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Who will be nice and who will be nasty?

A cross-cultural investigation of children’s moral trait inferences

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A thesis submitted in fulfilment of the requirements for the degree of

Doctor of Philosophy

School of Psychology

Faculty of Science

The University of Sydney

2015
Abstract

Socio-moral traits such as nice and nasty are some of the earliest and most basic personality-related categories that children use to describe other people and to guide their social interactions (Mrug & Hoza, 2007; Peevers & Secord, 1973). The identification of others as genuinely nice or mean is an essential skill for children. Identifying these distinctions likely informs children’s social judgments and allegiances, whereas misperceiving a mean person as nice, for example, could lead one to be deceived, manipulated, and harmed (Gee & Heyman, 2007; Heyman & Legare, 2005).

Different from the large literature examining children’s moral trait inferences of other people on the basis of their consistent past moral actions, the four studies in this thesis examined how children aged 4 to 8 years and adults from China and Australia made moral trait inferences of other people who behaved inconsistently in the past. Specifically, in studies 1 and 2, the protagonists behaved inconsistently towards different child recipients in the past when no adults were present, either in a predominantly prosocial or antisocial way. Next, in study 3, the predominantly prosocial protagonists undertook their prosocial behaviours either in the presence of an authority figure (i.e., a female teacher) or in her absence. Finally, in study 4, participants were explicitly told that the protagonists’ prosocial behaviours were arising from self-presentational motives in the presence of the teacher, and were arising from altruistic motives in her absence. After each story, participants were asked to make trait judgments (study 1 to 4), motive attributions (study 3), and behaviour predictions (study 1 to 4) of the protagonist.

It was found that, first, when facing inconsistent behavioural information of other people, children younger than 8 years from both countries mainly based their trait judgments on the overt behavioural outcomes: the predominantly antisocial protagonists were negatively rated; and the predominantly prosocial protagonists were positively rated irrespective of the
contexts in which the prosocial behaviours were undertaken, or the motives that drove these prosocial behaviours. Young children, and especially the 4-year-olds, were also susceptible to a recency effect, such that their trait judgments were highly influenced by the outcome of the last exemplar, and the recency effect was not due to their memory deficits. Participants aged 8 years of age and older were less affected by the order of the inconsistent information, and they began to make use of the contextual and motive information to make trait judgments. In keeping with predicted cultural differences, 8-year-olds from China – a collectivist culture – began to spontaneously infer the protagonists’ self-presentational motives when their prosocial behaviours were only displayed in the presence of the teacher, and give negative evaluations to these protagonists. By contrast, 8-year-olds from Australia – an individulist culture – needed the additional provision of explicit motive information to engage in such negative evaluations.

Second, and in keeping with previous studies, children’s behaviour predictions were less influenced by the order of the inconsistent information than were their trait ratings. Except for the adults from Australia, participants tended to hold positive expectations of protagonists’ future behaviours. The 8-year-olds from China, similar to the adults from both countries, expected more positive future behaviours from the protagonists with altruistic motives than the protagonists with self-presentational motives when there was no self-presentational demand, whereas the 8-year-olds from Australia did not make such distinctions even when the motive information was explicitly provided.

In sum, the current studies showed age-related increase and cultural variations in children’s use of contextual and motive information in their moral trait inferences. Children from China were more alerted to the contextual and motive information than were children from Australia.
Acknowledgements

This thesis would not be accomplished without the help and support of many people. First of all, I would like to express my appreciations to the principals, teachers, and parents for their interest in and support for my research. I also like to thank the children who participated in my study and shared their thoughts with me.

I would like to thank my supervisor and mentor, Dr Marc de Rosnay, for his inspiring instructions and constant encouragement. It is worth travelling half way around the world from China to Australia to work with him. I would also like to thank my associate supervisor, A/Professor Pauline Howie for reading and providing feedback on my opening chapter even after her retirement; and thank my associate supervisor, Dr Yuankui Yang from Southeast University, China, for supporting my data collections in China.

Thanks to Annabel Marsh and Jie Zhao who assisted my data collections in Australia and China respectively. Thanks also to Annabel and Rebecca-Lee Kuhnert for their proofreading of my chapter 2 and 3. Thanks to my officemate, Betty Luu, who shares the progress and stress during the Ph.D journey. And thanks to many of my friends, who make me connected to the non-academic world.

Finally, my deepest appreciation goes to my family. Thanks to my parents and husband for their unconditional love and profound emotional support. They are always there and cheer me up. Thanks to my baby, who kindly did not bring severe discomfort in the first trimester of pregnancy, which makes it possible for me to complete the write-up.
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CHAPTER 1
INTRODUCTION AND LITERATURE REVIEW

Introduction and Overview of the Thesis

When people encounter and interact with each other, they begin an ongoing exchange of impressions. They constantly engage in two psychological processes, *person perception* and *self-presentation* (sometimes termed *impression management*). On one hand, people use multiple sources of information to form impressions of other people, during which they usually attribute certain traits to others and make various inferences of them on the basis of these trait attributions (Aronson, Wilson, & Akert, 2013). For example, people are likely to attribute the trait of *generosity* to Justin if they witnessed him acting in a charitable way. On the other hand, people are also concerned about what impressions they have made on other people. Indeed, most of the time, people modify their conduct in certain contexts, whether deliberately or unconsciously, in order to present themselves in a particular way, and with the purpose of influencing how they are perceived by others to achieve particular interpersonal goals (Baumeister, 1982; Leary & Kowalski, 1990): if Justin wants to be thought of as a generous person, he might inhibit an ungenerous tendency and behave more charitably when he is observed by other people than when he is unobserved (Reis & Gruzen, 1976).

Forming accurate impressions of other people makes our interaction with them more predictable, whereas strategic self-presentation can promote our reputation and create opportunities. There is a tension between the need to form accurate impressions of people and the motives we can assume underpin their need to present themselves in a positive manner: if we lack enough information of a person, it is challenging to form an accurate impression of them. Moreover, the fact that information about people’s motives is often opaque makes the task of distinguishing someone’s genuine motives or *true-self* from his or her presented-self even harder. For example, if we are unaware that Justin only exhibits charitable behaviour
when other people are watching, we may erroneously judge him to be generous and, furthermore, hold mistaken expectations about his future behaviour.

Adults are more aware than children that the presented-self may be at odds with underlying (or genuine) motives, and they do not always take behaviours at face value. Instead, adults may be suspicious about a person’s ulterior motives in some circumstances, and thereby actively seek out more information to disambiguate their suspicion, and make the final judgments on the basis of their motive inferences (e.g., Ham & Vonk, 2011). For example, if others see Justin exhibits charitable behaviour only when other people are watching, they may become suspicious that his charitable behaviour could be partially or purely driven by the self-serving self-presentational concerns. They may then keep track of Justin’s behaviours in other contexts to disambiguate their suspicion. If they find that Justin’s charitable behaviour occurs frequently and irrespective of context, they will be inclined to judge that his charitable behaviour is driven by altruistic motives; concluding he is generous. Alternatively, if they find that Justin’s charitable behaviour is only displayed ostentatiously, they will be more likely to suspect that his charitable behaviour is driven by self-presentational concerns and, accordingly, judge him as less generous, or even judge him negatively as manipulative or deceptive (i.e., discounting his generosity, Kelley, 1973).

To date, however, much less is known about children’s abilities to discern the role of self-presentational motives when judging others’ moral character; for example, deciding whether someone is genuinely nice or not. Arguably, the capacity to discern nice from nasty people is important for young children. Indeed, socio-moral traits such as nice and mean are among the earliest and most basic trait categories that children use to describe and classify people (Peevers & Secord, 1973): they understand these traits better, and rely on them to a greater extent, than the other internal-state trait terms (e.g., shy, brave) to guide their social interactions (Mrug & Hoza, 2007; Yuill, 1992a). Knowing who is genuinely nice and who is
genuinely mean enables children to know who should be trusted and who can be relied on for information, as well as who should be avoided. Furthermore, misperceiving someone as nice makes us vulnerable to deception, manipulation, and harm (Gee & Heyman, 2007; Heyman & Legare, 2005).

Relatively little is known about children’s sensitivity to self-presentational motives when making trait judgements because, first, the extant research tends to focus on how they make trait judgments on the basis of a single incident, or how they abstract stable and enduring moral traits from a person’s consistent past actions (i.e., the protagonist always behaved in a prosocial or always behaved in an antisocial way). Thus, children’s monitoring of people’s inconsistent actions when making moral trait attributions is relatively poorly understood. Second, the few studies that have used multiple exemplars of past behaviour have not manipulated the social contexts in which the inconsistent behaviours were displayed, which means the question of how children integrate context dependent information to make motive inferences (and inferences of self-presentational motives specifically) is relatively neglected. Finally, the current literature on children’s understanding of self-presentational motives has focused on either emotion expression or self-statements; relatively little is known about strategic use of prosocial acts to alter or manipulate the way one is perceived. This domain is highly relevant, however, for understanding the ways in which children evaluate others’ actions in a social context.

The current thesis, therefore, addresses the development of these aspects of children’s person understanding. Specifically, prior to any examination of the social context in which behaviours are observed, in chapters 2 and 3 I examine how children process inconsistent behaviour information when making moral trait attributions of protagonists (studies 1 and 2). In the second part of the thesis, chapters 4 and 5, children’s understanding of inconsistent moral actions is varied by social context; I ask how children keep track of people’s
behaviours across different social contexts (e.g., prosocial behaviours undertaken in the presence of an authority figure and antisocial behaviours undertaken in the absence of an authority figure), and how they use such contextually derived information to infer altruistic or ulterior motives when making moral trait attributions (study 3). In chapter 5, I also ask how children evaluate self-serving motives when they are provided explicitly (study 4), so as to examine their openness to such information when they do not need to figure it out themselves.

A further goal of the current thesis was to examine the cultural variations in children’s reasoning about moral trait attributions and behavioural expectancies. Cultural research suggests that people from an Eastern collectivist background such as China may be more receptive to self-presentational motives than people from Western individualist cultures. For example, it has been shown that children from China are relatively sceptical about self-statements as a reliable way to learn a person’s characteristics (Heyman, Fu, & Lee, 2007). Thus, the findings of Heyman, Fu, and Lee (2007) show that Chinese children are more aware of the possibility that people may deliberately provide distorted personal information to present a favourable self image (e.g., falsely claiming that they possess particular positive attributes) when compared to children from North America. It is therefore likely that children from China are also more likely than children from other Western countries to appreciate that people may deliberately undertake prosocial behaviours to present themselves in a favourable manner. To test this possibility, children and adults from China, a collectivist culture, and Australia, a Western individualist culture, were directly compared (studies 3 and 4).

In sum, the current thesis investigates developmental change in the integration of inconsistent and context dependent moral behaviours when making motive inferences and moral trait attributions. The studies presented here link separate but related research on children’s moral understanding, trait reasoning, and their understanding of the self-
presentational process, and they ask whether children’s changing insights are associated with their distinctive cultural experiences.

The thesis begins with a literature review (current chapter). The first section of the review provides a broad framework to position the current work in the existing literature: specifically, people’s folk understanding of others. In this section, it explains first, why people are fascinated by understanding other people in daily life. Second, how they engage in such understanding both in terms of people’s transient mental states (i.e., *Theory of Mind*) and in terms of their enduring and stable dispositions (i.e., *Theory of Personality*), as well as how such understanding change with age. Then, the review narrows down to two main precursors of children’s reasoning about other people’s prosocial behaviours that are driven by self-presentational motives: their trait inferences in the moral domain (i.e., to judge whether one person is nice or mean), and their understanding of the self-presentational process. These two sections are then followed by the discussion on the cultural variations in the processes of person perception and self-presentation. After a short summary of the literature review and an outline of the current studies, four studies are presented in detail from Chapter 2 to Chapter 5. Finally, the thesis ends with a summary of the current findings and a general discussion (Chapter 6).

**Folk Theories of Mind and Personality**

Humans have an intrinsic motive to understand others. Having a sense of why people think, feel, and behave in certain ways gives us more or less stable impressions from which we can reason about social acts; it allows us to predict, whether accurately or not, what others are likely to do in new situations, and to coordinate our own actions to facilitate social interactions. It is apparently to this end that we develop *folk theories*, or common sense knowledge, to effectively understand and engage in the social world from an early age.
Heider, 1958; Wellman, 1990). Whether such theories are scientifically valid or embody truths about the world is beyond the scope of this thesis (see Davies & Stone, 1995, for a discussion), but the fact remains that such conceptions make up an important part of our subjective and cultural framework for understanding others. Due to the importance of folk theories in our social navigation, how people acquire knowledge about others and how they use such knowledge to guide their own behaviours have always been important topics in the study of folk psychology and social causal reasoning (Heider, 1958; Ybarra, 2002). From a developmental perspective, how children develop the understanding of other people, and individual differences in the nature of such understanding, have also been of sustained interest (e.g., Flavell, 2004; Heyman, 2009).

Over the last few decades, most research on children’s understanding of other people has been conducted within the framework of children’s Theory of Mind (ToM) development. As an introduction to children’s folk understanding of other people, in the following section, I first briefly review the importance of ToM framework and children’s ToM development. I then point out two limitations of ToM in complex social inferences, and the necessity to incorporate children’s Theory of Personality (ToP) into the broad folk psychological understanding. I then describe the interconnectedness between ToM and ToP, the role of ToP in social interactions, and children’s ToP development.

**ToM Development and Its Limitations in Social Inferences**

ToM refers to our everyday understanding of other people’s underlying mental states (e.g., beliefs, desires, emotions), and the causal relationships between overt actions and these internal mental states (Wellman, Fang, & Peterson, 2011). For example, we usually adopt the practical syllogism that, “if somebody wants X, and believes that Y will achieve X, then, all else being equal, they will do Y” (Kalish & Shiverick, 2004). Hence, we reason that, Ann went to the fridge because she wanted some milk and she thought that the milk was in the
fridge, even if the milk was actually on the table. Thus, the nature of ToM understanding involves the awareness that people’s minds are subjective: different people may represent the same physical world in divergent, or even false ways (e.g., false belief), and such representations of the world will guide (and mislead) their behaviours.

Some precursors and components of ToM are manifest in infancy. For example, by 18 months of age, infants are able to infer people’s intentions and discern their desires under simple conditions, even when such desires conflict with their own preference (Meltzoff, 1995; Repacholi & Gopnik, 1997). Moreover, recent research shows that infants between 12 and 15 months already expect people to act on their expectations, even when their expectations do not match the true state of the world (Onishi & Baillargeon, 2005). Notwithstanding these impressive embodied capacities for behaviour prediction, children’s understanding of mind and emotion undergoes tremendous change over the preschool and early school years. That is to say, despite precocious awareness of intentionality and perspective, children’s capacities to reason about others in terms of mental attitudes – their folk psychological explanatory framework – becomes richer and more flexible between 2 and 7 years of age, and it is this change that is most commonly referred to as Theory of Mind development (Wellman & Liu, 2004)

Furthermore, this developmental change appears to happen in a largely predictable manner, so children grasp the multiple aspects of ToM understanding in a predictable sequence, even though the specific sequence is slightly different among different language/cultural groups (Wellman, Fang, Liu, Zhu, & Liu, 2006; Wellman et al., 2011; Wellman & Liu, 2004). For example, Western children first understand that people have diverse desires, followed by the progression of understanding diverse beliefs, knowledge-access, false belief, and hidden emotion. By contrast, for children from collectivist cultures,
such as China and Iran, the order of understanding diverse beliefs and knowledge-access is reversed in aforementioned sequence (Wellman, 2013).

Thus, as noted by Wellman and Liu (2004) and others (Pons, Harris, & de Rosnay, 2004), children’s conception of mind develops rapidly and become more sophisticated during the preschool and early school years. Ultimately, the ToM framework is argued to underpin our understanding of other people in the most fundamental sense: it structures our thinking about other people and enables us to explain and predict their actions in terms of transient mental states in relation to certain situations. Despite the fact that ToM captures some important aspects of our social understanding, it has been argued that the use of ToM in these terms is limited in two ways (Yuill, 1997a).

First, although we can use our ToM to realize that people may have diverse beliefs, different desires, and idiosyncratic motives, and predict that people’s actions will be caused by these diverse mental states, the ToM framework cannot be used to explain the existence of diversity in these mental states per se. For example, ToM cannot necessarily explain how it is that Mary came to be someone who is excited to see a new puppy, but Amy is upset when facing the same puppy: they may be different kinds of people. Second, while our ToM allows us to explain and predict the actions of others in terms of transient mental states in certain situations, it cannot be relied on solely to make predictions about people’s future actions across time and situations in the long term. For example, we might reason that Mary is excited when seeing a puppy because she likes the puppy, but we are less able to predict whether Mary will be excited again the next time she sees the same puppy or another puppy (i.e., Is Mary a dog-lover?). That is to say, certain kinds of information about people – dispositions, stable preferences, and traits – will necessarily influence the kinds of desires they have and beliefs they hold, and it may be that the links between dispositions (stable traits
and preferences) and actions are, in and of themselves, constitutive of mental states: to be shy is to act in certain ways, and is also likely associated with certain kinds of wishes and beliefs.

These examples suggest that the ToM framework must be infused with other sources of information when making complex social inferences, such as interpreting individual differences in behavioural and emotional responses to the same situation, as well as explaining and predicting others’ behaviours in the long term. In fact, in addition to interpreting each single behaviour instance in terms of transient mental states, people also make causal inferences of a series of related social events. According to Kelley’s (1973) classic attribution model, people draw on different patterns of available information to determine whether a given action is due to the situation or due to the actor. Furthermore, if the action is attributed to the actor, people further determine whether the action is a reflection of the actor’s temporary state or a reflection of the actor’s unique and long-lasting tendency to behave in certain ways (e.g., temperament or personality). Consequently, people are able to understand a person not only in terms of their fleeting mental states in one specific situation, but also in terms of their stable and enduring traits across time and situations. In addition to ToM, people also develop a so-called Theory of Personality (ToP), which increases interpretability and predictability in social interactions.

Arguably, ToP and ToM are two aspects of people’s folk psychology that are complementary and intricately connected to each other. First, trait inferences might develop from more fundamental ToM insights. For example, the use of trait terms to explain the existence of diverse beliefs (e.g., optimistic versus pessimistic) requires children to first appreciate that people have diverse beliefs about the world. In this sense, traits can be interpreted as crystallized mental states of persons, characterizing some of the relatively stable and enduring mental states that a person holds (Wellman, 1990). Indeed, Miller and Aloise (1989) have argued that conceptualizing people in terms of stable traits is the most
advanced knowledge one can have about the existence of, and differentiation of, mental states. Second, people need to take mental states into account when making mature trait attributions. For instance, the actor who deliberately causes damage is more reasonably to be judged as *naughty* or *mean*; whereas the actor who causes damage accidentally is more reasonably to be judged as *careless*.

Despite the fact that people use ToM insights to extract general inferences about others, ToP needs to be understood in its own right because it requires some capacities that are not the focus of ToM research or theory. For example, ToP might involve judgments about the goodness/badness of others and their actions. However, compared to the sustained and intensive research on children’s developing ToM, less attention has been paid to children’s developing ToP.

Since the current thesis is concerned with children’s ToP in the moral domain, the next section first reviews evidence from developmental studies that present and describe children’s general ToP development. Specifically, when and how do they attribute traits to people? When do they come to think that traits are relatively stable? When do they use traits as a tool to interpret and predict behaviours? And how does children’s trait reasoning differ from adults’?

**ToP Development**

In personality theory, traits refer to differences in the tendency to think, feel, and behave in some conceptually related ways across a variety of relevant situations, and over a fairly long period of time (Matthews, Deary, & Whiteman, 2009). In other words, they refer to enduring and stable individual differences among people. Traits, as a significant organizing construct, thus provide us with at least two sorts of information about people: how he/she is similar or different from another person, and what relatively enduring and stable characteristics he or she has.
It has been suggested that children’s recognition of the difference between people develops earlier than their ability to reason about the stability of a single person’s traits (Liu & Vanderbilt, 2013; Vanderbilt, Heyman, & Liu, 2014). Furthermore, children do not appear to discriminate between people in terms of abstract psychological trait terms until about 8 years of age. For example, when asked to describe another person freely, children younger than 8 tend to describe others in concrete and observable terms, such as actions (e.g., “He runs fast”), appearance (e.g., “She has big eyes”), and preference (e.g., “She likes dogs”), whereas abstract trait terms (e.g., selfish, shy) were rare. When children do use trait terms to describe people, these terms are generally evaluative in nature, with a moral focus (e.g., good and bad, nice and nasty). With age, more trait terms are present in children’s spontaneous utterances, and they begin to expand to other internal, psychological, and dispositional terms, such as brave and friendly (Livesley & Bromley, 1973; Peevers & Secord, 1973).

It has also been suggested that it is the ability to reason about the stability of a single person’s traits that is the mature form of trait understanding, which supports our complex social lives (Liu & Vanderbilt, 2013). In our everyday folk psychological explanatory framework, people usually make two assumptions about the stability of traits. First, they are considered as stable behaviour regularities (Heyman & Gelman, 1998). Second, they are perceived as comparatively enduring and stable underlying mental properties of individuals that generate desires and beliefs, and cause the behaviour regularities (Miller & Aloise, 1989; Yuill, 1992b). Therefore, traits are deemed to have both inductive and deductive power. Once people have attributed certain traits to a person, they routinely use traits as a heuristic to summarize, interpret, and predict the behavioural and emotional responses of that person (Newman, 1996). For example, people might attribute the trait of shyness to Tracy if they see that she sits quietly and does not talk to anyone at the party. Further, when informed that
Tracy is a shy person, people may predict that Tracy wants to be alone, or that she feels nervous at the party.

Although in the broad sense people’s folk theories of personality are not limited to their use of traits – folk theories also encompass beliefs about the nature and development of traits, such as their origin, development, and modification – most of the studies on children’s theory of personality focus on children’s trait use (Yuill, 1997b). Thus, most studies focus on how children collect data to make trait attributions of one person, and how they use trait information to make various inferences of that person. The current thesis also examines children’s theory of personality in this narrow sense. It examines how children coordinate multiple sources of information to make moral trait attributions and behaviour predictions of other people; whereas it does not examine children’s reasoning about where the differences in personality come from (i.e., origins), and how traits might be changed (i.e., modifications). Although these latter topics are certainly important, I constrain my review to studies that are relevant to children’s trait attribution, and their use of traits in social inferences.

The predominant strategy in examining children’s trait-related inferences is the *behavioural-prediction paradigm*. In this paradigm, participants are presented with a vignette that depicts one or more exemplars of a hypothetical protagonist’s past actions, and then are asked to make trait judgment about the protagonist or predict the protagonist’s behaviour/emotion in a new but related situation (e.g., Boseovski & Lee, 2006; Ferguson, Oltarf, Luiten, & Rule, 1984; Ferguson, van Roozendaal, & Rule, 1986; Liu, Gelman, & Wellman, 2007; Seiver, Gopnik, & Goodman, 2013). The underlying logic of the paradigm is that if children conceptualize traits with reference to stable and enduring characteristics of the person, and appreciate their motivating role in generating behaviours, then they should predict consistent patterns of behaviour across different situations.
Behaviour prediction paradigms are deeply influenced by attribution theories that have arisen in the context of adults, especially Kelley’s covariation model (1973). In his seminal research, Kelley illustrated the cognitive process by which people make psychological and social causal attributions on the basis of statistical patterns of behaviour. Hence, the covariation principle is usually applied in the analysis of multiple actions. That is, people observe how a person’s behaviour covaries (or changes) across time, place, and with respect to different recipients. Three types of covariation information were specified: consensus, distinctiveness, and consistency. Specifically, consensus information refers to how reliably different people behave toward the same target. Distinctiveness information refers to how reliably the actor responds to multiple targets. And consistency information refers to the frequency with which the observed behaviour between the same actor and the same target occurs across time and circumstances. For example, if we observe that Nick hit Toby and try to figure out whether it was due to Nick’s aggressiveness, we usually attend to how other people behaved toward Toby (i.e., consensus), how Nic responds to other people (i.e., distinctiveness), and how frequently Nick hits Toby (i.e., consistency). Usually, if the consensus and distinctiveness of the actor are low (e.g., only Nick hits Toby and Nick hits other kids as well), but consistency is high (e.g., Nick hits Toby every time he sees him), people are more likely to explain the action in terms of the actor’s traits (i.e., Nick is aggressive).

