	.010	-.183*	.094	.242**	.050	1	.271**	.022	-.277**	-.326**	.127	.108	.232*	-.370**	.073	.043	-.026	-.149	-.106	-.254**	-.031	-.012	-.029	.015	-.100
PositiveAffect	-.022	-.033	.214*	-.036	.512**	-.232*	.219*	.116	-.082	-.218*	-.247**	.547**	.244**	-.061	-.280**	.600**	.033	.173	.271**	1	-.236**	.049	.106	.467**	.408**	.121	-.072	-.046	-.186*	-.201*	-.320**	-.074	-.178	.014	-.033	-.026	.003	-.108
NegativeAffect	.086	-.135	.039	.254**	-.254**	.169	-.218*	.028	.171	.390**	.379**	-.520**	-.237*	-.026	.260**	-.377**	-.188*	-.127	.022	-.236**	1	-.074	-.012	-.447**	-.301**	-.020	.132	-.050	.151	.164	.206*	.096	.090	.097	.071	.064	-.110	-.117
SDO	-.025	-.048	.031	-.035	.015	-.051	.013	-.087	-.041	.098	.065	.084	-.146	-.266**	-.087	.117	-.164	-.031	-.277**	.049	-.074	1	.448**	.017	.017	-.291**	.201*	-.077	-.099	-.021	-.076	.101	.131	-.016	-.017	-.033	-.044	-.032
RWA	.094	-.091	.152	-.064	.013	-.076	.128	.036	-.213*	.057	-.081	.112	-.148	-.182*	.093	.145	-.220*	.056	-.326**	.106	-.012	.448**	1	.207*	.065	-.153	.254**	-.003	-.028	.179	-.238*	.036	.218*	.109	.055	.102	-.118	.033
SWLS	-.044	.093	.191*	-.170	.294**	-.306**	.367**	.101	-.268**	-.343**	-.397**	.640**	.136	-.004	-.087	.582**	.114	.184*	.127	.467**	-.447**	.017	.207*	1	.362**	.070	-.023	.087	-.295**	-.313**	-.250**	-.154	-.009	-.005	-.120	.055	.084	.063
HumanityEsteem	.208*	-.022	.203*	.001	.315**	-.205*	.206*	.128	-.151	-.113	-.133	.361**	.204*	.019	-.079	.398**	.162	.272**	.108	.408**	-.301**	.017	.065	.362**	1	.172	-.184*	-.051	-.056	-.210*	-.317**	-.258**	.096	.173	.190*	.177	.005	-.081
Humanism	.075	-.077	.258**	.181	.032	-.070	.235**	.096	-.030	.128	.084	-.141	.241**	.113	.208*	.046	.193*	.036	.232*	.121	-.020	-.291**	-.153	.070	.172	1	-.118	-.492**	-.071	-.178	-.048	-.059	-.139	.086	.071	.040	-.076	-.035
Normatism	-.189*	.189*	-.088	-.247**	-.139	.019	-.247**	.015	-.081	.028	-.091	.015	.054	-.072	-.123	-.022	-.069	.029	-.370**	-.072	.132	.201*	.254**	-.023	-.184*	-.118	1	-.322**	-.110	-.011	.067	.061	.108	-.098	-.182*	-.195*	.155	.168
Polarity: Both	-.007	-.063	-.137	.079	.072	.081	-.062	-.063	.031	-.150	-.016	.168	-.199*	-.008	-.149	.030	-.087	-.028	.073	-.046	-.050	-.077	-.003	.087	-.051	-.492**	-.322**	1	.194*	.200*	-.019	-.081	.057	.012	-.043	.032	-.078	.016
motherAvoid	.133	-.168	-.142	.130	.010	.298**	-.194*	-.049	.113	.174	.173	-.213*	-.231*	-.078	-.029	-.234*	-.116	-.034	.043	-.186*	.151	-.099	-.028	-.295**	-.056	-.071	-.110	.194*	1	.556**	.314**	.199*	.106	.134	.118	.101	-.157	-.095
motherAnxiety	.028	-.086	-.021	.062	-.044	.168	-.155	-.034	.084	.125	.212*	-.208*	-.261**	-.168	-.005	-.249**	-.138	-.108	-.026	-.201*	.164	-.021	.179	-.313**	-.210*	-.178	-.011	.200*	.556**	1	.020	.445**	.058	.062	.059	-.058	-.103	.010
fatheravoid	-.042	.193*	-.257**	.152	-.193*	.401**	-.428**	-.232*	.228*	.092	.166	-.303**	-.225*	-.079	-.029	-.381**	-.194*	-.128	-.149	-.320**	.206*	-.076	-.238*	-.250**	-.317**	-.048	.067	-.019	.314**	.020	1	.408**	.063	-.015	-.105	.047	.212*	.026
fatherAnxiety	-.009	-.105	-.052	.087	-.099	.176	-.143	-.122	.131	.077	.164	-.199*	-.163	-.175	-.131	-.189*	-.078	-.059	-.106	-.074	.096	.101	.036	-.154	-.258**	-.059	.061	-.081	.199*	.445**	.408**	1	-.085	-.029	-.015	.019	-.077	-.118
PNFS	-.020	-.035	-.100	.094	-.185*	.055	-.122	.031	.061	.065	.068	-.001	-.062	.070	.200*	-.054	-.189*	.558**	-.254**	-.178	.090	.131	.218*	-.009	.096	-.139	.108	.057	.106	.058	.063	-.085	1	.056	-.023	-.068	-.019	-.055
ChPosEmo	.839**	-.141	.188*	.143	.214*	.102	.040	.017	.054	.103	.189*	-.030	.023	.083	.162	.075	-.070	-.031	-.031	.014	.097	-.016	.109	-.005	.173	.086	-.098	.012	.134	.062	-.015	-.029	.056	1	.721**	.544**	-.196*	.089
ChPosBeh	.932**	-.295**	.188*	.129	.205*	.010	.043	-.001	.093	.063	.047	-.084	.150	.147	.152	-.015	.038	.051	-.012	-.033	.071	-.017	.055	-.120	.190*	.071	-.182*	-.043	.118	.059	-.105	-.015	-.023	.721**	1	.620**	-.350**	.023
ChPosBel	.820**	-.185*	.122	.030	.110	-.111	.161	-.116	-.011	.031	.045	-.072	-.043	-.074	.216*	.010	-.046	-.027	-.029	-.026	.064	-.033	.102	.055	.177	.040	-.195*	.032	.101	-.058	.047	.019	-.068	.544**	.620**	1	-.296**	.217*
ChNegEmo	-.338**	.949**	-.035	-.158	-.073	.081	-.116	-.013	.104	-.104	-.058	.026	-.013	-.088	-.042	-.037	-.041	-.133	.015	.003	-.110	-.044	-.118	.084	.005	-.076	.155	-.078	-.157	-.103	.212*	-.077	-.019	-.196*	-.350**	-.296**	1	.260**
ChNegBel	.112	.551**	-.081	-.120	.001	.058	.027	-.016	.062	.072	.131	-.017	-.025	-.165	.009	-.065	-.084	-.115	-.100	-.108	-.117	-.032	.033	.063	-.081	-.035	.168	.016	-.095	.010	.026	-.118	-.055	.089	.023	.217*	.260**	1