However, to facilitate children’s capacity to make trait attributions, most of the behavioural prediction paradigms used with children have simplified the classic covariation model so that each type of information is presented separately (e.g., Boseovski & Lee, 2006, 2008). Furthermore, even though children are presented with only one type of information, the protagonists in the story vignettes are usually described as behaving in an all-or-none manner (e.g., exclusively favourable or exclusively unfavourable). Take the aforementioned
Nick as an example, children are usually told that Nick always hits or never hits Toby at different time and locations (i.e., consistency information), or that Nick always or never hits several different kids (i.e., distinctiveness information), and they then are asked to judge whether Nick is nice or mean on the basis of such consistency.

Research based on the behavioural prediction paradigm has broadly suggested that, the process of making behaviour-to-behaviour inferences (i.e., predict behaviours from past behaviours) can be decomposed into two components: behaviour-to-trait inferences (i.e., infer trait labels from behaviours) and trait-to-behaviour predictions (i.e., predict behaviours from trait labels). Children as young as 4 to 5 years of age are able to make both behaviour-to-trait inferences and trait-to-behaviour predictions separately, but they have difficulties in putting the two processes together to make behaviour-to-behaviour inferences until they reach about 7 to 8 years of age (Liu et al., 2007). For example, at 4 to 5 years of age, children are able to judge that Bobby is selfish if they are told that “Bobby does not share his food with other kids”, and they are also able to predict that Bobby will not let his sister play with his toys (i.e., share his toys) if they are given the information that “Bobby is a selfish boy”. But given the behavioural information that “Bobby does not share his food with other kids”, it is not until 7 to 8 years of age that children will reach the following related behavioural conclusion that, “Bobby will not let his sister play with his toys”. It thus seems that these younger children do not use the initial behavioural information to discern a trait (i.e., selfishness) from which they reason about new behavioural contexts.

In sum, children’s understanding of traits develops profoundly between 4 and 8 years of age. They increasingly think of other people in terms of their traits, and rely on trait terms to interpret and predict the behaviours of other people. On the basis of the available literature, it seems that preschoolers’ reliance on traits is still limited in two important ways. First, they haven’t developed an adult-like reliance on traits when providing explanations and
predictions of people’s behaviours. For these younger children, deontic relations (e.g., rules and norms) are more salient sources of information than traits to make predictions about people’s future behaviours. For example, Kalish and Shiverick (2004) examined the development of people’s use of norms and traits (i.e., stable preferences) to make behaviour predictions of other people from preschool to adulthood. It was found that the 5-year-old preschool children were more likely to predict that people would act on the basis of rules rather than on their preference. The older 8-year-olds were more likely to predict that people’s behaviours would be consistent with their preference rather than rules. For adults, both rules and preference are judged equally in their predictive power.

Second, as noted above, most of the findings on children’s trait inferences have been based on a protagonist’s consistent past actions (e.g., always or never displaying sharing behaviour). However, such blanket consistency in behavioural exemplars is problematic because it arguably lacks basic ecological validity and, perhaps more importantly, one of the challenges in understanding others is making use of juxtaposing behaviours: a contrast between two situations is, potentially, more informative about someone’s character than the sum of the separate behaviours. Regarding ecological validity, we are far more likely in life to encounter people who display at least some inconsistency in their behaviour under different circumstances, and out of different motives (e.g., displaying a mix of sharing and non-sharing behaviours). Regarding the juxtaposition of behaviours, antisocial behaviours in some contexts (e.g., being unkind to others when there are few risks of punishment or retribution), for example, are likely to cancel out prosocial behaviours in other contexts (e.g., kindness in the presence of an authority figure). It is an interesting developmental question, which has

1 As an aside, it is important to note that, when making emotion attributions, younger children are more focused on desire fulfillment (i.e., someone will be happy when they get what they want) and older children are more focused on deontic concerns (i.e., someone will be sad if they got what they want by illicit means; for a discussion see Lagattuta, 2005; Nunner-Winkler & Sodian, 1988; ). Although this may seem paradoxical, these situations are not equivalent to behaviour predictions, for which young children can rely on rule adherence to predict behaviour without any real concern about the psychological/emotional significance of their predictions.
been largely overlooked, how children integrate and process inconsistent information in their trait-related inferences. Further, it is currently unclear whether children’s performance in these studies resembles their responses in daily life, or is merely an artefact of the less lifelike experimental settings (also see Lagattuta & Sayfan, 2013, for similar discussions). Therefore, the question of how children make trait inferences on the basis of inconsistent past actions is examined in the current thesis.

In the extant literature, it is also noteworthy that children appear to understand and utilize global evaluative terms such as nice and mean earlier than the other psychological trait terms such as shy and brave. It is perhaps unsurprising, therefore, that most research on ToP in young children uses trait terms in the moral domain, which results in a large overlap between studies on children’s trait understanding and their moral understanding. Hence, in the following section, I narrow down children’s general ToP development to their trait inferences in the socio-moral domain specifically (i.e., their understanding of “nice” and “mean”), and provide a review of their understanding of moral character, which is more closely relevant to the current thesis.

**Nice or Mean: Viewing People through an Evaluative Lens**

People constantly form impressions and make evaluations of others. Nice and mean (or nasty), or good and bad, are the basic pervasive categories that we use to classify people in everyday life, and they are among the earliest trait terms that children use to make distinctions between people (e.g., Peevers & Secord, 1973). Children apparently also rely on such traits to a greater extent than others (e.g., shy or clever) to guide their social interactions (Mrug & Hoza, 2007). For example, children place their highest preference on peers who are judged to be nice (e.g., Newcomb, Bukowski, & Pattee, 1993). Young children are also more willing to take the advice from nice helpers rather than mean trickers, even if the helpers have
provided inaccurate information before (Liu, Vanderbilt, & Heyman, 2013; Vanderbilt, Liu, & Heyman, 2011). Arguably, the ability to distinguish nice from mean people is essential to our wellbeing, and it is perhaps also essential to group-living and our survival from the evolutionary perspective (Darwin, 1871). Indeed, Darwin devoted considerable attention to the social instincts that support prosocial behaviour, and found it necessary to explain how we come to judge our own (as well as others’) impulsive actions (e.g., appetitive desires) negatively (see Korsgaard, 2010, for a discussion). Importantly, successful identification of the nice-mean distinction enables us to know who to trust, who to seek help from, and who should be avoided. And misperceiving a mean person as nice may lead children to be deceived, manipulated, and harmed (Gee & Heyman, 2007; Heyman & Legare, 2005).

The question of how children make nice–mean or good–bad judgments of other people has largely been investigated by researchers studying moral and social rule understanding, as well as trait understanding. In moral and social rule understanding paradigms, researchers usually provide children with a single transgression and ask them to make a judgment about the actor, and perhaps also his/her deserved punishment (e.g., Piaget, 1932). Researchers in this area typically focus on how children make use of information about the actor’s intention and/or motive, and the outcome of the situation, in their moral judgments. Under these conditions, terms such as nice and mean are possibly used to make temporary evaluations of the protagonist’s character, although that interpretation is rarely tested directly. That is to say, it is possible that children’s use of supposed trait terms are not in fact to describe any expectancy about stable characteristics of the actor and his/her action tendencies.

In the area of trait understanding, on the other hand, children are usually provided with multiple pro- or anti-social behaviour exemplars of an actor, and then are asked to infer the actor’s moral trait from the accumulated actions, and also to predict the actor’s likely
behaviour in a novel but related situation (e.g., Boseovski & Lee, 2006). Researchers in this area focus more on children’s understanding of the relative stability of a person, and how they use traits to interpret and predict behaviours. Thus, the terms *nice* and *mean* are more likely to be used to describe the enduring and stable characteristics of a person across time and situations. Nonetheless, the two areas – moral (social) rule understanding and trait judgments – overlap with each to a large extent in everyday life. For example, moral trait attributions are often made on the basis of multiple individual moral judgments of the same actor.

In the following section, therefore, I provide an integration of research in these two areas to illustrate children’s developing understanding of *nice* and *mean* character traits from infancy to middle childhood. Specifically, I ask which informational cues children draw on to form global impressions of a person. Do they, for example, perceive the moral trait terms as temporal or stable characteristics of a person? Do they use the moral trait information to predict the likely action of that person? And are there any distinctive characteristics in their reasoning during in this developmental window? The overview presented below is roughly developmental, but also stresses important features of children’s thinking (i.e., the positivity bias) that are important for making sense of their socio-moral person understanding.

**Preverbal Infancy**

Infants’ sensitivity to prosocially and antisocially acting agents has recently been examined by non-verbal methods, such as the *visual habituation paradigm* (e.g., Hamlin, Wynn, & Bloom, 2010; Hamlin, 2013; Hamlin, Wynn, & Bloom, 2007; Kuhlmeier, Wynn, & Bloom, 2003). For example, Hamlin and colleagues (2010) used a habituation phase in which infants are presented with movies depicting an animated object (e.g., a circle with eyes) attempting to reach the top of a hill but continually failing halfway up the slope. The circle then was either pushed up to the top by a triangle (e.g., the helper), or was pushed down to
the bottom by a square (e.g., the hinderer). The helping and hindering movies were played continuously in alternating sequence until infants were habituated to them as well. In the following test phase, children were presented with the helper and hinderer again. It was found that even 3-month-olds showed preferential looking toward the helper (Hamlin et al., 2010). Furthermore, 6- and 10-month-olds were more likely to reach for the helper than the hinderer when presented with physical representations of the characters (Hamlin et al., 2007). Whereas 10- and 12-month-olds also expected the circle to approach the previous helping object, 5- to 6-month-olds did not (Hamlin et al., 2007; Kuhlmeier, et al., 2003). Later research has further demonstrated that, infants’ sensitivity to the prosocial and antisocial agents was not restricted to the above scenario (i.e., help pushing up to the hill); it was evident across a variety of felicitous social interactions, such as helping open a box (Hamlin & Wynn, 2011).

Extraordinary though it may seem, these findings suggest that infants as young as 3 months old begin to make social evaluations of other people on the basis of their social behaviours, and show their preference for the prosocial agents over the antisocial ones, even if they themselves are not the direct targets of the prosocial or antisocial acts.

In subsequent research, it has been shown that infants’ social evaluations likely take on remarkable sophistication very quickly; that is, older infants appear not to base their evaluations solely on the behaviour outcome, they also appear to take the actor’s intentions into considerations (Dunfield & Kuhlmeier, 2010; Hamlin, 2013). In a series of experiments using a procedure similar to Piaget’s classic moral development tasks used with older children (to be discussed later), during the habituation phase, Hamlin (2013a) showed 5- and 8-month-old infants videos in which a puppet protagonist (i.e., a cow) had difficulty in opening a box to get a toy, and another two puppets (i.e., two pigs wearing shirts of different colours) either showed a positive intention to help or showed a negative intention to prevent the cow from opening the box; and across conditions, the pigs’ behaviour resulted in either a
positive or negative consequence to the cow, thus creating different pairs of pigs with various combinations of intention and outcome (e.g., successful helper versus successful hinderer, or successful helper versus failed helper). Then, in the test phase, children were presented with the two pigs again to see which one they would reach for. It was found that 5-month-old infants were only able to show their preference for the successful helper over the successful hinderer, where there was no conflict between intentions and outcomes. For the 8-month-olds’, however, preference varied mainly as a function of the pigs’ intentions. Thus, these older infants were more likely to show their preference for the pig who tried to help over the pig who tried to hinder, no matter if it succeeded or not; and their preference for the well-intentioned pig persisted even when the ill-intentioned pig unintentionally brought about a positive outcome. Moreover, when the two pigs had the same intentions, they did not differentiate the two pigs from each other, even if the same intentions led to different outcome. Furthermore, from 21 months of age, toddlers were also more likely to help the individual who had previously demonstrated good intentions rather than bad intentions (Dunfield & Kuhlmeier, 2010).

In sum, there is increasing evidence to suggest that people begin to evaluate socio-moral events very early in development, and they use such information to guide their social interactions even from infancy, and in a much more sophisticated way than previously thought. Although infants lack the ability to verbally judge who is nice and who is mean, they show their awareness of the distinctions between different moral agents in a non-verbal way. Specifically, from 3 months, infants begin to differentiate the nice agents from the mean ones on the basis of their looking behaviour. While this early behaviour is very hard to interpret, by 8 months of age infants even perform like older children and adults hat in that they give more weight to the agents’ underlying intentions. And by 21 months of age they rely on their socio-moral discernments to determine who they should interact with in a positive manner.
However, two issues remain unclear. First, do infants make temporally stable or transient evaluations of agents? Second, how should we reconcile infants’ early sensitivity to moral behaviours, and even intention reading, with the traditional view that children do not integrate intentions and motives into their moral reasoning until at least about 5 years of age (Heyman & Gelman, 1998; Liu et al., 2013; Piaget, 1932)? These two issues can be better understood if infants’ performance is considered in light of children’s later development.

**Early to Middle Childhood**

As children become older, their understanding of moral character is usually examined by the verbal interview. It has been found that children are able to spontaneously and appropriately use moral trait terms such as *good* and *bad, nice* and *naughty* to describe and evaluate other people from about 2 years of age (Bretherton & Beeghly, 1982), and, beginning with such references to judgments of others’ actions, their conceptions of such trait terms become increasingly sophisticated (Yuill, 1992b).

From 3 years of age, children distinguish between *moral* rules (e.g., prohibitions on hitting another child) and *social-conventional* rules (e.g., wearing correct uniform), judging the former to be wrong irrespective of context and rules (e.g., putting a toy away in the incorrect place, see Smetana, 1981). There is also apparently a shift from conceptualizing moral trait terms as a general category to conceptualizing them as a continuous dimension, so that people are perceived as varying in their degrees of niceness and meanness. In other words, in addition to distinguishing nice people from mean people, even young children come to know that some people are nicer or meaner than the others (Gonzalez, Zosuls, & Ruble, 2010).

Children also increasingly give weight to the psychological elements of the actor – motives and emotions – and incorporate these mental states into their nice–mean judgments. Indeed, the earliest age at which children privilege mental states in their moral reasoning has
also been brought dramatically forward over the decades. For example, in his seminal investigation of moral judgments, Piaget (1932) presented children with pairs of actors; one who accidentally causes more damage (e.g., breaking 15 cups accidentally when opening a door), and one intentionally causes less damage (e.g., breaking 1 cup when trying to reach for the prohibited jam). When children were asked which actor was naughtier and deserved more punishment, Piaget found that children younger than 7 years based their judgments predominantly on the objective outcome – how many cups were damaged – and they judged the actor who caused more damage as naughtier. By contrast, older children focused more on the actor’s subjective motive and judged the ill-intentioned actor as naughtier. In other words, children did not prioritize motives until middle childhood.

Despite the dramatic difference between younger and older children demonstrated by Piaget’s, the paired-comparison paradigm was criticized because intention and outcome information were confounded; more recent studies have modified the paradigm by presenting children with a series of stories in which different motives of the actor and the outcome were combined and clearly specified, thus dissociating the effect of outcome from that of the intention (e.g., Heyman & Gelman, 1998; Liu, et al., 2013; Nobes, Panagiotaki, & Pawson, 2009; Yuill, 1984; Zelazo, Helwig, & Lau, 1996). In these more recent studies, it has been shown that, if the motive information was made salient and explicit, even 3-year-olds could discriminate between the accidental and intended actions, and they did not base their judgments solely on outcome (Nobes, et al., 2009; Yuill, 1984). Further, children at 5 to 6 years of age tend to consider protagonists with positive or incidental motives to be nicer than those with negative (antisocial or self-serving) motives, especially when the outcome is desirable (Heyman & Gelman, 1998). These findings, together with the performance of infants (see the previous section), suggest that although children’s moral trait reasoning is highly influenced by the overt behaviour outcome, they are not ignorant of intentional and
mentalistic factors. With appropriate methods, those that make motive information as transparent as possible, children’s consideration of mental states when making trait inferences appear to be present early in life, but they nevertheless develop dramatically during the early and middle childhood.

Finally, it is important to note that, with age, children increasingly perceive moral traits as enduring dispositions of the actor rather than a description of a transient state. In other words, children gradually realized that people who are nice or mean in the past will also be more likely to be nice or mean in the future. Indeed, although it is unknown whether infants view traits as stable and enduring or not, it has been shown that, by 4 to 5 years of age, children are able to predict future moral behaviours on the basis of trait information. By 7 to 8 years of age, children more readily make trait attributions on limited behavioural information, and they also make trait-consistent moral behaviour predictions even without the provision of an explicit trait term (Liu et al., 2007).

The Positivity Bias

When making socio-moral evaluations of other people, children from as early as 3 years of age have been found to have the tendency to see themselves and other people in an overall positive light – positivity bias – that attenuates by 10 or 11 years of age (e.g., Boseovski, 2010; Boseovski & Lee, 2008; Boseovski, Shallwani, & Lee, 2009; Diesendruck & Lindenbaum, 2009; Grant & Mills, 2011; Heyman & Giles, 2004; Lockhart, Chang, & Story, 2002; Schuster, Ruble, & Weinert, 1998). The positivity bias is mainly exhibited in the following three ways. First, children usually view themselves and others more positively than reality would suggest (e.g., Harter, 2006). Second, children require less information to make positive trait judgments and behavioural predictions than negative ones. Third, children see positive traits as more stable and change resistant, whereas they assume that negative characteristics will change in a positive way.
Although the positivity bias has been well documented and has been deemed as a distinct feature of children’s social reasoning during this age span, few studies have directly investigated why children hold biased positive expectations of people. Various explanations have been put forward but three have been referred to most frequently. The first is wishful thinking (e.g., Harter, 2006). That is, children confuse others’ and their own actual behaviours with their wish to undertake favourable behaviours. In other words, they predict what they expect or hope for. The second perspective proposes that the bias is a product of socialization. It is argued that children are more often exposed to stories in which positive transformations occur, which makes them believe people in the real world are more likely to develop in a desirable way as well (e.g., the Ugly Duckling, see Lockhart, et al., 2002; Lockhart, Nakashima, Inagaki, & Keil, 2008). Furthermore, children increasingly adopt social display rules which make them reluctant to make negative judgments to other people (Boseovski et al., 2009; Talwar & Lee, 2002; Talwar, Murphy, & Lee, 2007). Finally, the adaptive cognitive immaturity view (e.g., Bjorklund, 1997; Boseovski et al., 2009; Heyman & Giles, 2004) suggest that the positivity bias is a reflection of children’s poor meta-cognition, which is evolutionarily adaptive and may facilitate children’s positive social explorations and interactions.

Whatever the reason for the positivity bias, and its substantive basis in children’s thinking, its existence means that it is important to assess children’s thinking in the socio-moral domain from both positive and negative points of view, an approach that is rarely adopted.

Summary

In sum, infants’ rudimentary sensitivity to moral actions and motive information lays the foundation for children’s mature understanding of moral character. By middle childhood, children’s moral trait reasoning becomes more adult-like and traits have become increasingly
important in their social inferences. Despite our understanding of this developmental change, it remains unclear how children deal with inconsistent behaviour. As noted before, real people are rarely as consistent as depicted in story vignettes, and their morally-relevant actions may vary by contexts to a large extent (Newman, 1996). Adults are able to integrate information from multiple sources before they generalize about overall person impressions and make inferences accordingly (although see literature on the correspondence bias, see Choi, Nisbett, & Norenzyan, 1999), but far less is known about children’s moral trait reasoning when they are presented with a person behaving in an inconsistent manner.

Furthermore, and relatedly, one way of explaining inconsistent moral actions across different social contexts is via people’s engagement in self-presentational process. That is, a person may engage in prosocial behaviour with the purpose of being perceived in a favourable way by other people, rather than for the well-being of other people (Baumeister, 1982). Despite the important role of self-presentational motives in driving people’s moral behaviours, children’s understanding of this motive has been largely neglected, since most studies that examined children’s use of motive information in moral reasoning have been restricted to the very basic motives such as positive, negative, and incidental. For adults, self-presentational motives are deemed as self-serving, and are usually negatively evaluated (Pandey & Bohra, 1986). Furthermore, because motive information is not available most of the time in everyday life, once adults are suspicious of the possibility of the self-presentational motive, they can keep track of people’s inconsistent behaviours under different circumstances (e.g., public versus private settings), and make use of the contextual cues to clarify their suspicions. Again, less is known about when and how children begin to appreciate the possibility and negative implication of self-presentational motives underlying prosocial behaviours. In particular, we can ask, when do children start to monitor an actor’s inconsistent actions across situations and infer underlying self-presentational motives?
Moreover, do they less positively or even negatively evaluate an actor when self-presentational motives have been identified?

Arguably, to successfully discount the sincerity of a person’s prosocial behaviour not only requires children to engage in basic socio-moral evaluations, it also requires them not to take behaviours at face value. Therefore, in the following section, I turn to research on children’s understanding of self-presentational motives, which is another essential precursor in children’s critical analysis of other people’s prosocial behaviours. Below, I first describe the important role of self-presentation in social life; in particular its role in motivating prosocial behaviours. I then discuss the development of children’s own engagement in, and their understanding of, self-presentational processes. I conclude with a discussion of what has been overlooked in the extant literature.

**Self-presentation**

**Self-presentation in Social Life**

As stated before, people constantly form impressions and make evaluations of others, and they are also concerned about how they are perceived and evaluated by other people. And for good reason, because how they are perceived by others has an effect on a series of social outcomes. For example, being perceived as competent and reliable may lead to a promotion at work, and being perceived as disloyal may result in the breakup of a significant relationship. Therefore, people actively engaged in the *self-presentational or impression management* process. That is, they selectively construct and convey their social images in particular ways to manipulate the impressions that others form of them and, ultimately, to attain certain desired goals (Baumeister, 1982; Goffman, 1973; Leary, Allen, & Terry, 2011; Leary & Kowalski, 1990). In short, people often attempt to influence the way that other people perceive them.
Self-presentation is a strategic process and a social skill, which people use to obtain desired outcomes by conveying particular aspects of the self; or concealing them. Usually, the self-presentation motive is greater if the actor’s behaviours are known to other people, and especially when such people have a greater impact on the actor’s goals. For example, people who are powerful, who are of higher status, and who control or dispense resources (e.g., employers, teachers, supervisors, and other authorities; see Baumeister, 1982).

Furthermore, once people are motivated to engage in self-presentational behaviours, they then depend on a series of cues to decide what kind of impressions they are going to make on the audiences, and how they are going to convince the audiences that they possess such characteristics. These cues include the social context, characteristics of the audiences, and interpersonal goals.

People can influence the way that other people perceive them in a number of ways. For example, within interpersonal processes, self-presentation can behaviours be used either assertively to create a favourable impression (e.g., ingratiation and self enhancement), or defensively to restore an image that has been endangered (e.g., apology and disclaimer, see Lee, Quigley, Nesler, Corbett, & Tedeschi, 1999). Regarding forms of self-presentational behaviour, people may engage verbal statements (e.g., self-descriptions) or nonverbal mechanisms, such as physical appearance, body language, facial expressions, and actions (Leary et al., 2011; Schlenker & Weigold, 1992). Some self-presentational behaviours are deliberate, and some are over learned, so that they become habitual and unconscious. For example, a woman might routinely make herself up every morning, without any consciousness of self-presentational motives.

Self-presentational behaviour is pervasive in a wide range of interpersonal processes. Indeed, social psychologists often refer to self-presentational motives to explain a number of social behaviours (see Baumeister, 1982, for a review). Take prosocial behaviours as an
example, which sit at the core of the current thesis. Adult research has shown that people make bigger donations in public than in private (Satow, 1975), and they make larger self-allocations when distributing a group reward in private (Reis & Gruzen, 1976). These practices imply that prosocial behaviours are not solely motivated by intrinsically altruistic motives, stemming from empathic concern. They are also motivated by self-presentational motives, such as wanting to be viewed as altruistic and moral by others (see also Wentzel, Filisetti, & Looney, 2007).

Because altruistic and self-presentational motives sometimes work together in facilitating people’s prosocial behaviours, and thus are not mutually exclusive, adults use contextual cues to determine which motive is more plausible. That is, they keep track of and compare others’ behaviours across different situations that differ in the degree to which they elicit self-presentational concerns. For example, a situation in which there is an authority figure arguably elicits more self-presentational concerns than a situation in which there is none. People would be justifiably suspicious that a person’s prosocial behaviour is driven by self-presentational concerns when the prosocial behaviour is ostentatiously displayed in the presence of an authority figure. Under these conditions, it would be normal to seek out more information about such a person’s motives, or at least harbour some suspicions about them. If such a person does behave generously or prosocially in other contexts, people are more likely to attribute his or her prosocial behaviour in the former situation to the self-presentational concerns. That is to say, the juxtaposition of contexts allows for a profound inference – the person is self-serving or disingenuous – which is more that merely the sum of observed behaviour. If, by contrast, that person also undertakes prosocial behaviour when authority figures are absent, people are more likely to attribute previous behaviour to altruistic motives; here, behavioural consistency across contexts will likely enhance our commitment to the idea that the person is generous or kind.
Furthermore, people generally consider self-presentational motives as self-serving and instrumental, so they tend to evaluate them less favourably than the altruistic motives. In other words, people tend to discount a person’s genuine prosocial traits if his or her prosocial behaviours are attributed to the self-presentational motives (Barnett, Vitaglione, Bartel, & Sanborn, 2000; Grant & Mayer, 2009; Pandey & Bohra, 1986). Hence, when people witness a person only undertaking prosocial behaviours in the presence of an authority figure, they are inclined to reason that the person merely wishes to please the authority figure, and to achieve his personal goals. Accordingly, a person in this position can be viewed as unpleasant, or even slimy, without ever having done anything wrong!

In sum, self-presentational behaviour is prevalent in our social life. People attempt to create desirable impressions in other people’s minds, and are also cautious of other people’s self-presentational motives. However, regardless of the prevalence of self-presentational behaviour in everyday life, our knowledge of its emergence and development has been largely constrained by methodological contexts (e.g., disappointing gift paradigm). In the following section, I survey the literature on children’s self-presentation development. Specifically, when and how do children begin to engage in the self-presentational process themselves, and how do they reason about the self-presentational behaviour of other people?

**Self-presentation in Childhood**

Self-presentation is a complex process that is determined by cognitive and social-motivational factors. Two areas of research have been concerned with children’s self-presentation: their engagement in and understanding of self-presentation. Researchers who are interested in children’s engagement in self-presentational behaviour usually observe children’s behaviours across situations that differ in the elicited self-presentational concerns (e.g., public versus private condition). If children alter their behaviours according to context, it can be inferred that they attempt to make different impressions in other people based on
self-presentational concerns (Baumeister, 1982). Researchers who are interested in children’s understanding of self-presentation, on the other hand, usually use hypothetical scenarios to examine when children begin to identify the underlying self-presentational motives of the actor, or explain the actor’s behaviours in terms of the self-presentational concerns.

Anecdote and limited scientific observation suggest that self-presentational behaviour may emerge early in life. Importantly, one of the self-conscious emotions, *embarrassment*, appears during 15 to 24 months of age, which suggests that, at least in an embodied sense, children experience the evaluation of others, and are likely aware of it (Lewis, Sullivan, Stanger, & Weiss, 1989). Children as young as 2 years are also more likely to share their success than failures with other people; so they are conscious of other people as agents who can be informed in situations in which they are to be favourably evaluated, or in which they need support (Stipek, Recchia, McClintic, & Lewis, 1992). The occurrences of these phenomena are indications of children’s early awareness that they are being evaluated by other people, and they want to be positively evaluated. Moreover, Hatch’s (1987) systematic observation showed that some components of impression management were frequent in kindergarteners’ peer interactions. However, the majority of the scientific studies on children’s self-presentation have targeted children from 4 years onwards, and they have focused on three forms of self-presentation. That is, *affect management*, *verbal self-presentational strategies*, and *behaviours* (prosocial behaviour in particular). Each of these domains is described below.

**Affect management.**

Affect management, sometimes termed *emotion displays*, refers to the phenomenon that one conceals the real emotions that he or she is experiencing and puts on false facial expressions. People often regulate their facial expressions because of prosocial and self-presentational motives. Thus, people may regulate their facial expressions to protect the
feelings of others, or to manipulate others’ evaluations about their own dispositions. For
example, people may pretend to be happy when receiving an undesirable gift to protect the
feelings of the giver (i.e., prosocial motive), or put on a brave face after getting hurt to
avoid looking like a crybaby (i.e., self-presentational motive).

As far as we know, no research has been conducted to systematically examine
children’s affect management emerging out of self-presentational concerns, but some have
examined children’s understanding of self-presentational affect management (e.g., Banerjee
& Yuill, 1999a; Banerjee & Yuill, 1999b; Naito & Seki, 2009). Among these studies, some
told children the protagonists’ self-presentational motives for hiding their real feelings and
asked children to predict the protagonists’ apparent facial expressions. For example, children
were asked to predict how one protagonist’s face would look when he got hurt but did not
want to be viewed as a crybaby. These kinds of procedures reveal that children start to
distinguish apparent from real emotions and make accurate predictions from about 6 years of
age (i.e., they predicted the above protagonist would look happy, see Banerjee & Yuill,
1999b; Naito & Seki, 2009). Other studies have presented children with the protagonists’
discrepant apparent and real emotions, and asked them to explain these discrepancies. For
example, children were asked to explain why a protagonist would smile and say, “That didn’t
hurt at all” when it was clear that the protagonist was in fact hurt. Using these methods,
children did not systematically make reference to the self-presentational motives to explain
such discrepancies until around 8 years of age (Banerjee & Yuill, 1999a).

**Verbal self-presentational strategies.**

Verbal statements are a straightforward way to convey our personal attributes to other
people. People generate different versions of information about themselves and communicate
with different audiences to achieve specific goals (Schlenker & Weigold, 1992). For instance,
they talk more about their related work experience during a job interview, and talk more
about shared interests when making new friends. In addition to these assertive verbal self-presentational strategies that are used to establish particular images, people also use defensive strategies such as apology and disclaimer to restore their self-image when it has been damaged. Below, I briefly present research that shows how children use and understand verbal self-presentation behaviour, which develops considerably during the elementary school years.

Aloise-Young (1993) was the first to directly examine children’s ability to convey selective self-descriptions to meet different goals. She asked children from 6 to 10 years of age to describe themselves either to merely introduce themselves to children at another school, or to convince those children to pick them as a partner in a competition game. Results showed that children did not engage in selective verbal self-presentation until 8 years of age. In particular, the 6-year-old kindergarteners’ self-descriptions did not differ as a function of the two goals. Eight- and 10-year-olds, however, systematically altered their self-statements to emphasize game-related positive attributes when the goal was to be picked as a game partner (e.g., “I shoot very well”, “I usually know where to throw the little sac at”).

Further studies have been conducted to investigate children’s understanding of verbal self-presentation behaviour in other people, rather than children’s engagement in this process themselves. Specifically, these studies attempt to clarify two questions. First, when do children begin to refer to the self-presentational motives to explain and predict the verbal statements of other people? Second, when do children begin to appreciate that people might be motivated by self-presentational motives to conceal or distort their self-information? And, relatedly, when do children show scepticism about other’s self-descriptions?

Accumulating evidence suggests that there is a significant increase in children’s reference to the self-serving bias to explain others’ self-report from 8 years of age. For example, Bennett and Yeeles (1990a, 1990b) examined children’s understanding of others’
verbal self-presentational tactics, such as *showing off*, *self-promotion*, and *ingratiation*, and found that children did not demonstrate well-articulated understanding of the role that verbal self-presentation plays in interpersonal processes until about 10 to 11 years of age. Although 8-year-olds occasionally explained these strategies by referring to the self-presenter’s attempt to manipulate other people’s mental states (e.g., “He said that so Andrew would think that he was good at sport and would choose him for the team”), they were still more likely to explain these strategies in terms of the self-presenter’s internal mental states (e.g., “He wants to be big and tough in the school”). The 10- and 11-year-olds, by contrast, systematically explained these self-presentational verbal strategies in terms of interpersonal consequences. Watling and Banerjee (2007) however, showed that even 8-year-olds were able to distinguish the different interpersonal implications of *ingratiation* and *self-promotion*. In addition, from 8 years of age, children were also able to refer to self-presentational motives to explain why people made false statements under some circumstances. Thus, children reasoned that a protagonist would minimize reports of pain when talking to older children with a purpose of being viewed as tough (Banerjee, 2002a; Banerjee & Yuill, 1999a). Finally, it has also been shown that children’s understanding of defensive verbal tactics such as *disclaimers* develops later than their understanding of assertive tactics: they do not understand disclaimers as a means to protect and maintain a desired public image until about 10 years of age (Watling & Banerjee, 2012).

Children also use the self-presentational concerns to predict people’s verbal statements during the similar age span. In one study, Banerjee (2002) presented children aged between 6 and 11 with different pairs of self-descriptions of a story protagonist and asked them to judge which one was better for the protagonists to convey either to an unfamiliar peer or to an unfamiliar adult to get acquainted with them. For example, children were told that, “Alex is new at school/the neighbourhood and is talking to some children in his class/the man
and woman who live next door, wanting them to think he is nice”. Then children were asked to choose one statement for the protagonist between “I always work hard at school”, and “I like to share things with other people”. It was found that, when no information about the audiences’ preference was provided, only children at about 10 years of age differentiated their endorsements that were targeting at different audiences. Specifically, they judged it was more appropriate to present the protagonist’s academic skills to the adult, and more appropriate to present the protagonist’s physical skills to the peer. Follow-up study showed that, if children were given the information about the audiences’ preference (e.g., liking sporty people versus liking clever people), even the youngest 6-year-olds began to differentiate their endorsements to match the audiences’ particular preference, and the differentiation increased with age. That is, children tended to endorse the academic options when the audience was said to like clever people, and tended to endorse the physical options when the audience was said to like sporty people. Moreover, more recent research showed that, even the 4-year-old preschool children expected people to selectively convey information that conforms to the social norms if those norms were highly familiar and salient to them. For example, 4-year-olds who had some understanding of the gender stereotypical activities expected that boys would be less likely than girls to admit that they liked to play with dolls, especially when the audience is also a boy rather than a girl (Gee & Heyman, 2007).

Moreover, from 6 years of age, with the awareness that people may deliberately provide distorted personal information to present themselves in a socially desirable way, children become more sceptical about others’ self statements. First, they become increasingly hesitant to endorse self-reports as the most credible way to obtain the trait information from another person. Second, they become more cautious about others’ self-reports of traits, especially those highly evaluative ones such as smart and nice, and they increasingly use the
contextual cues to judge the credibility of the claims that people make about themselves. For example, older children were found to make more spontaneous comments such as “You can’t always trust people by what they say because sometimes people make up what they talk about”, and “Because they might be lying to make you impressed” (Heyman, 2008; Heyman & Legare, 2005). Moreover, it has been suggested that children from different cultural background differ in their scepticism about others’ self statements. For example, children from China were found to show an earlier awareness than children from the US that people may make false statements about themselves to appear socially desirable (Heyman et al., 2007).

**Prosocial behaviours.**

Children begin to show the prosocial behaviours as early as their second year of life, and it has been assumed that children’s prosocial behaviours are primarily driven by intrinsic and other-oriented motives such as empathy (Eisenberg, Fabes, & Spinrad, 2006). However, recent research suggests that children’s prosociality is also driven by self-presentational concerns from as young as 5 years of age (Leimgruber, Shaw, Santos, & Olson, 2012). In this study, children were asked to allocate stickers to another child. They were assigned into two conditions: one in which they can see the recipients and one in which they could not (i.e., visibility of the recipients). Moreover, within each condition, the allocations were presented in transparent containers in half of the trials, thus making recipients aware of the allocation (i.e., container opacity), and in opaque containers in the other half. It was found that, children tended to allocate more stickers to the recipients if they could see the recipients and when the allocations were known to the recipients, otherwise, they tended to be significantly less generous. It can be inferred that, the role of self-presentational concerns in motivating prosocial behaviours emerges very early in life. However, children may implicitly engage in
the strategic prosociality years before they grasp a mature understanding of the concept of self-presentation.

Compared to studies on children’s reasoning about self-presentational affect management and self statements, fewer have been conducted to examine children’s reasoning about other people’s strategic prosociality. In a very recent study, Heyman, Barner, Heumann, and Schenck (2013) examined children’s spontaneous suspicion of the self-presentational motives underlying others’ sharing behaviours, as well as their evaluations of these sharing behaviours. In this study, North American children between 6 and 10 years of age were presented with pairs of story protagonists, both of whom gave something away to another child: one gave when a lot of peers were looking (i.e., public giver), and the other gave when no one saw the sharing behaviour (i.e., private giver). They then asked children to make niceness judgments of the two protagonists individually, and also asked them to judge who was nicer (i.e., comparison). It was found that the 9- to 10-year-olds evaluated the private givers more favourably than the public givers, and they tended to justify their preference for the private giver in terms of the public givers’ ulterior self-presentational motives. The 6- to 7-year-olds, however, preferred the public givers, even though they had some understanding that the person who shared in public was attempting to create a good impression; they did not seem to evaluate this negatively. In a subsequent follow-up study, it was shown that the 6- to 7-year-olds still preferred the public giver even if they have been told the public giver’s self-presentational motive explicitly (i.e., wanting to show his classmates how helpful he is).

Heyman et al.’s study (2013) is the first attempt to directly examine children’s incorporation of multiple cognitive processes to spontaneous identify the possible self-presentational motives underlying the prosocial behaviours, and to integrate such motive inferences in their moral evaluations of such prosocial behaviours. Nevertheless, several issues deserve further investigations on the basis of this study. First, arguably the public
givers’ motives were more ambiguous than those of the private givers; their sharing
behaviours could be attributed both to self-presentational concerns and to the altruistic
motives. That is to say, there was no evidence that the desire to be perceived well (i.e., the
public giver) was for anything other than positive motives. It is possible that due to the lack
of information about the public givers’ behaviours in the private settings and the
aforementioned positivity bias, young children might be inclined to attribute the public givers’
sharing to altruistic motives and view them in a positive manner. To test this possibility,
future studies can provide children with the additional information about the public givers’
non-sharing behaviours in private settings, to make their self-presentational motives more
salient, and to examine whether children would benefit from the additional information,
thereby showing heightened suspicion of the public giver’s self-presentational motive. This
issue is taken up in the current thesis.

Second, it is not clear whether the nice or mean judgments children made were
temporary evaluations of the protagonists, which are specific to a time and situation, or
whether children were in fact attributing stable and enduring moral trait to the protagonists.
This question can be answered in future research by two ways. On the one hand, more
behaviour exemplars could be provided from which children make trait inferences
(Boseovski & Lee, 2006). On the other hand, children could be additionally asked to make
behaviour predictions of the public givers in the private settings, and to justify their
predictions. The behaviour prediction question would not only enable us to examine whether
children view the protagonists in a temporary or enduring manner, it would also reveal
whether children during this age span hold default positive expectations of the public givers’
actions even when there is no need to present themselves. Both of these possibilities are
examined in the current thesis.
Finally, Heyman et al.’s study (2013), as with most others, only involved children from a Western individualistic cultures, in this case North America, but there is growing evidence that that children from collectivist cultures, such as China, may develop sensitivity to self-presentational motives earlier than their North American counterparts (Heyman, Fu, & Lee, 2007). Therefore, there is a valuable contrast to be made between children from other cultural backgrounds, so as to examine whether understanding of others’ strategic prosociality develops in a universal manner, or whether cultural practices influence children’s theory of personality. The basis to expect such an influence is discussed below.

**Summary.**

In sum, from 6 years of age, there is substantial developmental progress in children’s use and understanding of various forms of self-presentational behaviour, and children’s understanding of one feature of self-presentational conduct (i.e., affect management, verbal strategies and prosocial behaviour) may develop earlier than their understanding of another. For example, children’s ability to use the self-presentational motives to predict people’s behaviours develops earlier than their ability to explain people’s behaviours in terms of the self-presentational motives. In addition, the age of 8 years has been repeatedly marked as an important transition age at which children begin to explicitly engage in and understand multiple aspects of self-presentational processes. For example, they begin to use self-presentational strategies to influence how they are evaluated by other people, and to refer to self-presentational motives when explaining the behaviours of others. They also become more sceptical about the possible self-presentational motives underlying people’s self-statements and prosocial behaviours.

However, our knowledge about children’s self-presentation is still limited in various ways. First, compared to children’s understanding of the self-presentational process, less is known about children’s self-presentational behaviours. Second, it is not known whether
children’s use and reasoning of different forms of self-presentational conduct occurs concurrently, or whether one develops prior to the others. Finally, and closely related to the current thesis, how do children make moral trait inferences of an actor whose prosocial behaviours are motivated by self-presentational concerns? And is there any cultural difference in children’s use and understanding of self-presentation?

In the next section, I present research on cultural variations in the process of person perception and self-presentation, which are the two main cognitive precursors for the reasoning of prosocial behaviours that are driven by self-presentational concerns. After the presentation of the cultural variations in each process separately, I discuss the implications of those findings for the current thesis.

**Cultural Variations in Person Perception and Self-presentation**

**East and West**

In the current thesis, children and adults from Australia and China were compared. The two countries are regarded as representatives of the *individualist* and *collectivist* cultures respectively. In psychology, individualism–collectivism is the most important dimension that characterizes the different views that people hold of people, of society, of the world, and of relations between them among cultures (Markus & Kitayama, 1991; Triandis, 2001). The origins of this dichotomy can more or less trace back to the divergent ways of thinking amongst ancient Greek and Chinese philosophies, whose traditions continue today and still influence about half of the population on the earth in various aspects of their social life (Nisbett, 2004).

Usually, cultures in North and Western Europe, and North America, are more influenced by Greek philosophy, and are classified as individualistic cultures. Countries in East Asia are more influenced by Chinese philosophy and are classified as collectivist
cultures. Therefore, in the extant literature, individualistic cultures are often interchangeable with independent cultures or Western cultures, and the collectivist cultures are often interchangeable with interdependent cultures or Eastern cultures. This is an imperfect convention but it nonetheless appears to capture an important distinction; which is maintained uncritically in the current thesis. It should also be noted that countries from Africa, South America, and South Europe are also classified as collectivist cultures, but they are rarely labelled as Eastern cultures.

As summarized by Nisbett (2004), Greek and Chinese philosophies differ remarkably. Of particular note, Greek philosophy has given rise to analytic traditions, emphasizing the independence and distinct properties of an individual object. Within this point of view, a single object is considered as separated or isolated from other objects, and the background. Accordingly, because objects are perceived in terms of their own properties, and because properties cannot vary, objects are more likely to be perceived as stable and unchanging.

Chinese ways of thinking, by contrast, are more holistic, emphasizing the relatedness and interdependence between objects. Within this view, a single object is an inseparable part of the entire complex field (i.e., the context or environment as a whole), and cannot be understood in isolation. Accordingly, because objects are perceived in terms of their relationships to other objects or to the field, and because objects can be altered by contexts, objects are perceived as malleable and in constant change.

As a consequence of these different ways of thinking, philosophical traditions stemming from the Greeks attend more to individuality, and believe more in stability, whereas Chinese ways of thinking attend more to relationships and believe more in change. In addition, these contrasting intellectual traditions have also been argued to differ in their life goals. Whereas the Greeks pursued the realisation of their distinctive properties and talents, the Chinese pursue a harmonious life (Nisbett, 2004). In the following sections, I
illustrate how the distinctive thinking styles of the two philosophies shape the way that people perceive others (i.e., person perception), and how the distinctive life goals influence people’s interpersonal processes (i.e., self-presentation).

**Cultural Variations in Person Perception: Dispositionism Versus Situationism**

People’s social cognition is constructed both cognitively and culturally. Thus, although people around the world have universal needs and have similar mental schemas to understand others, the culture in which they are raised shapes how people privilege information during the process of person perception. Research from anthropology and cross-cultural psychology shows that the way people make sense of others is similar to the way that they make sense of the objects (e.g., Choi, Nisbett, & Norenzayan, 1999; Lillard, 1997, 1998; Markus & Kitayama, 1991; Nisbett, 2004).

In individualist cultures, a person is viewed as comprising a unique configuration of internal attributes (e.g., mental states and traits), and is understood as being independent of other people and the contexts. He or she is regarded as autonomous and acting mainly on his or her internal attributes rather than on the norms of the in-groups. In collectivist cultures, by contrast, a person is viewed as interdependent with the in-group members and the surrounding contexts, and the contexts are included in the characterization of the person. Group goals are prioritized over the personal goals and people are expected to act primarily on the in-group norms rather than on their internal attributes. These two kinds of person construal differ in their ways to describe, explain, and predict the behaviours of others.

**Description.**

It has been shown that, when describing another person, people from the individualist cultures are more likely to refer to abstract psychological and trait terms that were free of contexts (e.g., Mary is shy); whereas people from the collectivist cultures are more likely to refer to the person’s social roles, group memberships, and the contexts in which behaviours
occur (Ma & Schoeneman, 1997). When people from the collectivist cultures use the trait terms, those trait terms were qualified, conditional, and contextualized (e.g., Mary is shy when she meets new people, see Cousins, 1989). Furthermore, it has been suggested that the age-related increase in people’s use of the abstract and general trait terms in person descriptions was only restricted to people from the individualist cultures (Miller, 1987).

**Explanation.**

It has been shown that, when explaining the behaviours of other people, people from the individualist cultures tend to make reference to the internal or dispositional characteristics of the actor; and people from the collectivist cultures, by contrast, tend to make reference to the external or situational factors.

For example, Miller (1984) asked Hindu and American children and adults to give some exemplars of the prosocial and deviant behaviours that were undertaken by someone they knew well, and also to explain why each behaviour was undertaken. It was found that there was no significant difference between the explanations of the younger participants from both countries, who were inclined to explain people’s behaviours in terms of the contextual factors. With age, the cultural difference emerged such that the Americans tended to attribute the behaviours to the actors (e.g., their personalities), whereas the Hindus tended to attribute the behaviours to the contexts (e.g., role obligations and social pressures), and such difference was more marked when explaining deviant behaviours.

In another study, Morris and Peng (1994) compared the way that English-language and Chinese-language newspaper differed in their explanations of two similar murders that had happened in the US. In one crime, a Chinese physics student who had recently lost an award competition, unsuccessfully appealed it, and failed to get an academic job, shot his advisor who handled his appeal, several fellow students and bystanders, and then himself. In another crime, an Irish-American postal worker who had recently lost his job, unsuccessfully
appealed the decision with his union, and failed to find another full-time position, shot his supervisor who handled his appeal, several fellow workers and bystanders, and then himself. It was found that the English-language reporters were inclined to explain the crimes in terms of the murderer’s internal attributes (e.g., “very bad temper”, “mentally unstable”, “darkly disturbed man who drove himself to success and destruction”); whereas the Chinese reporters were inclined to explain them in terms of relational, situational, or societal factors (e.g., “did not get along with his advisor”, “a victim of the ‘Top Students’ Education Policy”, “the availability of guns”, “followed the example of a recent mass slaying in Texas”). Morris and Peng (1994) additionally showed that the preference for dispositional or situational attributions was also replicated among the American and Chinese university students.

In sum, when explaining an action or an event, Western people focus more on the discrete actor, and Eastern people put the actor within a larger context and take the contexts more into account.

**Prediction.**

The relative weight given to dispositions and situations is also manifest in Western and Eastern people’s behaviour predictions. First, Western people usually overestimate the behaviour consistency across time and situations. Eastern people, on the other hand, are more attentive to the situational information when making behaviour predictions. For example, in study by Norenzayan, Choi, and Nisbett (2002) it was shown that, when no situational information was provided, both Koreans and Americans made equivalent trait-consistent behaviour predictions across contexts. However, cultural difference began to emerge when the situational information was manipulated and made salient. That is, participants were asked to estimate what proportion of 100 lay people would do (i.e., aggregate predictions) in two situations: one situation facilitated the expression of the person’s trait and the other inhibited it (e.g., for the trait *talkative*, “at a party” is the facilitating situation and “at a
church service” is the inhibiting situation). It was found that, when the traits of the 100 people were unknown, Koreans’ aggregate predictions were more dependent on the situational information than those of the Americans. Further, their predictions were more differentiated between the facilitating and inhibiting situations than those of the Americans. For instance, compared to the Americans, Koreans expected a significantly larger proportion of people to be talkative at a party than at a church service. It was further found that, if participants were asked to make behaviour predictions of another single target person with a specific trait (e.g., talkative) after making the aggregate predictions, Koreans’ but not American’s predictions of that single person were also more differentiated between the facilitating and inhibiting situations.

Summary.

Taken together, evidence suggests that people from the Western individualist cultures tend to highly rely on the internal dispositions or traits to describe, explain, and predict the actions of other people. They also have greater expectations of the stability of such internal traits. However, it does not mean that people from the collectivist cultures lack the ability to infer and use traits in their social inference at all. Instead, they are more sensitive to the contextual information, are more cautious of the joint effects of dispositions and situations in determining an action, and they hold stronger belief in the power of contexts in shaping personalities than do the Westerners (Norenzayan et al., 2002). As described by Aronson, Wilson, and Akert (2013), it can be said that Western people think more like personality psychologists and Eastern people think more like social psychologists.

Furthermore, even though both Western and Eastern people are able to infer and use traits, they hold different implicit theories about personality traits. It has been argued that the Western dispositionism and Eastern situationism resemble the entity–incremental distinction proposed by Dweck and her colleagues (Choi et al., 1999; Dweck, Hong, & Chiu, 1993;
Norenzayan et al., 2002), according to which people generally hold one of two implicit personality theories reflecting different beliefs about the malleability of personality: *entity theory*, and *incremental theory* (Dweck, et al., 1993). Thus, those who hold the entity theory (i.e., entity theorist) regard dispositions or traits as fixed and cannot be changed at will. In contrast, incremental theorists regard dispositions or traits as flexible and malleable. Arguably, the relatively distinct implicit personality theories that Western and Eastern people hold can be linked to their philosophical traditions. That is, the Western reliance on traits reflects their focus on the distinctive and stable properties of objects, and their strong interests in categorization. By contrast, Eastern sensitivity to situations reflects their focus on interrelatedness, and the alterability of the objects.

However, it is important to note that much of the cross-cultural studies described above were based on adults, and few studies were conducted to directly compare the inference and use of traits of children from various cultural background. Therefore, the argument that people’s earliest understandings of others are initially universal across cultures, and later became increasingly differentiated as a result of socialization, still lack strong support (Wellman, 2013). This hypothesis no doubt needs more systematic investigations in the future, and is also one of the main questions that are addressed in the current thesis.

**Cultural Variations in Self-presentation**

Similar to the process of person perception, even though people in all cultures seem to value leaving a good impression on others, the level of self-presentational motivation and the particular impressions that people wish to make on others is largely determined by the culture in which they are socialized (Leary & Kowalski, 1990).

With regard to self-presentational motivation, is has been suggested, because of the collectivist cultures and the relatively limited economic and political opportunities, people from the East might have higher self-presentational motivation than people from the West.
Specifically, first, because group harmony is highly valued in collectivist cultures, people in these societies are more concerned about how self is presented in order not to cause discord among group members. Second, most Eastern countries are developing countries where resources are centralized and controlled by a small number of people, and self-presentational motivation is usually higher when desired resources are scarce. For example, compared to the participants in the non-competitive setting, participants in the hypothetically competitive job interview increased their engagement in self-presentation (e.g., ingratiation to the job interviewer, see Pandey & Rastogi, 1979). Thus, it is possible that, people who live in developing societies might have more self-presentational motives, because they have a greater need of manipulative strategies to compete for the limited resources (Pandey, 1986).

With regard to the construction of self-image, it has been suggested that the way people present themselves largely conforms to specific social norms. For example, as previously noted, in collectivist cultures group harmony is highly valued, whereas in individualist cultures distinctiveness and self-actualization is more encouraged. As a consequence, people in the collectivist cultures are more likely to present themselves as modest, and not to fully reveal their information to other people, thus avoiding standing out and being hurt by others. And people in the individualist cultures, by contrast, are more likely to seek to distinguish themselves from the norm, and thereby fully present their competence and virtues (Lee, Cameron, Xu, Fu, & Board, 1997; Lee, Xu, Fu, Cameron, & Chen, 2001; Markus & Kitayama, 1991; Schlenker & Weigold, 1992).

**Implications for The Present Studies**

The current thesis examines how children and adults from China and Australia integrate people’s inconsistent, context dependent moral actions to make moral trait inference about them. And, in particular, how they use the contextual information to infer self-presentational motives underlying prosocial behaviours, as well as how they incorporate such
motives in their trait inference. On the basis of the developmental and cross-cultural studies on person perception and self-presentation that have been reviewed, several hypotheses can be made for the current studies.

First, it is predicted that, with cognitive development and social experience, participants from both countries will show an age-related increase in their suspicion about possible self-presentational motives. Secondly, it is predicted that participants from China might be able to use the contextual information to infer self-presentational motives at an earlier age than participants from Australia. This is because, on one hand, people from the collectivist cultures have been shown to be more attentive to the contextual information when making sense of others, so they may be more likely to appreciate external forces (i.e., the presence of an authority figure) motivating others’ prosocial actions. On the other hand, people from the developing countries might engage more in self-presentation themselves, and they might be more aware of the self-presentational motives of other people because of their direct involvement in the process. While these accounts are different, the goal of the current studies is not to differentiate them: rather, it is to confirm such differences and evaluate their significance in childhood. Finally, participants from Australia are expected to make more trait-consistent behaviour predictions than would participants from China, since Western people are more inclined to believe in the stability of traits than are people from the East.

**The Present Studies**

From around 4 years of age, children develop profoundly both in their reasoning about moral traits and in their understanding of self-presentational behaviours. However, less research has linked the two areas of understanding together to directly examine how children reason about the prosocial behaviours that are motivated by self-presentational concerns, and
how such reasoning varies by age and culture. These questions are addressed in the current thesis.

Children from 4 to 8 years of age and adults from China and Australia were interviewed with hypothetical scenarios. The behaviour prediction paradigm is used with the following modifications. First, participants are presented with inconsistent rather than consistent exemplars (study 1 to 4). Second, inconsistent behaviours are manipulated, so they occur in different contexts (study 3); or out of various motives (study 4). After the presentation of each story vignette, children are invited to respond to a series of questions regarding each protagonist’s trait and behaviour.

The first study is a pilot study and only Chinese children are included. This study served two main purposes. One is to test the validity of the vignettes and the accompanying illustrations. The other purpose is to determine the predominant outcome of the behaviours, and the order of the inconsistent exemplar in the story vignettes for the subsequent studies. Specifically, since order effect (i.e., primacy and recency effect) has been well documented in person perception literature (e.g., Luchins, 1957), these effects needs to be initially clarified before any more complex manipulations of the contextual and motive information. In study 1, the 4- and 6-year-olds from China were allocated into two conditions in which the different protagonists behaved either in a predominantly prosocial (i.e., two prosocial actions and one antisocial action), or antisocial manner (i.e., two antisocial actions and one prosocial action). Within each condition, the inconsistent action occurred at the beginning, in the middle, or at the end of the story respectively (i.e., primacy, middle, and recency story). Importantly, children also heard another baseline consistent story, in which a neutral behaviour exemplar substituted for the inconsistent exemplar (e.g., the protagonist plays on his or her own) and occurred at the beginning of the story. After each story, children were asked to make trait judgments and behaviour predictions of each protagonist. The subsequent study 2 is the
follow-up study of study 1, which is conducted to preclude the possibility that the age
difference in study 1 was due to the younger 4-year-olds’ memory deficits.

Having established the effects of predominant outcome and order in studies 1 and 2,
studies 3 and 4 are the main studies of the current thesis, which examine how children make
trait inferences on people’s past inconsistent moral actions that are undertaken in different
social contexts (study 3), and out of various motives (study 4); and how such reasoning varies
by age and culture (study 3 and 4). On the basis of the findings in study 1 and 2, the primacy
and recency stories of the predominantly positive condition are used in study 3 and 4.

In study 3, children aged from 4 to 8 years, and adults from China and Australia, are
presented with four different protagonists, each of whom behaved in a predominantly
prosocial way as in studies 1 and 2, but the two prosocial behaviours are manipulated to vary
across different social contexts: they are undertaken either in the presence of an authority
figure (i.e., a teacher), or in that figure’s absence. Furthermore, the antisocial behaviour is
always undertaken when the teacher is absent. The self-presentational motive is arguably
higher in a context where there is a teacher than a context in which there is not, and the
antisocial behaviour in the teacher’s absence provides children with more information about
the protagonists’ actions when self-presentational motive is arguably low, thus making the
self-presentational motive in the presence of the teacher more salient. At the end of each story,
children are first asked to make spontaneous motive attributions of the protagonists’ prosocial
behaviours, either in the presence or in the absence of the teacher. Children are then asked the
same trait judgment and behaviour prediction questions as in studies 1 and 2. Moreover, at
the end of the four vignettes, children are also asked to make a relative niceness judgment of
the two protagonists: one undertakes the prosocial behaviour in the presence of the teacher
and the other undertakes the prosocial behaviour in the teacher’s absence.
To further clarify the findings in study 3, in Study 4, a new sample of 6- and 8-year-old Chinese and Australian children and adults are presented with the same stories as in study 3, but with the additional motive information underlying each behaviour exemplar. Specifically, the antisocial behaviour is described as derived from the antisocial motive, and the prosocial behaviour is either driven by self-presentational motive in the presence of the teacher or driven by prosocial motive in the teacher’s absence. Children are asked the same trait judgment, behaviour prediction, and relative niceness judgment questions as in study 3. And because the motive information is provided, the motive attribution question is not included. The details of the four studies are presented in the following empirical Chapters, 2 through 5.
CHAPTER 2

CHILDREN’S MORAL TRAIT INFERENCES OF OTHER PEOPLE ON THE BASIS OF THEIR INCONSISTENT PAST ACTIONS

Introduction

Trait reasoning is an important aspect of adult folk psychology. In scientific personality theory, traits refer to variations in the tendency to think, feel and behave in conceptually related ways across different relevant situations (Matthews et al., 2009). Traits are not only considered as stable behaviour regularities (Heyman & Gelman, 1998), but are also perceived as comparatively enduring underlying mental properties of individuals that cause these behaviour regularities, as well as generating associated desires and beliefs (Miller & Aloise, 1989; Yuill, 1992b).

Developmentalists are interested in when children begin to infer traits in other people and understand their stability in generating behaviour regularities. The behavioural-prediction paradigm (see Chapter 1, section 2.2 for a full discussion) is frequently used to examine such understanding in children (e.g., Liu, et al., 2007). In this paradigm, participants are presented with one or more exemplars of a hypothetical protagonist’s previous behaviours from which a certain trait can be inferred, and they are then asked to make trait judgments of the protagonist, or to predict his/her behaviours in a novel but relevant situation. The underlying logic of the paradigm is that if children conceptualize traits with reference to a person’s stable and enduring characteristics, they should predict consistent patterns of behaviour across different situations. Findings thus far have indicated that children’s nascent understanding of the stable relations between traits and behaviours begins at around age 4 to 5, or even sometimes as early as 3 years of age (Boseovski & Lee, 2006). Specifically, it has been argued that the process of making behaviour-to-behaviour inferences (i.e., predictions of future behaviours from past behaviours) involves two components: behaviour-to-trait
inferences (i.e., infer traits from behaviours) and trait-to-behaviour predictions (i.e.,
predicting behaviours from traits). As discussed in chapter 1 (section 2), children as young as
4 to 5 years of age are able to make both behaviour-to-trait inferences and trait-to-behaviour
predictions separately, but they are not able to put the two processes together to make
behaviour (-to-trait)-to-behaviour inferences until they reach about 7 to 8 years of age (Liu, et
al., 2007).

Moreover, children from 3 to 8 years of age are found to exhibit a positivity bias in
their trait inferences (see chapter 1, section 3.3), which attenuates by 10 or 11 years of age
(e.g., Boseovski, 2010; Boseovski & Lee, 2008; Boseovski, Shallwani, & Lee, 2009;
Diesendruck & Lindenbaum, 2009; Heyman, Gee, & Giles, 2003; Heyman & Giles, 2004;
Lockhart, et al., 2002). Generally, children’s positivity bias is manifest in the following three
ways: first, children usually view themselves and others more positively than reality would
suggest (e.g., Harter, 2006); second, they require less information to make positive trait
judgments and behavioural predictions than negative ones; and third, they regard positive
traits as more stable and resistant to change than the negative traits (see Boseovski, 2010, for
a review).

Although some of the aforementioned studies showed that children as young as 3
years of age have some capacity to understand a person in a stable and enduring way (e.g.,
Boseovski & Lee, 2006), most research has been restricted to children’s trait inferences on
the basis of past actions that were of the same outcome. That is, the protagonists were
presented as behaving in a highly consistent manner (e.g., always or never displaying the
target behaviour of sharing). However, persons are rarely as consistent in everyday life as
they are depicted in story vignettes, in which their behaviours are largely context-dependent
(Newman, 1996). Arguably, children’s capacity to understand the stability of a person’s traits
or characteristics will be overestimated because the information they receive in story
vignettes is much less complicated than the information they gather in everyday life (see chapter 1, section 2). Consequently, it is unclear whether children’s performance in such studies resembles their responses in daily life, or is merely an artefact of the less lifelike experimental settings (see Lagattuta & Sayfan, 2013, for similar discussion). Therefore, to clarify this question, the current study aimed to examine 4- and 6-year-olds’ trait inferences on the basis of people’s inconsistent, rather than consistent past actions.

In the current study, we focused on children’s trait inferences in the socio-moral domain (e.g., pertaining to traits nice and nasty). Socio-moral traits were chosen because firstly, such global evaluative terms emerge relatively early in children’s use of trait terms and children rely on these traits to guide their social interactions, thus making them more age appropriate (Boseovski & Lee, 2006; Livesley & Bromley, 1973; Mrug & Hoza, 2007; Peevers & Secord, 1973). Second, the current thesis aims to examine how children make trait inferences of other people on the basis of their inconsistent past moral actions that were undertaken in different settings, and arising from various motives; the findings of the current study would enable us to establish designs for subsequent studies. Third, the examination of children’s moral trait inferences can synthesise research from two separate literatures – person perception and moral reasoning.

The effects of two factors were examined in particular: predominant outcome of the past actions, and the order of the inconsistent action. Order was examined because findings from person perception research have shown that when presented with inconsistent information about a person, adults’ impressions of that person are influenced by the order in which the inconsistent information is presented. However, findings regarding the influence of temporally early information (here termed primacy) versus recent information (here termed recency) are mixed (e.g., Lagattuta & Sayfan, 2013; Luchins, 1957). Thus, the order effect needs to be examined before any complex manipulations of contexts, in order to clarify
whether it is a potentially confounding variable that influences children’s inferences.

Therefore, in the current study, children were presented with hypothetical vignettes that described different protagonists’ inconsistent past actions with a predominant outcome, with the inconsistent exemplar occurring at different positions of the vignettes. Specifically, there were three behaviour exemplars in each story vignette, two of which were positive in the predominantly positive (PPos) condition, and negative in the predominantly negative (PNeg) condition. The outcome of the remaining exemplar was opposite to the predominant outcome in each condition. For example, in one PPos story, the protagonist shared his toys twice with two different children but took a toy away from another, different child once. Since there are three possible positions for the inconsistent exemplar to occur in the vignette, each child experienced three stories where the inconsistent exemplar occurred at the beginning (i.e., the primacy story), in the middle (i.e., the middle story), and at the end (i.e., the recency story) of the vignettes. In addition, a fourth neutral story was also presented. The neutral story contained two exemplars of the predominant outcome and one neutral exemplar. The neutral exemplar depicted the protagonist engaging in parallel activities and not interacting with another child (e.g., the protagonist eats or plays on his own), thus revealing no trait information about the protagonist. This fourth neutral story served as a baseline test of children’s trait inferences on the basis of people’s consistent past actions, and the neutral exemplar equated the number of exemplars across stories. Since the neutral exemplar has been utilized in previous research without any discernable order effect (Boseovski & Lee, 2006), it always occurred at the beginning of the story vignette in the current study. Because the effects of predominant outcome and order were the primary interest of the present study, the contexts in which the behaviours were displayed were kept constant. That is, all the events only involved the protagonist and another child, with no adults present.
In sum, each participant was randomly allocated to the PPos or PNeg condition and experienced a total number of four stories (i.e., neutral, primacy, middle and recency). After each story, participants were asked a series of questions regarding each protagonist’s moral trait and future behaviour: they were asked whether they thought the protagonist was nice or nasty, and were asked to make predictions of the protagonist’s behaviours in the future. Behaviour exemplars were adapted from various previous studies (e.g., Alvarez, Ruble, & Bolger, 2001; Boseovski & Lee, 2006; Gnepp & Chilamkurti, 1988; Heller & Berndt, 1981; Heyman & Dweck, 1998; Liu, et al., 2007; Rholes & Ruble, 1984, 1986; Ruble et al., 1988; Yuill & Pearson, 1998). It was expected that, first, children’s performance in the neutral story would replicate previous studies on children’s trait inferences when presented with consistent information, such that both age groups were expected to make trait judgments and behaviour predictions that were consistent with the predominant outcome of the behaviour exemplars. Second, because of the positivity bias, it was expected that children would hold overall positive expectations of the protagonists. However, due to the mixed findings in the literature, no predictions were made regarding the primacy or recency effect.

**Methods**

**Participants**

Participants were 64 children from China, comprising 32 4-year-olds (16 girls, $M = 4.70$ years, $SD = .26$), and 32 6-year-olds (16 girls, $M = 6.78$ years, $SD = .36$). Children were recruited from childcare centres and primary schools in Nanjing. Nanjing is the capital of Jiangsu Province, a medium-sized city in eastern China with a population of approximately 8 million people. Children were from diverse economic backgrounds. Informed consent was obtained from participants’ legal guardians.

**Design**
The study employed a 2 (Age: 4-year-olds, 6-year-olds) × 2 (Predominant outcome: predominantly positive, predominantly negative) × 3 (Order of the inconsistent exemplar: primacy, middle, and recency story) mixed design, with age and predominant outcome as the between-subject variables and order as within-subject variable. Each story vignette described three behaviour exemplars of a different protagonist. The predominantly positive condition (PPos) contained two prosocial exemplars (e.g., sharing) and one antisocial exemplar (e.g., damaging); and the predominantly negative condition (PNeg) contained two antisocial exemplars and one prosocial exemplar. Within each age group, participants were randomly assigned to one of the two outcome conditions (i.e., 16 children per outcome condition per age group). In addition to the three stories in which the inconsistent exemplar occurred in the beginning, middle, and end of the vignette respectively, participants were also presented with an additional neutral story that contained two exemplars of the predominant outcome and one neutral exemplar. In sum, participants heard four stories in total: three inconsistent stories and one neutral story (see Table 2.1 for the design features).

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<tr>
<th>Note. N = negative; P = positive; 0 = neutral</th>
<th>Table 2.1 Design Features of Study 1</th>
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<tbody>
<tr>
<td>Predominantly positive (PPos)</td>
<td>Predominantly negative (PNeg)</td>
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<tr>
<td>Primacy</td>
<td>negative-positive-positive (NPP)</td>
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<tr>
<td>Middle</td>
<td>positive-negative-positive (PNP)</td>
</tr>
<tr>
<td>Recency</td>
<td>positive-positive-negative (PPN)</td>
</tr>
<tr>
<td>Neutral (baseline)</td>
<td>neutral-positive-positive (0PP)</td>
</tr>
</tbody>
</table>


Materials

Four story vignettes (A through D) were developed that could each be varied in terms of protagonist gender and the specific outcome of behaviour exemplars (see Appendix B for the main themes in each story vignette). Each of the four story vignettes contained a different gender-matched protagonist and a second child (i.e., the recipient) who interacted with the protagonist. All story vignettes were structured in a consistent manner strictly designed to only describe settings and behaviours, while avoiding any descriptions of the protagonists’ mental states (e.g., desires or preferences). All stories were accompanied by colourful illustrations to help with comprehension. The protagonists’ faces were purposely drawn with a neutral expression in all scenarios to prevent children using facial expressions to make inferences. The facial expression of the recipient in each behaviour exemplar was explicitly happy or unhappy, in order to illustrate the recipient’s positive or negative emotional response to the protagonist’s behaviour.

The stories and questions were originally written in English, and then were translated into Chinese for the Chinese participants. To ensure that the translation process did not introduce changes in meaning, a translator who had not seen the original English versions translated the Chinese versions back into English. The back-translated versions of the vignettes did not differ in meaning from the original versions (See Appendix B for sample English and Chinese exemplars and the accompanying illustrations).

To counterbalance the effect of story theme (e.g., sharing–taking versus helping–damaging) and presentation order of vignettes, four story sets were generated by the Latin square type design, in which each of the four story vignettes functioned as the neutral, primacy, middle, or recency story, and each story vignette was presented in each order (also see Appendix B). Each story set was assigned randomly but presented equally in each age group (eight times).
Procedure

Four-year-olds were tested individually in a quiet room of the childcare centre, and 6-year-olds were invited to and tested at the laboratory of Child Development and Learning Science at Southeast University of Nanjing. Participants were told one of the four story sets described above randomly. Stories accompanied by illustrations were presented using Microsoft PowerPoint on a laptop computer controlled by the experimenter.

Before hearing the story, children were told “I am going to show you some pictures and tell you some stories. The stories are about little boys/girls who are at the same age as you and who also go to preschool/school just like you do. After the stories, I will ask you some questions about them. Is that okay? Are you ready to hear the stories? Just tell me if you do not understand something. The first story is about a boy/girl called Martin/Linda. See, here is Martin/Linda.” As the stories were told, the experimenter pointed to the appropriate characters in the illustrations.

After each story, children were asked to answer the following trait and behaviour prediction questions. The whole procedure lasted about 20 minutes.

Trait judgment, rating, and justification.

Children were first asked to make trait judgment of the protagonist. For example, they were asked, “Is Martin nice or nasty?” If children made ambivalent judgments initially (e.g., “he is both nice and nasty”, “sometimes he is nice and sometimes he is nasty”), they were prompted with “Generally speaking, is he more nice or more nasty?” Children were given a score of ‘1’ if they endorsed ‘nice’, ‘-1’ if they endorsed ‘nasty’, and ‘0’ if they still insisted on ambivalent judgments. Then, children were asked to rate their endorsed trait on a 3-point scale. For example, if the participant judged the protagonist as nice, they were asked “Is Martin a little bit/nice, nice, or very nice?” Children’s responses resulted in a 7-point rating scale of the trait label: very nasty (-3), nasty (-2), a little bit nasty (-1), not nice or nasty (0), a
little bit nice (1), nice (2), and very nice (3). Thus, higher scores indicated more positive judgment toward the protagonist. Lastly, children were invited to justify their judgment. For example, they were asked, “Why do you think Martin is a little nasty?”

**Behaviour prediction and justification.**

Children were presented with a forced choice on how the protagonist would behave in a new situation. For example, “One day, during lunch time at school, Justin has a bag of biscuits and another boy, Alan, has a sandwich. Justin goes over to Alan. Do you think that Justin will share his biscuits with Alan, or will Justin grab Alan’s sandwich and take it away from him?” The order of the forced-choice options (e.g., sharing or taking) was presented randomly. Children were given a score of ‘1’ each time they made a positive prediction and ‘0’ for a negative prediction. Children were also invited to justify their behaviour prediction. For example, they were asked, “Why do you think that Justin will take Alan’s sandwich away?”

**Coding of Open-Ended Questions**

Children’s responses to the open-ended questions were transcribed from an audio recording and coded. The coding was fully completed by the author. A second coder coded a random sample of children (20%), and reliability was high: Cohen’s Kappas averaged 0.88 (trait justifications κ = 0.91; behaviour prediction justifications κ = 0.85). All disagreements were resolved through discussion.

There were two open-ended justification questions in the current study, which are the justifications for trait judgments and behaviour predictions. The coding schemes with examples for each of the question are presented below respectively. It should be noted that children’ justifications fell into only one of the possible categories.

**Trait justifications.**
Trait justifications were coded into the following non-exclusive three categories: (1) consistent behaviours: children only made reference to the protagonists’ past actions of the predominant outcome (e.g., “She always helped”, “He took the toys away from other kids”); (2) inconsistent behaviours: children made reference to the protagonists’ inconsistent behaviour, regardless of whether they also mentioned the consistent behaviours or not (e.g., “He once helped”, “She helped other kids twice, then she did something wrong, she damaged the sand castle”); (3) other: all the other responses (e.g., “I don’t know” or no response, simple repetition such as “because she is nice”, and other uninterpretable answers).

**Behaviour prediction justifications.**

Children’s justifications were initially classified into the following non-exclusive five categories: (1) person reference: children made references to the protagonists’ past actions or traits (e.g., “He has helped other kids before, he will help this time too”); (2) spontaneous reparation: children reasoned that the protagonist would undertake prosocial behaviour in the novel situation because he or she felt guilty and wanted to correct the previous mistakes; (3) social norms: children justified their behaviour predictions in terms of acknowledged moral rules or obligations (e.g., “Because people should share”); (4) self-interests (e.g., “Mary didn’t help because she felt the books were too heavy”, “He grabbed his sandwich because it looks delicious and he wanted to have it”, “He let the other boy play with his robot because they could swap their toys”); and (5) other (e.g., “I don’t know”, or reference to the pictures). Since trait inference was the primary interest in the current study, children’s justifications were also simplified into two general categories: person reference and non-person reference (i.e., a combination of the latter four categories).

**Results**
Preliminary 2 (Gender: male, female) × 4 (Story set: story set A, B, C, and D) analyses of variance (ANOVA) were conducted on all measures – trait judgments, trait ratings, and behaviour predictions in the neutral, primacy, middle, and recency story respectively. The results revealed no significant effects of gender, story set, or interaction effect between them, all ps > .05. Hence, these variables were not included in the subsequent analyses.

**Trait ratings and justifications**

Children’s trait ratings are present in Figure 2.1. First, children’s trait ratings in the neutral story were analysed with the 2 (Age: 4-year-olds, 6-year-olds) × 2 (Predominant outcome: PPos, PNeg) ANOVA. There was only a significant main effect of predominant outcome, $F(1, 60) = 567.36, p < .001, \eta_p^2 = .90$. Thus, when presented with people’s consistent past actions, 4- and 6-year-olds’ trait ratings did not significantly differ from each other. Both age groups differentiated between the nice and nasty protagonist. They rated the protagonist in the PPos condition as more positive than in the PNeg condition ($M$s = 2.63 and 2.88 for the 4- and 6-year-olds in the PPos condition respectively; and $M$s = -2.38 and -2.00 for the 4- and 6-year-olds in the PNeg condition respectively).

Next, children’s trait ratings in the three inconsistent stories were analysed with the 2 (Age: 4-year-olds, 6-year-olds) × 2 (Predominant outcome: PPos, PNeg) × 3 (Order: primacy, middle, and recency story) repeated-measures ANOVA with age and predominant outcome as between-subjects factors, and order as within-subjects factor. There was a significant main effect of outcome such that, overall, protagonists in the PPos condition were rated more positively than in the PNeg condition, $F(1, 60) = 54.64, p < .001, \eta_p^2 = .48$. The main effect of outcome was qualified by a significant two-way interaction between outcome and order, $F(2, 120) = 10.03, p < .001, \eta_p^2 = .14$, which was further qualified by a three-way interaction between outcome, order, and age, $F(2, 120) = 9.17, p < .001, \eta_p^2 = .13$. Analyses for each age group showed that, for the 6-year-olds, in both outcome conditions, their trait ratings in one
story were not significantly different from the other two, \( ps > .44 \). By contrast, for the 4-year-olds, in both outcome conditions, children’s trait ratings in the recency stories significantly differed from those in the primacy and middle stories, \( ps < .05 \). Therefore, as shown in Figure 2.1, 6-year-olds’ trait ratings were not affected by the order of the inconsistent exemplar, but 4-year-olds’ trait ratings were highly influenced by the outcome of the last behaviour exemplar.

![Figure 2.1](image)

*Figure 2.1. Trait rating scores by age, valence, and story type (error bars represent standard errors)*

Table 2.2 shows children’s justifications for their trait judgments. It can be seen that 6-year-olds made equivalent reference to the protagonists’ inconsistent exemplar across the three stories (15, 14, and 15 times for the three stories in the PPos condition; 11, 10, and 11 times in the PNeg condition). The 4-year-olds, by contrast, increasingly made reference to the protagonists’ inconsistent exemplar to justify their judgments in the recency story than in the other two stories (7, 8, and 13 times in the primacy, middle, and recency story in the PPos condition; 6, 3, and 9 times of the three stories in the PNeg condition). This pattern of
responding suggested that the 4-year-olds were more attentive to the inconsistent information when it occurred at last: the most immediate information was more salient for the 4-year-olds.
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<th></th>
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<td></td>
<td></td>
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<tr>
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In sum, when presented with consistent behaviour information in the neutral story, both age groups appropriately inferred the moral traits from the protagonists’ past actions in a similar way. When presented with inconsistent behaviour information, although children gave more positive ratings to the predominantly nice than nasty protagonists, the two age groups differed in the way they used the inconsistent information. Specifically, the 6-year-olds were less sensitive to the order of the inconsistent information, and their judgments about the protagonists were mainly dependent on the predominant outcome of the protagonists’ past actions. The 4-year-olds, in contrast, were more attentive to the order of the inconsistent information, especially the most immediate information that they received. The four-year-olds showed a strong recency effect in their trait ratings.

**Behaviour predictions and justifications**

First, children’s behaviour predictions in the neutral story were analysed with the 2 (Age: 4-year-olds, 6-year-olds) × 2 (Predominant outcome: PPos, PNeg) ANOVA. There was only a significant main effect of predominant outcome, $F(1, 60) = 10.87, p = .002, \eta_p^2 = .15$. Thus, both age groups differentiated between the nice and nasty protagonist in their behaviour predictions. They expected more positive future behaviours from the protagonists in the PPos than in the PNeg condition ($M_s = 0.88$ and 0.94 for the 4- and 6-year-olds in the PPos condition respectively; and $M_s = 0.50$ and 0.63 for the 4- and 6-year-olds in the PNeg condition respectively).

Next, children’s behaviour predictions in the three inconsistent stories were analysed with the 2 (Age: 4-year-olds, 6-year-olds) × 2 (Predominant outcome: PPos, PNeg) × 3 (Order: primacy, middle, and recency story) repeated-measures ANOVA with age and predominant outcome as between-subjects factors, and order as within-subjects factor. There was a significant main effect of outcome, $F(1, 60) = 4.59, p = .04, \eta_p^2 = .07$. That is, across
the two age groups, children made more positive behaviour predictions of the protagonists in the PPos than in the PNeg condition.

Figure 2.2 shows the proportion of children who made positive behaviour predictions of the protagonists by age, outcome, and story. Sixteen one-sample t-tests against the chance value of 0.5 were conducted for each age group, outcome, and story type. It was found that in the PPos condition, except for the 4-year-olds in the middle story ($p = .33$), children’s predictions were significantly greater than chance (all remaining $ps < .05$). That is, children were more likely to predict that the predominantly nice protagonists would undertake positive behaviours in the future. In the PNeg condition, by contrast, except for the 6-year-olds in the middle story ($p = .04$), children’s predictions were not significantly different from chance (all remaining $ps > .3$). As shown in Figure 2.2, even though protagonists in the PNeg condition had been mostly nasty in the past, children were not more likely to make negative behaviour predictions of them.

![Figure 2.2](image)

*Figure 2.2. Proportion of children who made positive behaviour predictions as a function of age, valence, and order, asterisks indicate greater than chance performance (one-sample t-tests, $p < .05$ *, $p < .01$ **, $p < .001$ ***)*
Children’s justifications for their behaviour predictions are presented in Table 2.3. It can be seen firstly that, overall, 6-year-olds were more likely to justify their behaviour predictions in terms of the protagonists’ past actions or traits (i.e., *person reference*) than were the 4-year-olds. Second, when making positive predictions of the protagonists, in both outcome conditions, 4-year-olds were inclined to make reference to social norms, and 6-year-olds were inclined to use person references to justify their predictions. Third, when making negative predictions of the protagonists, in the PPos condition, among the meaningful justifications, the 4-year-olds were inclined to refer to self-interests, whereas the 6-year-olds were inclined to refer to self-interests and as well as using person references to justify their predictions. In the PNeg condition, both age groups were inclined to use person references to justify their predictions.
<table>
<thead>
<tr>
<th>PPos</th>
<th>Coded Justifications</th>
<th>Positive Predictions</th>
<th>Negative Predictions</th>
</tr>
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<tbody>
<tr>
<td></td>
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<td>4 years</td>
<td>6 years</td>
</tr>
<tr>
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<td>11 (0.73)</td>
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<tr>
<td></td>
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<td></td>
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<td>--</td>
</tr>
<tr>
<td></td>
<td>Social norms</td>
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<td>4 (0.27)</td>
</tr>
<tr>
<td></td>
<td>Self-interests</td>
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<td>--</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>4 (0.29)</td>
<td>--</td>
</tr>
<tr>
<td>Primacy story</td>
<td>Person reference</td>
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<td>7 (0.54)</td>
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<tr>
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<td>3 (0.23)</td>
</tr>
<tr>
<td></td>
<td>Social norms</td>
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<td>1 (0.08)</td>
</tr>
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<td>Self-interests</td>
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<td>--</td>
</tr>
<tr>
<td></td>
<td>Other</td>
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</tr>
<tr>
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<td>Person reference</td>
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<tr>
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<td>Non-person reference</td>
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<td>7 (0.54)</td>
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<td>2 (0.15)</td>
</tr>
<tr>
<td></td>
<td>Social norms</td>
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<td>1 (0.08)</td>
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<tr>
<td></td>
<td>Self-interests</td>
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<td>1 (0.08)</td>
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<tr>
<td></td>
<td>Other</td>
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<td>Person reference</td>
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<td></td>
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<td>Social norms</td>
<td>4 (0.33)</td>
<td>3 (0.23)</td>
</tr>
<tr>
<td></td>
<td>Self-interests</td>
<td>2 (0.17)</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>3 (0.25)</td>
<td>2 (0.15)</td>
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</table>
### (b) PNeg condition

<table>
<thead>
<tr>
<th>PNeg</th>
<th>Coded Justifications</th>
<th>Positive Predictions</th>
<th>Negative Predictions</th>
</tr>
</thead>
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<tr>
<td></td>
<td></td>
<td>4 years</td>
<td>6 years</td>
</tr>
<tr>
<td>Neutral story</td>
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<td>--</td>
<td>2 (0.20)</td>
</tr>
<tr>
<td></td>
<td>Non-person reference</td>
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<td>4 (0.40)</td>
</tr>
<tr>
<td></td>
<td>Social norms</td>
<td>4 (0.50)</td>
<td>1 (0.10)</td>
</tr>
<tr>
<td></td>
<td>Self-interests</td>
<td>1 (0.13)</td>
<td>2 (0.20)</td>
</tr>
<tr>
<td></td>
<td>Other</td>
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<td>1 (0.10)</td>
</tr>
<tr>
<td>Primacy story</td>
<td>Person reference</td>
<td>1 (0.13)</td>
<td>3 (0.38)</td>
</tr>
<tr>
<td></td>
<td>Non-person reference</td>
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<td>5 (0.63)</td>
</tr>
<tr>
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<td>Spontaneous reparation</td>
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<td>1 (0.13)</td>
</tr>
<tr>
<td></td>
<td>Social norms</td>
<td>4 (0.50)</td>
<td>1 (0.13)</td>
</tr>
<tr>
<td></td>
<td>Self-interests</td>
<td>1 (0.13)</td>
<td>2 (0.25)</td>
</tr>
<tr>
<td></td>
<td>Other</td>
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<td>Person reference</td>
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<td>5 (0.42)</td>
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<tr>
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<td>Self-interests</td>
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</tr>
<tr>
<td></td>
<td>Other</td>
<td>2 (0.22)</td>
<td>--</td>
</tr>
<tr>
<td>Recency story</td>
<td>Person reference</td>
<td>1 (0.10)</td>
<td>4 (0.40)</td>
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<tr>
<td></td>
<td>Non-person reference</td>
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<td>6 (0.60)</td>
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</tr>
<tr>
<td></td>
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<td>3 (0.30)</td>
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<tr>
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<td>Self-interests</td>
<td>3 (0.30)</td>
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</tr>
<tr>
<td></td>
<td>Other</td>
<td>2 (0.20)</td>
<td>2 (0.20)</td>
</tr>
</tbody>
</table>
In sum, children’s behaviour predictions were less influenced by the order of the inconsistent information than were their trait ratings. Even though both age groups generally made more positive behaviour predictions of the protagonists in the PPos than in the PNeg condition, they also tended to expect positive behaviours from the protagonists in the PNeg condition. Thus, children exhibited the positivity bias in their behaviour predictions. Children’s behaviour predictions of the protagonists were not entirely dependent on the trait judgments they had made, especially for the 4-year-olds. Among other reasons that 4-year-olds provided to justify their predictions, they tended to adopt social norms to explain their positive predictions; and they tended to refer to self-interests to explain their negative predictions.

**Discussion**

The present study examined how 4- and 6-year-old Chinese children integrate more complex inconsistent behaviour information to make moral trait inferences about other people. Specifically, the present study aimed to investigate how children’s inferences were influenced by the predominant outcome of the protagonists’ past behaviours and order of the inconsistent behaviour. It was found that, first, when witnessing the protagonists behave consistently in the past (i.e., in the neutral story), both 4- and 6-year-olds made trait-consistent inferences and no age differences were observed, which replicates previous research that children as young as four years of age have the capacity to infer different moral traits in others on the basis of their past actions (e.g., Liu, et al., 2007, Experiment 1).

However, when the protagonists behaved inconsistently in the past (i.e., in the primacy, middle, and recency story), the two age groups made their trait ratings in different ways. Specifically, the 6-year-olds’ ratings were mainly in accordance with the predominant outcome of the protagonists’ past actions, whereas the 4-year-olds’ ratings were highly
influenced by the outcome of the final exemplar. In other words, a recency effect was observed in the 4-year-olds.

Finally, across the four stories, children in both age groups tended to make positive behaviour predictions of the protagonists irrespective of their past nice or nasty behaviours. This tendency to make positive predictions was in line with the prevailing positivity bias in the literature. In short, when facing inconsistent behaviour information about a person, children’s inferences of his/her moral trait and expectations of his/her behaviour in a new but relevant context depended on the predominant outcome and the order of the inconsistent information.

The recency effect in the 4-year-olds and the positivity bias were findings of particular interest that emerged from the current study. One simple but possible explanation for the robust recency effect in the 4-year-olds was that they were incapable of recalling all the information in the vignettes, and thus only utilized the last piece of information to make trait inferences. Their significantly different responses between the recency story and the other two stories may possibly stem from the fact that the outcome of the last exemplar was the same in the primacy and middle story, but different in the recency story. Thus, before any further interpretation of these findings, the possibility that 4-year-olds’ recency effect was attributed to forgetting needs to be examined.

Consequently, a small follow-up study (study 2, chapter 3) was done on a different group of 4-year-olds to examine whether the recency effect was due to their incapacity to recall information from the earlier stories. If the recency effect was indeed due to their incapacity to recall the information, their memory accuracy of the last exemplar is expected to be higher than the accuracies of the other two exemplars. Once the memory issues have been clarified in study 2, the recency effect and positivity bias will be revisited.
CHAPTER 3

THE ROLE OF MEMORY IN THE RECENTY EFFECT OBSERVED IN 4-YEAR-OLDS

Introduction

In the previous chapter (study 1), children at 4 and 6 years of age from China were presented with different protagonists who behaved in a predominantly prosocial or antisocial way, and their inconsistent behaviour occurred in the beginning, middle, and end of the story vignette. Children were then asked to make trait judgments and behaviour predictions of the protagonists. One of the main findings in study 1 was that the 4-year-olds exhibited the recency effect in their trait ratings: their trait ratings were highly influenced by the outcome of the final behaviour exemplar.

The aim of the present study was to examine whether the influence of the most recent behaviour exemplar on 4-year-olds’ was due to difficulties recalling the earlier information. If the recency effect was indeed due to their incapacity to recall the information, their memory accuracy of the last exemplar was expected to be higher than the accuracies of the other two exemplars. Moreover, the present study can also be used to examine whether the recency effect and positivity bias in study 1 can be replicated. In the present study, a new group of 16 4-year-olds were presented with the same story vignettes as study 1. At the end of each story vignette, children were first asked to recall what the protagonists had done, followed by the same trait and behaviour predictions questions as study 1.

Methods

Participants

Sixteen 4-year-old Chinese children participated in the present study (8 girls, \( M = 4.71 \) years, \( SD = 0.40 \)). Children were recruited from childcare centres in Nanjing and none
of these children had participated in study 1. Children were from diverse economic backgrounds. Informed consent was obtained from participants’ legal guardians.

**Design, Materials, and Procedure**

The design, materials, and procedure were essentially the same as study 1. Participants were randomly assigned to one of the two outcome conditions. The only modification was that, for each story, there was an additional memory question asking children to recall what the protagonist had done in each behaviour exemplar. That is, at the end of each story vignette when children had seen all three exemplars, they were shown the first scenario of each exemplar again, and were asked what the protagonist had done later in that exemplar. For example, after Johnny’s story, the first scenario of the first exemplar (i.e., Johnny and Bobby are sitting next to each other and are folding the paper) was shown in the PowerPoint again, and children were asked, “Now Johnny is folding a piece of paper, and another boy, Bobby, is sitting next to Johnny and also folding paper. What did Johnny do later on?” If children could not provide the answers spontaneously, they were prompted with a forced choice such as, “Did Johnny teach Bobby how to make the paper plane, did Johnny grab Bobby’s paper boat and tear it up, or did Johnny fold the paper on his own?” The order of the forced-choice options was randomly presented. The same procedure continued for the second and third exemplar. Children were given a score of “1” each time they recalled correctly and a score of “0” each time they recalled incorrectly, irrespective of whether the answer was spontaneous or prompted. After the memory question, children were asked the same trait and behaviour prediction questions as study 1. Their responses were coded in the same way as study 1. The whole procedure lasted about 20 minutes.
Results and Discussion

Memory Question

Table 3.1 shows children’s performance on the memory question. It can be seen that 87.5% of the responses were provided spontaneously by the participants, and children’s responses approached ceiling. A 4 (Story type: neutral, primacy, middle, and recency story) × 3 (Exemplar: exemplar 1, exemplar 2, and exemplar 3) repeated-measures ANOVA on memory scores showed a significant main effect of story type, which was qualified by a significant 2-way interaction between story type and exemplar, *p* < .05. The interaction stemmed from the fact that in the neutral story, children’s accuracy for the first exemplar (i.e., neutral exemplar) was significantly lower than the other two exemplars, whereas in the other three stories, children’s recall were equally accurate for the three exemplars.

It is noteworthy that the lowest accuracy score was for the first exemplar in the neutral story. This was because the neutral exemplars were distorted as positive in the PPos conditions, and negative in the PNeg conditions: when presented with neutral information, children appeared to fill in the missing action based on the predominant valence of the vignette. Children’s equally accurate recall of the three exemplars in the primacy, middle, and recency story suggested that, virtually all children had little difficulty retaining the information that they have been presented, so long as that information had a distinctive valence (positive or negative). These findings make it unlikely that poor memory accounts for the fact that 4-year-olds weight the most recent information most strongly.

Trait Ratings

Children’s trait ratings are shown in Figure 3.1. First, children’s trait ratings in the neutral story were analysed with a one-way ANOVA to examine the effect of outcome. Similar to study 1, there was a significant main effect of outcome, *F*(1, 13) = 41.38, *p* < .001. the protagonist in the PPos condition was rated more positive than in the PNeg condition.
Next, to examine whether the recency effect was replicated, children’s trait ratings in the other three inconsistent stories were analysed with a 2 (Predominant outcome: PPos, PNeg) × 3 (Order: primacy, middle, and recency story) repeated-measures ANOVA, with order as repeated measure. There was a significant main effect of outcome, \( F(1, 12) = 5.36, p = .04, \eta_p^2 = .31 \), which was qualified by the significant two-way interaction between outcome and order, \( F(2, 24) = 5.22, p = .01, \eta_p^2 = .30 \). That is, despite the fact that children gave more positive ratings to the protagonists in the PPos than in the PNeg condition; the predominantly nice and nasty protagonists were less differentiated in the recency story than in the other two stories. Four-year-olds’ trait ratings were highly influenced by the outcome of the final exemplar, and the recency effect in study 1 was replicated.

Table 3.1

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Correct</td>
</tr>
<tr>
<td>Spontaneous</td>
</tr>
<tr>
<td>Spontaneous</td>
</tr>
<tr>
<td>Neutral story</td>
</tr>
<tr>
<td>Exemplar 1</td>
</tr>
<tr>
<td>Exemplar 2</td>
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<tr>
<td>Exemplar 3</td>
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<tr>
<td>Primacy story</td>
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<tr>
<td>Exemplar 1</td>
</tr>
<tr>
<td>Exemplar 2</td>
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<td>Exemplar 3</td>
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<td>Middle story</td>
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<td>Exemplar 1</td>
</tr>
<tr>
<td>Exemplar 2</td>
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<tr>
<td>Exemplar 3</td>
</tr>
<tr>
<td>Recency story</td>
</tr>
<tr>
<td>Exemplar 1</td>
</tr>
<tr>
<td>Exemplar 2</td>
</tr>
<tr>
<td>Exemplar 3</td>
</tr>
</tbody>
</table>
**Behaviour predictions**

Children’s behaviour predictions in the neutral story were analysed with a one-way ANOVA to examine the effect of outcome. There was a significant main effect of outcome, $F(1, 11) = 5.92, p = .03$, as children made more positive predictions of the protagonists in the PPos than in the PNeg condition. Next, children’s behaviour predictions in the other three inconsistent stories were analysed with a 2 (Predominant outcome: PPos, PNeg) × 3 (Order: primacy, middle, and recency story) repeated-measures ANOVA, with order as repeated measure. Neither the main effect of valence or order, nor the interaction effect between them was found, $ps > .20$. Therefore, different from study 1, in the present study, children’s behaviour predictions did not vary in the two outcome conditions. Figure 3.2 shows the proportions of children who made positive behaviour predictions of the protagonists. Eight one-sample $t$-tests against the chance value of 0.5 were conducted for each outcome and story type. It was found that in the PPos condition, except for the recency story ($p = 1.00$), children’s predictions were significantly greater than chance (all $ps ≤ .02$). In the PNeg condition, however, none of the predictions were significantly different from chance (all $ps > .40$). Hence, for the predominantly prosocial protagonists, children tended to anticipate positive future behaviours from them unless they did something nasty recently; and for the predominantly antisocial protagonists, children tended not to anticipate negative future behaviours from them at all. In other words, the positivity bias was also replicated.
Figure 3.1. Trait rating scores by outcome and story type (error bars represent standard errors)

Figure 3.2. Proportion of children who made positive behaviour predictions as a function of valence and order, asterisks indicate greater than chance performance (one-sample t-tests, $p < .05 \ast, p < .01 \ast\ast, p < .001 \ast\ast\ast$)

Summary

Taken together, the findings of study 2 largely replicate and extend the results from study 1. Four-year-olds made more positive judgments of the predominantly nice protagonists,
but their judgments nevertheless confirmed the recency effect. These children also exhibited the positivity bias, in that they expected the protagonists’ behaviours to be largely positive irrespective of the predominant outcome of their past actions. Furthermore, children’s performance on the memory task suggested that the recency effect was unlikely to be due to memory limitations. Even though it appears that 4-year-olds were able to store and retrieve the protagonists’ past actions, they still prioritized the final piece of information.

**General Discussion for Study 1 and 2**

The present study, together with study 1, replicates and extends research on children’s developing trait reasoning. Specifically, both studies examined how Chinese children at 4 and 6 years of age integrated inconsistent information to make trait inferences. Findings so far have shown that, when making trait judgments on the basis of people’s past inconsistent actions, 4-year-olds were susceptible to the recency effect but 6-year-olds were less sensitive to the order of the inconsistent information. In addition, both age groups make predictions of other people in a systematically positive way. They were more likely to make positive behaviour predictions of the PPos protagonists, but did not systematically make negative behaviour predictions of the PNeg protagonists.

**The Recency Effect in Young Children**

The recency effect in the 4-year-olds was demonstrated in two ways in the recency stories: the dramatic change in their trait ratings, and their increasing reference to the inconsistent exemplar in their trait justifications. An order effect in impression formation has long been observed in person-perception literature (e.g., Anderson & Barrios, 1961; Labbie, 1973; Lagattuta & Sayfan, 2013; Luchins, 1957; Luchins & Luchins, 1965; Rholes & Ruble, 1986; Steininger & Eisenberg, 1976), but previous findings have been mixed regarding whether our perception of another person was more influenced by the first impression (i.e.,
the primacy effect) or by the most recent impression (i.e., the recency effect). Two studies have in fact specifically examined children’s impression formation on the basis of their inconsistent past actions (Lagattuta & Sayfan, 2013; Rholes & Ruble, 1986). In Rholes and Ruble’s seminal study (1986), 5- to 6-year-olds exhibited the recency effect, but the 9- to 11-year-olds did not. Moreover, the recency effect was only shown in the PNeg condition, when there was a one-day separation between the first four negative exemplars and the final positive exemplar. In a more recent study conducted by Lagattuta and Sayfan (2013), both children aged 4 to 10 years and adults made more positive forecasts in the NP trials (a negative and then a positive past event) than in the PN trials, and the tendency to weigh the most recent information increased with age. Therefore, the recency effect in the present studies was only partially in accordance with the aforementioned two studies in that first, it was only exhibited among the 4-year-olds but not among the 6-year-olds. Second, the recency effect was exhibited in both outcome conditions and even when there was no temporal separation between the inconsistent information.

The discrepant results thus raised one issue that has not been resolved. That is, whether the recency effect increases or decreases with age. Arguably, the cultural background of the participants (i.e., China and the US), and variations in experimental procedures (e.g., the total number of the exemplars, the characteristics of the recipient, and the specific questions that were asked) may partially account for the discrepant findings. Specifically, first, there were five exemplars in Rholes and Ruble’s (1986) study, but only two in Lagattuta and Sayfan’s (2013), and three in the present study, thus leading to different ratio of positive to negative traits. Second, in Lagattuta and Sayfan’s (2013) vignettes, protagonists directed the two actions towards a single recipient, whereas the protagonists in Rholes and Ruble’s (1986) and in the present studies interacted with different recipients. Third, Lagattuta and Sayfan (2013) asked participants to predict the protagonists’ thoughts, emotions, and
decisions when the protagonist encountered a perpetrator who had consistently or inconsistently caused harm in the past. So participants made the forecasts from the perspectives of the protagonists instead of their own. Hence, the age-related change in prioritizing the most recent information can be clarified in the future in at least three ways. One is to recruit older children to create a sample with a wider age-range. The next is the manipulation of the number of exemplars to create different lengths of information stream. In the present study three exemplars were favoured so that children still had a basis (i.e., majority) to prefer one trait judgment over another; the focus was on inconsistency not uncertainty per se (i.e., 50:50). And the final one change would be to manipulate the degree of self-involvement (i.e., the self-other comparison), so as to examine whether children’s performance would vary if they were asked to make predictions directly versus judging what another person would predict.

Although age-related change in the recency effect needs further clarification, the current findings showed that the 4-year-olds did not weigh the inconsistent information equally if it was presented at different positions of the information stream. And the recency effect was not an artefact of their memory deficits, which can be supported by two separated pieces of evidence. One is from the present study; 4-year-olds’ memories of the behavioural exemplars in the three inconsistent stories was close to ceiling. The other is from Lagattuta and Sayfan’s (2013) study, which showed that 4-year-olds systematically showed the recency effect even if they had the opportunity to revisit the events (i.e., the event stimuli stayed on the screen while the test questions were asked).

The robust recency effect in the 4-year-olds could be understood in light of various theories provided by previous researchers. The first way to interpret the current robust recency effect in 4-year-olds is that the two age groups may differ in the way they searched for and retrieve the information from memory, which is in resonance with the idea of Austin,
Ruble, and Trabasso (1977). Although both age groups were able to store the information in memory, it is possible that younger children only retrieved the most accessible information (i.e., the last exemplar) and terminated the search after the retrieval; the older children, on the other hand, searched the information more thoroughly and integrated the information to make more averaging judgments. Children’s justifications in the present study provided some support for this possibility. Specifically, the four-year-olds made more reference to the protagonists’ inconsistent exemplar in the recency story than in the primacy and middle stories; whereas 6-year-olds’ references to the inconsistent exemplar did not vary significantly across the three stories.

Second, the recency effect may reflect children’s nascent and developing understanding of personality traits (Liu, et al., 2007). Four-year-olds’ impressions of other people seems fragile and easily altered in the face of new incongruent information. The six-year-olds, by contrast, seemed to balance all the information about a person, and then form a more generalized, holistic, and cohesive impression of them. Children’s trait judgments in study 1 provided some support for this possibility as well. Specifically, in the recency stories, although comparable 4- and 6-year-olds made reference to the protagonists’ inconsistent behaviour exemplar; the PPos and PNeg protagonists began to be judged as nasty and nice respectively by the 4-year-olds, but were still judged as nice and nasty by the 6-year-olds. Furthermore, older children’s judgments were more neutral and less extreme than that of the younger children.

**The Positivity Bias**

Although children made more positive behaviour predictions of the protagonists in the PPos than in the PNeg condition, they did not systematically make negative behaviour predictions of the protagonists in the PNeg condition. In other words, they tended to hold positive anticipations of the protagonists’ future behaviours, even if they have behaved in a
predominantly antisocial way in the past. The tendency to make positive predictions, corroborated the prevailing positivity bias in literature on children’s traits reasoning (e.g., Boseovski, 2010; Boseovski, 2012; Boseovski & Lee, 2006, 2008; Boseovski, et al., 2009; Rholes & Ruble, 1986). Although the positivity bias has been well documented, few studies have directly investigated why children hold the biased positive expectations of other people. Among the various perspectives that explain the bias, three of them have been referred to most frequently (see chapter 1, section 3.3).

The first one is “wishful thinking”, children confuse others’ and their own actual behaviours with their wish to undertake favourable behaviours (e.g., Harter, 2006). In other words, they predict what they expect. The second perspective proposes that the bias is a product of socialization, such that children internalise commonplace narratives about positive transformation (e.g., the Ugly Duckling, see Lockhart, et al., 2002; Lockhart, et al., 2008) and become increasingly reluctant to make negative judgments about others (Boseovski, et al., 2009; Talwar & Lee, 2002; Talwar, et al., 2007). The final view, adaptive cognitive immaturity, suggests that the positivity bias stems from poor metacognition, and supports positive social interaction (e.g., Bjorklund, 1997; Boseovski, et al., 2009; Heyman & Giles, 2004). This final view has indirect support from social information processing (SIP) research which shows that children who tended to attribute benign intentions to others are indeed more prosocial and less aggressive (e.g., Arsenio, Adams, & Gold, 2009; Nelson & Crick, 1999).

In so far as the current data can speak to this issue, the justification question that was directly posed in the present study encouraged children to elaborate their reasoning process, and thereby provides some valuable information on the underlying mechanism of the positivity bias. It was shown that, when asked to justify their behaviour predictions, in addition to the age-related increase in relating the protagonists’ future actions to their past actions or traits, children also based their behaviour predictions on other factors. Specifically,
for the positive predictions, 4-year-olds tended to make reference to the widely acknowledged social norms (e.g., “He will share his biscuits with him because sharing is nice”), and the 6-year-olds tended to make reference to spontaneous reparation (e.g., “He will help him because he wants to correct his mistakes”) to justify their predictions. For the negative predictions, in addition to person reference, both age groups tended to justify their predictions in terms of the fulfilment of the protagonists’ self-interests (e.g., “He will grab his robot because he wants to play with it”), especially in the PPpos condition. Thus, it can be seen that, on the one hand, children tended to adopt more transient and situational reasons in predicting others’ negative behaviours. They did not perceive the traits (e.g., “He likes grabbing the property of other people”) as extensions of temporally extended desires across time and situations (e.g., “He wants to play with the robot”), and they did not conceptualize traits as the enduring characteristics of the person. On the other hand, 4-year-olds also tended to anticipate that the protagonists would spontaneously follow the social norms and behave in a prosocial way in the future. In other words, they expected the protagonists would do something nice in the future because it was what they were supposed and expected to do.

Therefore, children’s justifications for their behaviour predictions in the current study seemed to suggest that the positivity bias could also be attributed to children’s nascent folk psychological understanding of traits. First of all, both age groups were likely to use trait terms to evaluate each behavioural instance, rather than to describe a person’s habitual and stable patterns of behaviours that comprise his or her personality. For example, the underlying meaning of “he is nasty” is more likely to be he is nasty this time, rather than, generally he is a nasty person. Second, consistent with the argument by Liu et al. (2007), children in the present study had difficulty combining the behaviour-to-trait inferences and trait-to-behaviour predictions to make behaviour-to-behaviour predictions, especially in the PNeg condition. That is to say, there was not full consistency between their trait attributions
and their behaviour predictions; particularly for the PNeg vignettes. Finally, children’s predictions of other people’s behaviours were based largely on their expectations and common rules, rather than on the protagonists’ individual traits. The tendency to refer to social norms was consistent with the findings that deontic information such as rules, norms, and obligations was more salient in younger children’s social judgments and explanations than were traits (e.g., Kalish, 2006; Kalish & Shiverick, 2004). For example, Kalish and Shiverick (2004) found that the 4- to 5-year-olds predicted that others’ behaviours would be more consistent with rules than with preferences; the older 7- to 8-year-olds, in contrast, predicted that other people would act more on their preferences than on rules; adults, by contrast, considered rules and preferences as equally plausible predictors of other people’s behaviours. In sum, both 4- and 6-year-old children seemed to have limited capacity to conceptualizing traits as stable characteristics and causal mechanisms of behaviours, and they have not developed the reliance on traits to guide their social inferences. Notwithstanding this interpretation of children’s justifications, it remains evident that whereas 4-year-olds show little evidence of adult-like trait understanding, 6-year-olds are moving toward viewing traits as an underlying and stable feature of persons, as is most clearly evident in their trait judgments.

**Future Issues**

The present study replicates and extends research on children’s developing understanding of the stability of simple moral traits. It has contributed to the literature in at least the following two ways. First, theoretically, it offers a possible underlying mechanism of the positivity bias. Second, empirically, it has illustrated that future researchers need to bear the effect of order in mind when attempting more complicated manipulations of the inconsistent information that is presented to children.

However, several important questions remain unanswered in the present study, which
deserve more investigations in the future. The first concerns the age-related change in the recency effect, which has already been discussed above. Second, since the effect of order has been partially clarified in the current study; future research can further examine how children keep track of people’s inconsistent behaviours in different social contexts to make divergent trait inferences. People’s behaviours are complex, in that they are the interaction between traits and contexts. Hence, the same person may behave differently under different circumstances and out of diverse motives. One way to explain people’s inconsistent behaviours across different social contexts is their engagement in the self-presentational process. That is, people modify their conduct in certain contexts to present themselves in a particular way (Baumeister, 1982; Leary & Kowalski, 1990). For example, a person who wants to be perceived in a positive light may deliberately inhibit his antisocial behaviour and behave in a prosocial way when their behaviours are monitored. In this case, the identification of this person’s genuine moral character requires people to make use of the contextual information to infer his or her underlying self-presentational motive indirectly, and to take the motive into account to make trait inferences accordingly. However, less is known about how children would understand such scenarios and make moral trait inferences of a person whose prosocial behaviours were driven by self-presentational motives. This question will be addressed in the subsequent study (chapter 4).

Finally, the positivity bias that emerged from the present study and previous literature seems to be incongruent with the negativity bias reported in other studies, which is also robust (e.g., Baltazar, Shutts, & Kinzler, 2012; Rozin & Royzman, 2001). For example, Baltazar et al. (2012) found that 4-year-olds showed heightened memory for the threatening social information, and that they identified mean individuals more correctly than nice ones. Furthermore, these young children had more accurate recall of the negative actions undertaken by the mean actors than the positive actions undertaken by nice actors. Along the
same lines as the positivity bias, the negativity bias has also been proposed as an evolutionarily adaptive mechanism designed to protect individuals from dangerous situations. Thus, disentangling the underlying mechanism of the apparently coexisting positivity and negativity biases would be another promising line of future research. Theoretically, there seems to be a contradiction between these existing proposals; and, practically, such an investigation may be able to demonstrate how children strike the balance between active social interaction and self-safety maintenance. The current research, however, diverts from this intriguing problem in the existing literature, and focuses instead on how children use information derived from juxtaposing contexts to make trait inferences.

The subsequent studies examine whether children use contextual information to identify protagonists’ self-presentational motives underlying their prosocial behaviours, and how they evaluate the prosocial behaviours that are driven by self-presentational motives. As children’s trait ratings in studies 1 and 2 were already negative in the PNeg conditions, the PPos condition is thus more suitable to be used in study 3 because, discounting is more salient within the context of a positive overall evaluation. Also, as it has been shown in study 1 and 2 that order was indeed a confounding variable that could influence 4-year-olds’ reasoning, therefore both the primacy and the recency story of the PPos condition will be included in study 3.
CHAPTER 4
CHILDREN’S USE OF CONTEXTUAL INFORMATION IN MOTIVE ATTRIBUTIONS AND MORAL TRAIT INFERENCES

Introduction

Socio-moral traits such as nice and mean are the earliest and most basic personality-related categories that children use to describe and classify people (Peevers & Secord, 1973). Children also rely on these traits to a great extent long before they systematically produce other trait terms, such as shy or clever, and they use them to guide their social interactions (Mrug & Hoza, 2007). For example, children prefer peers who are nice (e.g., Newcomb, et al., 1993). They are also more willing to take the advice from nice helpers rather than mean tricksters, even if the helpers have previously provided inaccurate information (Liu, et al., 2013; Vanderbilt, et al., 2011). Hence, the identification of others as benevolent (i.e., nice) or malevolent (i.e., mean or nasty) is an essential skill for children. Identifying these distinctions likely informs children’s social judgments and allegiances, giving them information about who to trust and to seek help from, as well as who should be avoided; misperceiving a mean person as nice, on the other hand, can lead one to be deceived, manipulated, and harmed (Gee & Heyman, 2007; Heyman & Legare, 2005).

With age, people increasingly identify that, compared to others’ self-report, direct observations of their actions is a more reliable sources of information for obtaining their socio-moral traits (Heyman & Legare, 2005). However, even actions are not credible indicators of people’s traits all the time, because people do not always reveal their true self. Indeed, as humans we constantly engaged in the process of self-presentation or impression management. That is, people modify their conduct in certain contexts to present themselves in a particular way so as to influence the way that others perceive them, and to achieve particular interpersonal goals (Baumeister, 1982; Leary & Kowalski, 1990). Usually, people
wish to be perceived in a positive light: so, for example, they may inhibit their selfish behaviours and exhibit more generosity when they know their actions are being observed (Reis & Gruzen, 1976). Such strategic prosociality is even present in children as young as 5 years of age. For example, Leimgruber, Shaw, Santos, and Olson (2012) found that, the 5-year-olds gave considerably more stickers to another peer when their allocations were known by the recipients, but they became less generous when the recipients were unaware of their allocations. It suggests that, in addition to intrinsic motives such as empathy, overt prosocial behaviours can also be driven by extrinsic social factors such as self-presentational demands, which are usually self-serving rather than for the benefits of the recipients.

People’s engagement in self-presentational behaviour thus creates a great challenge for the developing child, who needs to learn to distinguish the genuine from the presented self. Indeed, this is a challenge for adults too but they have a clear grasp of the possible distinction between what is presented and what is thought or felt, a conceptual distinction that children struggle with at 5 years of age. Furthermore, the fact that underlying motives are often ambiguous makes the task even harder.

Adults usually keep track of an actor’s behaviours across contexts, make use of the contextual cues to infer his or her motive indirectly, and take the motive into consideration to judge whether the actor is genuinely nice. For example, if people have previously observed that Justin is helpful across a broad range of contexts and people, they would be more confident that Justin’s prosocial behaviours are driven by altruistic motives, and would judge Justin as nice. Alternatively, if people observe another person, Harry, displays the prosocial behaviours when an authority figure is present, they would be more likely to suspect that his public displays of prosocial behaviour originate from self-presentational concerns (e.g., to get the approval from the authority figure). With the suspicion of the possible external cause (i.e., the authority figure), people tend to discount the role of intrinsic motive in motivating
Harry’s prosocial behaviour, and thus the perceived niceness of Harry is also reduced (i.e., the discounting principle, see Kelley, 1973). Moreover, such suspicion can be further confirmed when people also observe that Harry does not display the prosocial behaviour, or even displays antisocial behaviour when the authority figure is absent. In this case, people would be more likely to negatively judge Harry as nasty or manipulative. People would also tend not to anticipate reliable prosocial behaviours from Harry, because he is not perceived as genuinely nice (Ham & Vonk, 2011; Vonk, 1998).

However, less is known about whether children understand that individuals may be motivated to modify their conduct in different contexts in order to manipulate their social images in other people’s minds. That is, do they understand that one person who is motivated by bad intentions may deliberately present him- or herself in a prosocial way in the presence of other people so as to be positively evaluated? Arguably, at least four capacities are needed for children to engage in such adult-like reasoning about others’ genuine moral characters. That is, moral reasoning, trait inference, self-presentational reasoning, and the appropriate use of discounting principle. And studies in each individual area suggest that children possess each of these capacities by age 6.

First, as discussed in chapter 1, section 3, children are sensitive to moral actions and intentions early from infancy, and their moral understanding becomes more sophisticated during early childhood. For example, from 3 months, infants begin to show their preference for prosocial agents (i.e., a helper) over the antisocial ones (i.e., a hinder, see Hamlin, Wynn, & Bloom, 2010). Furthermore, Hamlin (2013) found that infants did not solely base their evaluations on the agents’ overt behaviour outcome. From 8 months, they mainly based their preference on the agents’ underlying intentions. Specifically, they were more likely to show their preference for the agent who tried to help over the one who tried to hinder.
Second, even preschool children have some nascent understanding of traits (Boseovski & Lee, 2006; Liu, et al., 2007). That is, by age 4 to 5, children are able to infer the traits of a person from a series of related actions, and they are also able to predict someone’s future actions if they have been provided with the relevant trait information of that person (Liu, et al., 2007). In addition, children as young as 5 years of age also take the agents’ motives into account when making trait inferences; so long as those motives are simple ones such as positive, negative, and incidental, and so long as they are made salient (Heyman & Gelman, 1998; Liu, et al., 2013). For example, they tend to consider the protagonist with positive or incidental motives to be nicer than the ones with negative motives.

Third, children’s understanding of various aspects of self-presentational behaviours also develops progressively from preschool years. Specifically, children as young as about 5 years demonstrate their understanding of the self-presentational display rules; so they judge that a story character would pretend not to be upset after getting hurt in a game with older children if they are told that the character does not want the older children to think he is a crybaby (Banerjee & Yuill, 1999b). From 6 years of age, children start to appreciate the self-serving biases in people’s statements about themselves (Heyman, Fu, & Lee, 2007; Heyman & Legare, 2005). With continuing development, children also show greater scepticism about the attributes that have been conveyed in these self-disclosing statements, especially those highly value-laden ones such as nice and smart (Heyman et al., 2007). From 8 years of age, children systematically make reference to the self-presentational motives to explain a story protagonist’s emotion displays (Banerjee & Yuill, 1999a); and by 11 years, children explicitly interpret one’s self-promotion and ingratiation statements in terms of the speaker’s effort to manipulate others’ mental states (e.g., "Amanda would think that Kate was good at sport and netball and would choose her for the team", see Bennett & Yeeles, 1990b, p. 457).
Finally, once the self-presentational motive is inferred, children need to take the self-serving motive into consideration to discount the actor’s genuine prosociality. It has been found that the employment of the discounting principle also emerges during the elementary school years, or even earlier if children are tested with highly familiar scenarios (Aloise & Miller, 1991; Lagattuta, 2005; Miller & Aloise, 1990). For example, Lagattuta (2005) found that, even 4- and 5-year-olds attributed more negative emotions to the protagonist whose rule compliance was externally imposed (i.e., the rule is ordered externally by a parent) than to the protagonist who was internally guided to follow the rule (i.e., the protagonist is alone and thinks of the rule himself). In other words, the externally-guided protagonists’ true willingness to obey the rule has been discounted, because children reasoned that they followed the rules because they had to rather than they were willing to.

However, despite the impressive developmental portrait in each of these areas – moral reasoning, trait inference, self-presentational reasoning, and the use of discounting principle – few studies have combined these areas of research to directly examine the age-related change in children’s moral trait inference of a person who is driven by self-presentational motives to undertake prosocial behaviours. Addressing this question will tie together research from each of the aforementioned areas and provide insight about the socio-moral development of children from early to middle childhood.

In a recent study, Heyman, Barner, Heumann, and Schenck (2013) examined children’s spontaneous suspicion of the self-presentational motives underlying sharing behaviours in public settings, as well as children’s evaluations of the public and private sharing behaviours. They presented North American children between 6 and 10 years of age with pairs of story protagonists, both of whom gave something away to another child. One gave when a lot of peers were looking (i.e., public giver) and the other gave when no one was around (i.e., private giver). They then asked children to make niceness judgments of the two
protagonists respectively, and also asked them to judge who was nicer. Arguably, the public giver is more likely to be driven by self-presentational motive than is the private giver; and it is more reasonable to give more positive evaluation to the private giver than to the public giver. Their results showed that the 9- to 10-year-olds evaluated the private giver more favourably; and they tended to justify their preference for the private giver in terms of his/her self-presentational motives. By contrast, the 6- to 7-year-olds, preferred the public giver, even though they understood that the public giver was attempting to create a good impression. A subsequent follow-up study further showed that, the 6- to 7-year-olds still preferred the public giver even if they had been explicitly told about his/her self-presentational motive (i.e., wanting to show his classmates how helpful he is). Together, these two studies suggest that young children do not spontaneously identify the self-presentational motive, nor do they appreciate the ulterior nature of this motive until at least 8 years of age.

Heyman et al.’s study (2013) is the first attempt to directly examine children’s spontaneous identification and use of the self-presentational motive when evaluating prosocial behaviours. Their findings clearly show the late development in children’s reasoning about self-presentational motive underlying prosocial behaviours. Nevertheless, several issues still deserve further investigations. First, in this study, although 8-year-olds judged the public givers less positively than the private givers, the public givers were still positively evaluated, which is different from adults who typically negatively evaluate the self-serving prosocial actors (Vonk, 1998). Children’s positive evaluations can possibly be explained by the fact that they were not presented with the public givers’ behaviours in the private settings. Therefore, as children between 3 to 10 years of age usually hold positive views of other people (i.e., the positivity bias, see Boseovski, 2010), they may give the benefit of the doubt and assume the public givers would also share in private settings, thus positively evaluating them. It may be that this possibility can be tested by providing the
public givers’ negative actions in the private settings, so as to examine whether children’s suspicion of the self-presentational motive would be strengthened by the provision of additional information about the public giver’s behaviour when self-presentational motive is arguably low; that is, by juxtaposing behaviour in different contexts.

The second issue that needs clarifications is whether the nice–mean judgments that children made were temporary evaluations of the protagonists, which are specific to that time and situation, or whether children are in fact attributing a stable and enduring moral trait to the protagonists. This issue can be clarified by two ways. First, and related to the previous issue, more behaviour exemplars of both givers can be provided since previous research suggests that children need more behavioural evidence to make appropriate trait inference (Boseovski, Chiu, & Marcovitch, 2013; Boseovski & Lee, 2006). Second, children can be additionally asked to make behaviour predictions of both givers. In particular, it would be of great interest to examine whether children would expect fewer sharing behaviours from the public giver in the private setting where self-presentational demand is low, which would be an indication of their understanding of the public giver’s self-presentational motives and his or her genuine moral character.

Finally, Heyman et al.’s study (2013) is based on children from the North America, which is representative of the Western individualistic cultures. However, adult research suggests that people from the Eastern collectivist cultures (e.g., China, Japan, Korea) differ remarkably in their understanding of other people (Nisbett, 2004). For example, people from individual cultures tend to disproportionately rely on the internal dispositions or traits to describe, explain, and predict the actions of other people. By contrast, although people from collectivist cultures also have the ability to infer and use traits in their social inference, they are more inclined to perceive the actor within a larger context, and are more cautious of the joint effects of dispositions and situations in determining an action. In keeping with this
contrast, Heyman et al. (2007) indeed found that children from China were more aware of the possibility that people may deliberately provide distorted information about themselves to look favourable, and they showed greater scepticism about other people’s self-statements than did children from the North America. Therefore, it is possible that, if children from the collectivist cultures were involved in Heyman et al.’s study (2013), they might be more aware of the role of the audience in motivating the public giver’s sharing, show higher suspicion of the public giver’s self-presentational motive, and evaluate them more negatively than might children from the individualistic cultures. However, without direct cross-cultural comparison, this hypothesis cannot be tested and it is less clear whether Heyman et al.’s (2013) findings can also be applied to children from other cultural background.

To address the issues identified above, the current study examined age-related change and cultural variations in children’s understanding that individuals may be motivated to behave in a prosocial way in particular contexts so as to be positively evaluated. Children were presented with a protagonist’s inconsistent moral actions in different social contexts in order to establish when they begin to use contextual information to identify self-presentational motive, and to examine how children evaluate the protagonists whose prosocial behaviour is arising from self-presentational motives (Shaw, Li, & Olson, 2013). Children between 4 and 8 years of age and adults from Australia and China were interviewed with hypothetical scenarios. Australia and China were selected because they represent two different cultural categories, individualistic and collectivistic respectively, and children from Australia were expected to perform similarly to children from North America. Children between 4 and 8 years of age were targeted because previous studies indicate that their moral trait inference and their understanding of self-presentational processes emerges and changes substantially during this developmental window. The inclusion of 4-year-olds enables us to detect the earliest age at which children are able to engage in such reasoning, and the
inclusion of adults was to establish the mature and predominant state of such reasoning in each culture.

The behavioural-prediction paradigm and story themes in study 1 and 2 were used in the current study with the following modifications. First, because it was of interest in the current study to examine whether children’s evaluations of the protagonists’ genuine prosocial traits would decline with the manipulation of contexts, and because studies 1 and 2 showed that children’s trait judgments were negative in the PNeg conditions; the PPos condition was used in the present study. Also, as it was shown in study 1 and 2 that order was indeed a confounding variable that could influence 4-year-olds’ reasoning, both the primacy and recency story versions of the PPos condition were included in the present study. Thus, in these two stories, the protagonists undertook two prosocial behaviours and one antisocial behaviour, with the antisocial behaviour occurring either at the beginning or end of the story vignette. In these two stories, children were able to observe each behaviour in contexts that depicted only the protagonist and the recipient (i.e., peer context). The inclusion of these two stories presented children with the protagonists’ inconsistent behaviours when self-presentation demand is consistently low, thus can serve as the baseline conditions in the current study.

Second, in addition to the inclusion of the above two stories, the remaining two stories in study 1 and 2 were modified to depict the protagonist undertaking two prosocial behaviours when an authority figure (i.e., a teacher) was present, and undertaking the antisocial behaviour when the teacher was absent, with the antisocial behaviour occurring at the beginning or the end of the story. These two stories presented children with the protagonists’ inconsistent behaviours when self-presentational demand is high, thus providing children with more evidence to confirm the protagonists’ self-presentational motives in the presence of the teacher. Therefore, participants were presented with four stories in total, with
the manipulation of the contexts in which prosocial behaviours were undertaken (peer versus teacher contexts), and the order of the antisocial behaviour (primacy versus recency). Arguably, if participants are able to use the contextual cues in their motive attributions and trait inferences, they would be more likely to attribute self-presentational motives to the protagonists in the teacher contexts, and more likely to attribute altruistic motives to the protagonists in the peer contexts. Also, if they understand that people’s prosocial behaviours in contexts where self-presentational demands are low are more indicative of genuine niceness, they should evaluate the protagonists in the peer contexts more favourably than in the teacher contexts.

Third, in addition to the same trait judgment and behaviour prediction questions as study 1 and 2, children were asked another two additional questions: motive attribution and relative niceness judgment. That is, following the trait judgment question in each story, participants were asked why they thought the protagonists did something nice either in the teacher’s presence or absence. And at the end of the four stories, participants were presented with pictures of two protagonists – one who was sharing in the presence of the teacher and one who was sharing in the teacher’s absence – and were asked to endorse which one they thought was nicer. The inclusion of this forced-choice question made the contrast between the two protagonists more straightforward, as previous research suggested that children’s understanding of differences between people develops earlier than their reasoning about the traits of a single individual (Liu & Vanderbilt, 2013). In other words, it may be easier for children to endorse which protagonist is nicer in the relative niceness judgment question, than for them to judge whether each protagonist is nice or mean in the trait judgment question.

In sum, participants were presented with four stories and were asked a series of questions regarding the protagonists’ motives, traits, and behaviours. Two main outcomes were expected: (1) with age, participants from both countries would be more likely to
attribute self-presentational motives to the protagonists in the teacher contexts, and they would also judge the protagonists who shared in the teacher contexts less favourably than those who shared in the peer contexts; (2) participants from China would be more sensitive to the contextual difference than would participants from Australia. It was expected that participants from China, coming from an collectivist culture, would be more alerted to the protagonist’s self-presentational motives in the teacher contexts, and they would differentiate the protagonists between the two contexts at an earlier age than would participants from Australia.

**Methods**

**Participants**

Participants were 153 children and adults, including 75 from China and 78 from Australia. Participants were divided into four age groups: 4- to 5-year-olds, 6- to 7-year-olds, 8- to 9-year-olds, and adults. For the Chinese sample, there are 16 4-year-olds (8 girls, $M = 4.74$ years, $SD = .27$), 16 6-year-olds (8 girls, $M = 6.87$ years, $SD = .39$), 16 8-year-olds (8 girls, $M = 8.66$ years, $SD = .36$), and 27 adults (19 female, $M = 24.73$ years, $SD = 4.24$). For the Australian sample, there are 16 4-year-olds (7 girls, $M = 4.93$ years, $SD = .47$), 16 6-year-olds (8 girls, $M = 7.09$ years, $SD = .37$), 16 8-year-olds (8 girls, $M = 8.75$ years, $SD = .39$), and 30 adults (20 female, $M = 19.99$ years, $SD = 3.82$). For children, there was no significant age difference between the two countries within each age group, $ps > .1$; but the Chinese adults were older than the Australian adults, $F(1, 55) = 19.69, p < .001$.

Adult participants were all undergraduate and graduate students. Children were recruited from childcare centres and elementary schools in Nanjing and Sydney. All Chinese children and adults were Han Chinese and were from diverse economic backgrounds. The Australian sample comprised a diverse cultural background representative of the wider
Sydney population. All children were fluent in English, and adults were native English speakers. Informed consent was obtained from children’s legal guardians or from adult participants themselves.

Materials and Design

The study employed a 2 (Context: teacher versus peer) × 2 (Order: primacy versus recency story) within-subject design. Each story vignette described three behaviour exemplars of a different gender-matched child protagonist, two prosocial and one antisocial. The one antisocial behaviour was always undertaken when the teacher was absent, and it occurred either at the beginning (i.e., primacy story) or at the end (i.e., recency story) of the vignette. The two prosocial behaviours were undertaken either in a peer context, where only the protagonist and a second child (i.e., the recipient) were involved; or in a teacher context, where a teacher was also present but did not intervene in the interactions between the two child characters. Thus, participants heard four stories in total: peer-primacy, peer-recency, teacher-primacy, and teacher-recency. See Table 4.1 for the design features.

Four story vignettes (A through D) were developed that could each be varied in terms of protagonist gender, behaviour outcome, and the context. All vignettes were structured in a consistent manner strictly designed to only describe settings and behaviours, while avoiding any descriptions of the protagonists’ mental states (e.g., desires, preferences, or motives). All stories were also accompanied by colourful illustrations to help with comprehension. The protagonists’ and teachers’ faces were purposely drawn neutral in all scenarios to prevent children using facial expressions to make inferences. The facial expression of the recipients were explicitly happy or unhappy, in order to illustrate the recipient’s positive or negative emotional response to the protagonist’s behaviours. The stories and questions were originally written in English, and then were translated into Chinese for the Chinese participants. To ensure that the translation process did not introduce changes in meaning, a translator who had
not seen the original English versions translated the Chinese versions back into English. The back-translated versions of the vignettes did not differ in meaning from the original versions. See Appendix C for sample English and corresponding Chinese stories.

To counterbalance the effect of story theme (e.g., sharing–taking versus helping–damaging) and order of vignette presentation, four story sets were generated by the Latin square type design, in which each of the four story vignettes functioned as the peer-primacy, peer-recency, teacher-primacy, and teacher-recency story, and each story vignette was presented in each order (see also Appendix C). Each story set was assigned randomly but presented equally in each age group of children (four times); and the order of story presentation was automatically randomized by Qualtrics for the adults.

Table 4.1
Design Features of Study 3

<table>
<thead>
<tr>
<th>Story Type</th>
<th>Exemplar 1</th>
<th>Exemplar 2</th>
<th>Exemplar 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peer-Primacy</td>
<td>Negative(Peer)</td>
<td>Positive(Peer)</td>
<td>Positive(Peer)</td>
</tr>
<tr>
<td>Peer-Recency</td>
<td>Positive(Peer)</td>
<td>Positive(Peer)</td>
<td>Negative(Peer)</td>
</tr>
<tr>
<td>Teacher-Primacy</td>
<td>Negative(Peer)</td>
<td>Positive(Teacher)</td>
<td>Positive(Teacher)</td>
</tr>
<tr>
<td>Teacher-Recency</td>
<td>Positive(Teacher)</td>
<td>Positive(Teacher)</td>
<td>Negative(Peer)</td>
</tr>
</tbody>
</table>

Procedure

Children and adults were tested with the same stories and questions, but in different ways. Children were interviewed individually, and adults were given the online questionnaire to complete and submit by themselves.

Children.

The 6- and 8-year-olds from China were invited and tested at the laboratory of Child Development and Learning Science at Southeast University of Nanjing. And all the other child participants were tested in a quiet room of the day care centre or school. Children
randomly experienced one of the four story sets. Stories accompanied by illustrations were presented using Microsoft PowerPoint on a laptop computer controlled by the experimenter. Before hearing the story, children were told “I am going to show you some pictures and tell you some stories. The stories are about little boys/girls who are the same age as you and who also go to school just like you do. After the stories, I will ask you some questions about them. Is that okay? Are you ready to hear the stories? Just tell me know if you do not understand something. The first story is about a boy/girl called Martin/Linda. See, here is Martin/Linda.” As the stories were told, the experimenter pointed to the appropriate characters in the illustrations. The whole procedure lasted about 20 minutes.

**Adults.**

The same stories and questions were programmed into an online questionnaire by Qualtrics Survey Software. Adults were given the link of the Chinese or English version of the survey and completed by themselves on the computer. Adults received the following instructions at the beginning of the questionnaire “You will be presented with four short story vignettes accompanied by illustrations, each of which described the past actions of a different child protagonist. After the story, you will be asked some questions about the protagonists with regard to their traits and behaviours. You will be asked a series of questions in exactly the same way that preschool children are asked, and so answers to some of the questions would seem obvious. There are no right or wrong answers. Please go with your gut feeling and provide the answers that you think fit best. The questionnaire will take approximately 20 minutes”.

**Questions.**

After each story, children and adults were asked to answer the same three groups of questions regarding each protagonist’s trait, motive, and future behaviour. And at the end of
the four stories, participants were also presented with a forced-choice question to make relative niceness judgments two protagonists.

**Trait judgment, trait rating, and justification.** Participants were first asked to make trait judgment of the protagonist. For example, they were asked, “Is Martin nice or nasty?” If children made ambivalent judgments initially (e.g., “he is both nice and nasty”, “sometimes he is nice and sometimes he is nasty”), they were prompted with “Generally speaking, is he more nice or more nasty?” Children were given a score of ‘1’ if they endorsed nice, ‘-1’ if they endorsed nasty, and ‘0’ if they still insisted on the ambivalent judgments. Children were then asked to rate their endorsed trait on a 3-point scale. For example, if the participant judged the protagonist as nice, they were asked “Is Martin a little bit/nice, nice, or very nice?” Participants’ responses resulted in a 7-point rating scale of the trait label: very nasty (-3), nasty (-2), a little bit nasty (-1), not nice or nasty (0), a little bit nice (1), nice (2), and very nice (3). Thus, higher scores indicated more positive judgment toward the protagonist. At last, children were invited to justify their judgment. For example, they were asked “Why do you think Martin is a little nasty?”

**Motive attribution.** Participants were then asked to explain the underlying motive of the protagonist’s second exemplar. For example, they were asked “Why do you think that Emily shared her candy with Anna this time?” The second exemplar was chosen because firstly, it is always positive across the four stories; and secondly, the second exemplar was undertaken in the presence of the teacher in two stories and in the teacher’s absence in the other two stories.

**Behaviour prediction and justification.** Following the motive attributions, children were presented with a forced choice on how the protagonist would behave in a new situation. For example, “One day, during lunch time at school, Justin has a bag of biscuits and another boy, Alan, has a sandwich. Justin goes over to Alan. Do you think that Justin will share his
biscuits with Alan, or will Justin grab Alan’s sandwich and take it away from him?” The order of the forced-choice options (e.g., sharing or taking) was presented randomly. Children were given a score of ‘1’ each time they made a positive prediction and ‘0’ for a negative prediction. Children were also invited to justify their behaviour prediction. For example, they were asked, “Why do you think that Justin will take Alan’s sandwich away?”

**Relative niceness judgment.** After the presentation and questions of all four stories, participants were presented with two still pictures illustrating the sharing behaviours of two different protagonists, one was sharing when a teacher was present and the other was sharing when no teacher was present. Participants were asked to make relative niceness judgment of the two protagonists and justify their endorsements. That is, participants were told and asked, “This is Emily. She shares her candy with Kathy when they are alone. This is Gina. She shares her bubble blower with Lily in front of the teacher. They both did something nice. Who do you think is nicer? Why do you think Emily/Gina is nicer?” Participants could endorse one of the protagonists, or judge they are equally nice.

**Coding of Open-Ended Questions**

There were four open-ended questions in the current study, which were the motive attribution, and justifications for trait judgment, behaviour prediction, and relative niceness judgments. Children’s responses to the open-ended questions were transcribed from the audio recording and coded (see coding schemes below). The coding was fully completed by the author. A second coder coded a random sample of children (20%), and reliability was high. Cohen’s Kappas averaged 0.97 (trait justifications κ = 0.94; motive attributions κ = 0.97; behaviour prediction justifications κ = 0.98; relative niceness judgment justifications κ =1.00). All disagreements were resolved through discussion.

The coding schemes with examples for each of the question were presented below respectively.


**Trait justifications.**

Trait justifications were initially coded into the following non-exclusive six categories: (1) *positive behaviour* (e.g., “She helped two people”, “He shared his bicycle”); (2) *negative behaviour* (e.g., “He took his toy away”, “She kicked down the sand castle of another girl”), (3) *mixed behaviour* (e.g., “She helped other kids twice, then she did something wrong, she damaged the sand castle”, “he was bad only once”), (4) *reference to the teacher* (e.g., “She helped another child when Miss Lee was watching them”, “He was nice when the teacher was there, and was not nice when the teacher was not there”), (5) *reference to other self-serving motives* (e.g., “It was more for her own interest or amusement to help the other girls”, “It helps her to feel as though she is better than the other, because they were struggling, and she was able to do those particular activities”, “Johnny is insecure and jealous of others success, and will act violently on this”), and (6) *other* (e.g., no response, “I don’t know”, simple repetition as “because she is nice”, and other uncategorized answers such as “She is a child and learning appropriate behaviour”). Then, the first three categories were collapsed into a more general category as *reference to the outcome*. So there were four categories: *reference to the outcome*, *reference to the teacher*, *reference to other self-serving motives*, and *other*.

**Motive attribution.**

Children’s motive attributions of the protagonists’ prosocial behaviours were coded into the following non-exclusive six categories: (1) *prosocial* (e.g., “Because she is nice”, “Because Bobby does not know how to fold the plane”, “Because she wants to correct her mistakes”, “Because the other girl felt bad because the tower fell down”); (2) *self-interests* (e.g., “Because she wants to play with the puzzle”, “Because he wants to eat his cookies and they can swap”); (3) *reference to the teacher* (e.g., “Because Miss Smith is watching them”, “Because Miss King will think he is nice”, “Because if he does something bad, the teacher will know and punish him.”), (4) *reference to friendship* (e.g., “Because he is his friend”, “Because she helped another child when Miss Lee was watching them”, “He was nice when the teacher was there, and was not nice when the teacher was not there”).
“Because she likes Kathy”), and (5) self-approval (e.g., “It made him feel superior”, “he wanted to show that he was good at solving jigsaw puzzles”, “He has helped Ryan to feel better about himself by accomplishing something that Ryan could not”), and (6) other (e.g., “I don’t know” or other uncategorized responses).

**Behaviour prediction justifications.**

Children’s justifications were coded into the following non-exclusive seven categories: (1) person reference (e.g., “He has helped other kids before, he will help this time too”, “Because he is nice”, “Because she is a caring girl”); (2) prosocial motive (e.g., “He wants to correct his mistakes”, “Because he's having a difficult time carrying the box”); (3) reference to the absence of the teacher (e.g., “Because Miss King is not there”); (4) social norms (e.g., “Because he wants to be friends and to be friends he has to help him”, “He is supposed to help”); (5) self-interests (e.g., “She didn’t help because she felt the books were too heavy”, “He grabbed his sandwich because it looks delicious and he wanted to have it”, “He let the other boy play with his robot because they could swap their toys”, “He will feel good for doing so”); (6) reference to competition (e.g., “He will trip Greg over because he sees Greg succeeding at something potentially challenging”, “Mary will help Kate because there is no competition in this scenario”, “Linda has no reason to be threatened by Rose or feel competitive”); and (7) Other (e.g., “I don’t know”, reference to the pictures, or other uncategorized responses).

**Justifications for relative niceness judgment.**

Children’s justifications were coded with the same scheme that was used for trait justifications: reference to the outcome, reference to the teacher, reference to other self-serving motive, and other.

It should be noted that participants’ justifications for traits, behaviour predictions, and forced choice question fell into only one of the specified categories. But for the motive
attributions, 1 4-year-olds (Chinese), 2 6-year-olds (1 Chinese), 2 8-year-olds (1 Chinese), and 11 adults (6 Chinese) spontaneously provided more than one motive. All the attributed motives were included (meaning that percentages for each age group can appear to sum to more than 100%).

Results

As in studies 1 and 2, preliminary analyses revealed no gender differences (ps > .29). Gender was thus omitted from subsequent analyses. Also, it was noted that for the adults, participants from China were older than participants from Australia. In order to examine whether the age of the adults would influence the results, a new sample was created in which the Chinese who are older than 27.00 years of age and Australian who are younger than 18.50 years of age were deleted. In the new sample, there were 19 Chinese (12 female, $M = 22.45$ years, $SD = 2.61$) and 24 Australian (14 female, $M = 20.42$ years, $SD = 4.17$), and the age difference by country was no longer significant, $F(1, 42) = 3.41, p = .07$. The same analyses were conducted on the original and new samples respectively and they yielded essentially identical results. Therefore, to make full use of the collected data, the following analyses were based on the original sample, which included all the adult participants.

Trait ratings and justifications

Participants’ trait ratings were analysed with a 2 (Country: China, Australia) × 4 (Age: 4-year-olds, 6-year-olds, 8-year-olds, adults) × 2 (Context: peer, teacher) × 2 (Order: primacy, recency) repeated-measures ANOVA with country and age as between-subjects factor; context and order as within-subjects factors.

There was a main effect of context, $F(1, 142) = 9.25, p = .003, \eta_p^2 = .06$, with protagonists in the peer contexts rated more positively than in the teacher contexts ($Ms = 0.64$ and 0.21 in the peer and teacher contexts respectively); a main effect of order, $F(1, 142) =$
39.66, $p < .001$, $\eta^2_p = .22$, with protagonists in the primacy stories rated more positively than in the recency stories ($Ms = 0.77$ and $0.08$ in the primacy and recency stories respectively); and a main effect of age, $F(3, 142) = 7.07, p < .001$, $\eta^2_p = .13$.

The main effect of order and age were further qualified by a two-way interaction between order and age, $F(3, 142) = 5.78, p = .001$, $\eta^2_p = .10$, such that across the two countries, the order effects were only significant for children, but not for adults ($ps < .05$ for children and $p = .24$ for adults). The main effect of context was also qualified by a two-way interaction between context and country, $F(1, 142) = 6.28, p = .01$, $\eta^2_p = .04$, such that across all age groups, the context effect was significant for the Chinese participants ($p < .001$), but not for Australian participants ($p = .70$). Finally, there was a three-way interaction between context, order, and country, $F(1, 142) = 5.60, p = .02$, $\eta^2_p = .04$.

Because these results seemed to suggest that the effect of context was more pronounced for the participants from China than for the participants from Australia, and because one of the main interests in the present study was to examine whether people’s sensitivity to the contextual information would vary by age and culture, the $2$ (Context: peer, teacher) $\times$ $2$ (Order: primacy, recency) repeated-measures ANOVAs were thus performed separately for each age group within each country. These analyses (see Figure 4.1) showed that, for the 4-year-olds, there were significant main effects of order for both countries, $F(1, 15) = 12.71, p = .003$, $\eta^2_p = .46$ for the Chinese, and $F(1, 15) = 12.67, p = .003$, $\eta^2_p = .46$ for the Australian. For the 6-year-olds, there was a marginal main effect of context for the Chinese, $F(1, 15) = 4.36, p = .05$, $\eta^2_p = .23$; but a marginal main effect of order for the Australian, $F(1, 15) = 4.37, p = .05$, $\eta^2_p = .23$. For the 8-year-olds, there was a significant main effect of context for the Chinese, $F(1, 15) = 5.12, p = .04$, $\eta^2_p = .26$; but neither the context nor the order effect was found for the Australian, $ps > .4$. The adults in both countries, showed the significant main effect of context, $F(1, 23) = 12.85, p = .002$, $\eta^2_p = .36$ for the
Chinese, and $F(1, 29) = 4.85, p = .04, \eta_p^2 = .14$ for the Australian. In sum, the Chinese children began to distinguish the protagonists in the peer contexts from the ones in the teacher contexts from about 6 years of age, whereas the Australian children did not make the distinctions even by age 8. These findings suggest that Chinese children developed the contextual sensitivity earlier than do the Australian children.
Figure 4.1. Trait ratings by country, age, context, and order (error bars represent standard errors)
Table 4.2 shows participants’ justifications for their trait judgments in each story. It can be seen that, for the two stories in the peer contexts, all age groups from both countries tended to refer to the behaviour outcome to justify their positive and negative trait judgments. In the teacher contexts, by contrast, participants’ justifications became more complex in that they varied by the participants’ age and culture, and the trait judgments they made. Specifically, all age groups from both countries tended to make reference to the behaviour outcome to justify their positive trait judgments. For the negative trait judgments, from 6 years of age, children from China increasingly made reference to the protagonist’s self-presentational motive in the presence of the teacher to justify their negative judgments; but children from Australia still based their negative judgments mainly on the protagonists’ behaviour outcome. Adults from both countries performed in a similar way, such that the majority of them referred to the teacher to justify their negative judgments (e.g., “Gina could be superficial in the presence of authority”). Moreover, adults were also more likely to make spontaneous comparisons between the protagonists across the two contexts to justify their judgments. For example, they made comments such as, “She feels compelled to help people out even when there aren’t others watching her” and “It is our actions when we are under least social influence that determines our character”. Therefore, the earlier sensitivity to the contextual difference in Chinese children was also reflected in their justifications.
Table 4.2

Proportions of Coded Trait Justifications by Story, Country, and Age

(a) Peer context

<table>
<thead>
<tr>
<th></th>
<th>China</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Australia</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age 4</td>
<td>Age 6</td>
<td>Age 8</td>
<td>Adults</td>
<td>Age 4</td>
<td>Age 6</td>
<td>Age 8</td>
<td>Adults</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primacy story</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nice</td>
<td>15</td>
<td>14</td>
<td>13</td>
<td>13</td>
<td>10</td>
<td>11</td>
<td>14</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference to the outcome</td>
<td>0.67</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.90</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
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<td>--</td>
<td>--</td>
<td>--</td>
<td>0.10</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td>1</td>
<td>--</td>
<td>1</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference to the outcome</td>
<td>1.00</td>
<td>--</td>
<td>1.00</td>
<td>0.75</td>
<td>0.83</td>
<td>1.00</td>
<td>1.00</td>
<td>0.89</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference to other self-serving motives</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.10</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.20</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasty</td>
<td>9</td>
<td>3</td>
<td>7</td>
<td>5</td>
<td>11</td>
<td>5</td>
<td>3</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference to the outcome</td>
<td>0.89</td>
<td>1.00</td>
<td>0.86</td>
<td>1.00</td>
<td>0.82</td>
<td>1.00</td>
<td>1.00</td>
<td>0.91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference to other self-serving motives</td>
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<td>--</td>
<td>0.14</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>0.11</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.18</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### (b) Teacher context

| Primacy story | China | | | | | | | | Australia | \hline
<table>
<thead>
<tr>
<th>Age 4</th>
<th>Age 6</th>
<th>Age 8</th>
<th>Adults</th>
<th>Age 4</th>
<th>Age 6</th>
<th>Age 8</th>
<th>Adults</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nice</td>
<td>11</td>
<td>11</td>
<td>8</td>
<td>4</td>
<td>12</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Reference to the outcome</td>
<td>0.73</td>
<td>1.00</td>
<td>1.00</td>
<td>0.75</td>
<td>0.92</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Reference to the teacher</td>
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<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Other</td>
<td>0.27</td>
<td>--</td>
<td>--</td>
<td>0.25</td>
<td>0.08</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Neutral</td>
<td>--</td>
<td>3</td>
<td>2</td>
<td>13</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Reference to the outcome</td>
<td>--</td>
<td>0.67</td>
<td>0.50</td>
<td>0.39</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Reference to the teacher</td>
<td>--</td>
<td>0.33</td>
<td>0.50</td>
<td>0.23</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Reference to other self-serving motives</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.08</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Other</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.31</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

| Nasty | 5 | 2 | 6 | 10 | 4 | 4 | 3 | 16 |
| Reference to the outcome | 0.80 | 0.50 | 0.33 | -- | 0.75 | 1.00 | 0.67 | 0.31 |
| Reference to the teacher | -- | 0.50 | 0.67 | 1.00 | -- | -- | 0.33 | 0.69 |
| Other | 0.20 | -- | -- | -- | 0.25 | -- | -- | -- |

| Recency story | | | | | | | | | |
| Nice | 7 | 8 | 5 | 6 | 5 | 9 | 12 | 7 |
| Reference to the outcome | 0.57 | 1.00 | 1.00 | 0.83 | 0.60 | 1.00 | 0.84 | 0.86 |
| Reference to the teacher | -- | -- | -- | -- | -- | -- | 0.08 | 0.14 |
| Other | 0.43 | -- | -- | 0.17 | 0.40 | -- | 0.08 | -- |
| Neutral | -- | 2 | 5 | 10 | -- | -- | -- | 6 |
| Reference to the outcome | -- | 1.00 | 0.80 | 0.50 | -- | -- | -- | 0.33 |
| Reference to the teacher | -- | -- | 0.20 | 0.10 | -- | -- | -- | 0.50 |
| Other | -- | -- | -- | 0.40 | -- | -- | -- | 0.17 |
| Nasty | 9 | 6 | 6 | 11 | 11 | 7 | 4 | 17 |
| Reference to the outcome | 0.78 | 1.00 | 0.17 | 0.18 | 0.73 | 1.00 | 1.00 | 0.29 |
| Reference to the teacher | -- | -- | 0.67 | 0.73 | -- | -- | -- | 0.65 |
| Reference to other self-serving motives | -- | -- | -- | 0.09 | -- | -- | -- | 0.06 |
| Other | 0.22 | -- | 0.17 | -- | 0.27 | -- | -- | -- |
In sum, when determining whether one person is nice or nasty, the 4- and 6-year-olds from both countries, and the 8-year-olds from Australia mainly based their judgments on the overt behaviour outcome of that person. Furthermore, the 4-year-olds also privileged the most recent information they have been exposed to (i.e., the recency effect). With age, children became less influenced by the order of the information. Moreover, from about 6 years of age, Chinese children, but not Australian children, began to make more negative evaluations of the protagonists in the teacher contexts, and increasingly made reference to the protagonists’ underlying self-presentation motives to explain their negative evaluations. The tendency observed in Chinese children from age 6 persisted into adulthood in both countries. Therefore, although people in both countries shared the similar starting point and end state of reasoning, the development trajectory differed by culture from about 6 years of age. Children from China made the distinctions between the protagonists in the peer and teacher contexts earlier than did the children from Australian.

**Motive attributions**

Table 4.3 shows participants’ spontaneous perceptions of the protagonists’ motives underlying their prosocial behaviours when the teacher is present or not. It was of interest to examine whether participants’ motive attributions differed by context, age, and culture. It can be seen that, for the 4- and 6-year-olds from both countries, and the 8-year-olds from Australia, their motive attributions did not differ by context. They were inclined to attribute the protagonists’ prosocial behaviours to their prosocial motives, self-interests, and their friendships with the recipients, irrespective of the context in which the prosocial behaviour was displayed.

For the 8-year-olds from China, and adults from both countries, however, their provisions of motives systematically differed by context. Specifically, for the two stories in the peer context, they were more inclined to attribute the protagonists’ prosocial behaviours
to their prosocial motives, self-interests, and their friendships with the recipients. And for the two stories in the teacher context, they were more inclined to attribute the protagonists’ prosocial behaviours to the presence of the teacher. Moreover, it should be noted that with age, participants were more likely to spontaneously provide multiple plausible causes that could motivate the same behaviour. Taken together, participant’s motive attributions became more elaborated and more contextual specific. And children from China developed the contextual specificity earlier than did the children from Australia.
<table>
<thead>
<tr>
<th>Motive Attribution</th>
<th>China</th>
<th></th>
<th></th>
<th></th>
<th>Australia</th>
<th></th>
<th></th>
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<tbody>
<tr>
<td></td>
<td>N</td>
<td>Age 4</td>
<td>Age 6</td>
<td>Age 8</td>
<td>Adults</td>
<td>Age 4</td>
<td>Age 6</td>
<td>Age 8</td>
<td>Adults</td>
</tr>
<tr>
<td>Peer Primacy story</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prosocial</td>
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<td>0.75</td>
<td>0.50</td>
<td>0.37</td>
<td>0.44</td>
<td>0.69</td>
<td>0.88</td>
<td>0.57</td>
<td></td>
</tr>
<tr>
<td>Self-interests</td>
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<td>0.19</td>
<td>0.50</td>
<td>0.59</td>
<td>0.19</td>
<td>0.25</td>
<td>0.06</td>
<td>0.37</td>
<td></td>
</tr>
<tr>
<td>Reference to friendship</td>
<td>0.19</td>
<td>--</td>
<td>--</td>
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Behaviour predictions and justifications

Children’s behaviour predictions were again analysed using a 2 (Country: China, Australia) × 4 (Age: 4-, 6-, 8-year-olds, adults) × 2 (Context: peer, teacher) × 2 (Order: primacy, recency) repeated-measures ANOVA. As shown in Figure 4.2, there was a main effect of context, $F(1, 136) = 16.64, p < .001, \eta^2_p = .11$, such that participants made more positive future behaviour predictions of the protagonists in the peer contexts than in the teacher contexts ($Ms = 0.77$ and 0.59 respectively). There was also a main effect of country, $F(1, 136) = 14.84, p < .001, \eta^2_p = .86$, such that participants from China made more positive future behaviour predictions of the protagonists than did the participants from Australia ($Ms = 0.77$ and 0.59). Furthermore, there was a two-way interaction between context and age, $F(3, 136) = 11.03, p < .001, \eta^2_p = .20$. That is, across both countries, the effect of context was only significant in adults ($p < .001$ for adults and $ps > .3$ for the other three age groups). In sum, across the four stories, adults from both countries, but not children, systematically differentiated the protagonists across the two contexts in their behaviour predictions. Adults expected more future prosocial behaviours from the protagonists in the peer contexts than in the teacher contexts. Participants from China also tended to hold more positive expectations of the protagonists’ future behaviours than did the participants from Australia.
Figure 4.2. Proportion of positive behaviour predictions by age and story type
It is shown in Table 4.4 that children’s behaviour predictions and their justifications were less contextually differentiated than adults’, especially those of the children from Australia. Adults’ behaviour predictions and justifications, by contrast, were dependent on the contexts in which the past prosocial behaviours were undertaken. Specifically, adults were more likely to make positive predictions of the protagonists in the peer contexts, and they tended to explain their positive predictions in terms of the protagonists’ past prosocial actions, prosocial motives, and their self-interests. They were more likely to make negative predictions of the protagonists in the teacher contexts, and they tended to explain their negative predictions in terms of the absence of the external constraint (i.e., the teacher) in the novel situation.
Table 4.4

*Proportions of Coded Justifications for Behaviour Predictions by Story, Country, and Age*

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<td>4 years</td>
<td>7</td>
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<td>--</td>
<td>--</td>
<td>--</td>
<td>0.43</td>
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<td>0.29</td>
</tr>
<tr>
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<td>6</td>
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<td>--</td>
<td>--</td>
<td>0.33</td>
<td>--</td>
<td>0.33</td>
</tr>
<tr>
<td>8 years</td>
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<td>--</td>
<td>--</td>
<td>0.50</td>
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<tr>
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<td>0.17</td>
<td>0.04</td>
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</table>
(d) Teacher recency story

<table>
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<tr>
<th>Country</th>
<th>Age</th>
<th>N</th>
<th>Person reference</th>
<th>Prosocial motive</th>
<th>Reference to the absence of the teacher</th>
<th>Social norms</th>
<th>Self interests</th>
<th>Reference to competition</th>
<th>Other</th>
</tr>
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<td>0.17</td>
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<td>0.25</td>
</tr>
<tr>
<td></td>
<td>8 years</td>
<td>13</td>
<td>0.39</td>
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<td>--</td>
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<td>0.08</td>
</tr>
<tr>
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<td>0.06</td>
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<tr>
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<td>0.22</td>
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</tr>
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<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.25</td>
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</tr>
<tr>
<td></td>
<td>6 years</td>
<td>3</td>
<td>0.67</td>
<td>--</td>
<td>--</td>
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<td>--</td>
<td>0.33</td>
</tr>
<tr>
<td></td>
<td>8 years</td>
<td>3</td>
<td>0.33</td>
<td>--</td>
<td>0.33</td>
<td>--</td>
<td>--</td>
<td>--</td>
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</tr>
<tr>
<td></td>
<td>Adults</td>
<td>9</td>
<td>0.33</td>
<td>--</td>
<td>0.56</td>
<td>--</td>
<td>0.11</td>
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</tr>
<tr>
<td>Australia</td>
<td>4 years</td>
<td>6</td>
<td>0.50</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.17</td>
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<td>0.33</td>
</tr>
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<td></td>
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<td>7</td>
<td>0.29</td>
<td>--</td>
<td>0.14</td>
<td>--</td>
<td>0.57</td>
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</tr>
<tr>
<td></td>
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<td>7</td>
<td>0.57</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.29</td>
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<td>0.14</td>
</tr>
<tr>
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<td>0.94</td>
<td>--</td>
<td>0.06</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>
Relative niceness judgment and justification

The proportions of participants’ endorsements of the nicer protagonists are shown in Figure 4.3. For the Chinese sample, the 4-year-olds’ endorsements were at chance level ($\chi^2(2) = 0.13, p = .94$), and 6- and 8-year-olds systematically endorsed the protagonist who undertook the prosocial behaviour in the teacher’s absence as nicer ($\chi^2(2) = 12.88, p = .002$, and $\chi^2(1) = 12.25, p < .001$ for 6- and 8-year-olds respectively). The adults’ endorsements were also beyond chance level, $\chi^2(2) = 7.28, p = .03$. Even though adults did not show as strong a preference for the protagonist who undertook the prosocial behaviour in the teacher’s absence as did the 6- and 8-year-olds, they were less likely to endorse the protagonist who undertook the prosocial behaviour in the presence of the teacher as nicer. For the Australian sample, participants’ endorsements did not significantly differ from chance until adulthood ($ps > .06$ for children, and $\chi^2(2) = 26.60, p < .001$ for the adults). The Australian adults, like the Chinese 6- and 8-year-olds, showed systematic preference for the protagonist who undertook the prosocial behaviour in the teacher’s absence.

Participants’ justifications for their relative niceness judgments are present in Table 4.5. Results showed that the 4-year-olds from both countries, and the 6- and 8-year-olds from Australia, were more likely to base their endorsements on the behaviour outcome. Therefore, they randomly endorsed one of the protagonists on the basis of their own criteria of whose behaviour was more desirable. The 6- and 8-year-olds from China, and the adults from Australia, systematically endorsed the protagonist who undertook the prosocial behaviour in the absence of the teacher as nicer, and made reference to the self-presentational motive of the other protagonist to justify their endorsements. There were some individual differences among the adults from China. Specifically, they were more likely to endorse the protagonist in the teacher’s absence if they made reference to the other protagonist’s self-presentational
motive, and they were more likely to judge the two protagonists as equally nice if they focused on their overt behaviour outcomes.
Figure 4.3. Proportion of children’s endorsement of “nicer” protagonists
Table 4.5
Proportions of Coded Justification for Relative Niceness Judgment

<table>
<thead>
<tr>
<th>Endorsements</th>
<th>N</th>
<th>Reference to the outcome</th>
<th>Reference to the teacher</th>
<th>Reference to other self-serving motives</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>China 4 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer only</td>
<td>5</td>
<td>0.80</td>
<td>--</td>
<td>--</td>
<td>0.20</td>
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<tr>
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<td>0.67</td>
<td>--</td>
<td>--</td>
<td>0.33</td>
</tr>
<tr>
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<td>--</td>
<td>--</td>
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</tr>
<tr>
<td>6 years</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Peer only</td>
<td>12</td>
<td>0.08</td>
<td>0.92</td>
<td>--</td>
<td>--</td>
</tr>
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<td>1.00</td>
<td>--</td>
<td>--</td>
<td>--</td>
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<td>--</td>
<td>--</td>
<td>--</td>
<td>1.00</td>
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<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>Peer only</td>
<td>15</td>
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<td>0.94</td>
<td>--</td>
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<td>1.00</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Adults</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer only</td>
<td>12</td>
<td>--</td>
<td>0.92</td>
<td>--</td>
<td>0.08</td>
</tr>
<tr>
<td>Equally nice</td>
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<td>0.50</td>
<td>--</td>
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</tr>
<tr>
<td>Australia 4 years</td>
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<td></td>
</tr>
<tr>
<td>Peer only</td>
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<td>0.29</td>
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<tr>
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<td>--</td>
<td>0.14</td>
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<tr>
<td>6 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer only</td>
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</tr>
<tr>
<td>Teacher present</td>
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<td>1.00</td>
<td>--</td>
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<td>Adults</td>
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<td></td>
</tr>
<tr>
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<td>0.96</td>
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<td>0.17</td>
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<tr>
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<td>1.00</td>
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</table>
Discussion

The current study examined how children and adults from China and Australia made motive attributions and trait inferences when presented with others’ past inconsistent moral behaviours that were undertaken in different social contexts. It showed the age-related increase and cultural variations in people’s reliance on the contextual information in their reasoning, which was consistent with prior predictions and other findings in the literature.

First, with age, participants’ motive attributions and trait inferences were increasingly dependent on the contexts in which the past actions occurred. Children younger than 8 years of age mainly based their evaluations of the protagonists on their behaviour outcome, and they did not systematically distinguish the protagonists by contexts in their trait ratings. Furthermore, similar to previous two studies, the 4-year-olds from both countries and the 6-year-olds from Australia exhibited the recency effect in their trait ratings. Because the main focus of the current study was people’s sensitivity to contextual information, and because the recency effect has been discussed in study 1 and 2, it will not be discussed in the following section. Children over the age of 8 and adults, by contrast, were more likely than younger children to be aware of the possible self-presentational motives when the prosocial behaviour was undertaken in the presence of the teacher. With age, they also increasingly made more negative evaluations and behaviour predictions of the protagonists in the teacher contexts. Generally, the present results suggest that it was not until 8 to 9 years of age that children began to attend to the contexts in which behaviours were undertaken to make motive attributions and trait inferences. The late use of contextual information in identifying the self-presentational motives was consistent with findings that children did not systematically make reference to self-presentational motives to explain and predict people’s emotion displays, verbal statements, or other self-presentational processes until about 8 years of age (Banerjee & Yuill, 1999a; Bennett & Yeeles, 1990a, 1990b; Heyman & Legare, 2005). It also suggested
that, children may implicitly engage in the self-presentational process years before they can understand and explicitly reason about the concept of self-presentation (Leimgruber, et al., 2012).

Second, the general age-related increase in contextual sensitivity was qualified by cultural variations. That is, Chinese children seemed to develop the contextual sensitivity earlier than did the Australian children. Generally, the trait ratings and motive attributions of the 6- and 8-year-olds from Australia were comparable with that of the 4- and 6-year-olds from China. Specifically, there was an increase in Chinese children’s reference to the teacher in their motive attributions and negative evaluations of the protagonists in the teacher contexts from 6 to 8 years of age, but such increase was not observed among children from Australia. Moreover, the 6-year-old Chinese children began to differentiate the protagonists between the teacher and peer contexts in their trait ratings, and the differentiation was more marked in their relative niceness endorsements. Children from Australia, by contrast, did not make such distinctions even by age 8, either in their trait ratings or in the relative niceness endorsements. The cultural difference found in the current study extends the findings of Heyman, Fu, and Lee (2007), who found that Chinese children show higher level of scepticism than North American children when evaluating people’s self-descriptions of their evaluative characteristics (e.g., honest, smart, and nice). In the current study, children from China also showed earlier awareness than their Australian counterparts of another aspect of self-presentation – people may deliberately behave in a prosocial way in the presence of an authority figure to be perceived in a positive light.

Third, the lack of differentiations of the protagonists across the two contexts in trait ratings among the youngest Chinese children and all Australian children, together with the lack of differentiations in children’s behaviour predictions from both countries, were consistent with children’s limited capacity in trait reasoning. On the one hand, even the 8-
year-olds from Australia were not able to make different trait judgments of the protagonists across the two contexts, which suggested that the conclusion that children were able to infer traits from people’s past actions from age 4 may only be applied to the past actions that are of consistent outcome. On the other hand, even though the 8-year-olds from China made distinct trait judgments of the protagonists across the two contexts, they were still unable to differentiate them in their behaviour predictions. These observations echo the proposal of Liu et al. (2007) that children’ trait inferences can be decomposed into two components: behaviour-to-trait inference, and trait-to-behaviour prediction. Children in the current study did not show the ability to integrate the two components to make the behaviour-to-behaviour inference.

Finally, adults from both countries made the spontaneous comments in their trait justifications that it was overly simplistic to categorize people as either nice or nasty, but no children made such comments. Adults also spontaneously used the trait terms such as manipulative and two faced to describe the protagonists in the teacher context. These reflected the qualitative change in people’s trait reasoning. That is, the earliest trait terms that children use to describe other people are generalized and evaluative in nature. With age, the trait terms begin to expand to other internal, psychological, and dispositional ones (Peevers & Secord, 1973).

Children’s justifications in the present study suggest that the lack of contextual effect in trait ratings among the youngest Chinese children and all of the children from Australia was less likely to be attributed to their difficulty in the use of the discounting principle, as few children explained their positive judgments in terms of the presence of the teacher. Instead, there may be two possibilities to explain this lack of contextual effect. One possibility is that even though children are sensitive to motive information, their understanding of motives is limited to simple ones such as intentional and unintentional, and
they do not understand the negative repercussions of the more sophisticated self-presentational motives. Thus, in this case, as indicated by children’s justifications, the prosocial behaviours are taken at face value and children mainly based their evaluations on the ostensible behaviour outcome. The second possibility is that, children understand the negative repercussions of self-presentational motive, but they haven’t acquired the ability to use the contextual information to spontaneously identify the self-presentational motives.

To test these two possibilities, in study 4, the protagonists’ motives in each context were provided explicitly, thus further reducing the information ambiguity. If, in study 4, children’s performance would become varied by contexts, it suggests that the lack of contextual effect in the current study is more likely to be attributed to children’s inability to spontaneously infer the self-presentational motives. By contrast, if children’s performance does not vary by context, it will suggest that children do not understand self-presentational motives.
CHAPTER 5
CHILDREN’S USE OF MOTIVE INFORMATION IN MORAL TRAIT INFERENCES

Introduction

In the previous chapter (study 3), children from 4 to 8 years of age and adults from China and Australia were presented with different protagonists who behaved in a predominantly prosocial way but their prosocial behaviours were undertaken in different social contexts – either in the presence of an authority figure (i.e., a teacher), or in the teacher’s absence. Participants then were asked a series of questions regarding the protagonists’ motives, traits, and future behaviours.

Study 3 showed the age-related increase and cultural variation in people’s reliance on contextual information when making motive attributions and trait inferences. Specifically, adults from both countries systematically used the contextual information: they were more likely to attribute the ulterior self-presentational motives (e.g., to get the teacher’s approval) to the protagonists who undertook the prosocial behaviours in the presence of the teacher; and were more likely to attribute the altruistic motives to the protagonists who undertook the prosocial behaviours in the teacher’s absence. Adults also negatively judged the protagonists with self-presentational motives and expected negative future behaviours from them when there was no self-presentational demand. It was also shown that children from China developed contextual sensitivity earlier than children from Australia. Eight-year-olds from China began to make adult-like motive attributions and trait ratings that were dependent on contexts. But such contextual differentiations were not consistently exhibited among the children from Australia.

One question that remained unanswered in study 3 is how to explain the lack of contextual differentiation among the 4-year-olds from China and all children from Australia.
Two possibilities were put forward. One is that children do not consider self-presentational motives as problematic and do not negatively evaluate such motives. An alternative possibility is that children are able to understand the self-serving nature of the self-presentational motives, but they are not able to use the contextual information to spontaneously identify such motives.

In the current study, therefore, the protagonists’ motives underlying each behaviour exemplar were explicitly provided, so as to examine whether children would negatively evaluate a prosocial behaviour undertaken by someone with a clear self-presentational motive. Specifically, the antisocial behaviours were always described as driven by antisocial motives; the prosocial behaviours in the presence of the teacher were stated as driven by self-presentational motives; and the prosocial behaviours in the teacher’s absence were stated as driven by altruistic motives. Furthermore, few 4-year-olds in study 3 made reference to the self-presentational motives in their responses, which may suggest that 4-year-olds are too young to understand the self-presentational motives (a finding that sits comfortably with the current literature, see chapter 1, section 4), so they were not included in the current study.

In addition to clarifying the findings in study 3, the provision of motive information in the current study will also enable us to better understand children’s use of motive information in moral reasoning. A large amount of research in the extant literature suggests that, when making moral trait inferences of a person, children shift from privileging objective outcome to privileging subjective mental attitudes (e.g., motives, emotions) in their judgments (e.g., Nunner-Winkler & Sodian, 1988; Piaget, 1932). For example, when motive information has been explicitly provided, even kindergarten children will judge a protagonists with positive or incidental motives as nicer than the ones with negative motives (e.g., Heyman & Gelman, 1998). However, the motives in most of these studies were limited to the simple ones such as positive (e.g., to make the recipient happy), negative (e.g., to make the patient upset), and
incidental; whereas another critical motive that drives the moral behaviours, the self-presentational motive, has been largely overlooked. Therefore, it is less clear how children reason about more sophisticated self-presentational motives – the motives to be perceived and evaluated in a positive way, thus achieving particular interpersonal goals (Baumeister, 1982; Leary & Kowalski, 1990) – and how they take the self-presentational motives into account in moral trait inferences.

If, with the provision of motive information in the current study, children’s performance were to become contextually differentiated, it will suggest that the lack of contextual sensitivity in study 3 is more likely to be due to children’s difficulty in identifying the self-presentational motives. If, however, the lack of contextual differentiations were to persist, then the lack of contextual differentiations in study 3 will be more likely to be attributed to children’s inability to understand self-presentational motives. This would be largely consistent with the literature which has shown that children did not systematically make reference to the self-presentational motives to explain and predict people’s behaviours until about 8 years of age (Banerjee & Yuill, 1999a; Bennett & Yeeles, 1990a, 1990b; Heyman & Legare, 2005). Moreover, it is also expected that the provision of motive information will have a greater influence on children from Australia, since study 3 showed that children from China were more readily aware of the existence of the self-presentational motives than were children from Australia.

Methods

Participants

Participants were 124 children and adults, including 58 from China and 66 from Australia. Participants were divided into three age groups: 6- to 7-year-olds (i.e., 6-year-olds), 8- to 9-year-olds (i.e., 8-year-olds), and adults. For the Chinese sample, there were 16 6-year-
olds (8 girls, $M = 6.94$ years, $SD = .42$), 16 8-year-olds (8 girls, $M = 8.45$ years, $SD = .24$), and 26 adults (17 female, $M = 26.40$ years, $SD = 3.44$). For the Australian sample, there were 16 6-year-olds (8 girls, $M = 6.49$ years, $SD = .41$), 16 8-year-olds (8 girls, $M = 8.50$ years, $SD = .43$), and 34 adults (20 female, $M = 19.59$ years, $SD = 2.06$). The 6-year-olds and adults from China were older than their Australian counterparts in the current study. Participants were recruited from the same source as study 3. Informed consent was obtained from children’s legal guardians or from adult participants themselves.

**Materials, Design, and Procedure**

The design, materials, back-translation, and counterbalancing procedures in the current study were essentially identical to study 3, except that in the current study, the protagonists’ motives in each exemplar were explicitly stated. Specifically, the antisocial behaviours were described as driven by antisocial motives (e.g., “Martin does not like Noah and wants to annoy him”); the prosocial behaviours in the presence of the teacher were described as driven by self-presentational motives (e.g., Alex wants Miss Smith to notice him and he wants her to think he is nice”); and the prosocial behaviours in the teacher’s absence were described as driven by prosocial motives (e.g., “Martin sees Noah is in trouble and wants to help”). See Table 5.1 for the design features and see Appendix D for sample stories in English and Chinese.

The procedure was also the same as study 3. Participants were asked the same trait questions, behaviour predictions, and relative niceness judgment. Because the motives were provided in the vignettes, children were not asked the motive attribution question.
Table 5.1
*Design Features of Study 4*

<table>
<thead>
<tr>
<th>Story Type</th>
<th>Exemplar 1</th>
<th>Exemplar 2</th>
<th>Exemplar 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peer-Primacy</td>
<td>Negative (Peer, antisocial motive)</td>
<td>Positive (Peer, prosocial motive)</td>
<td>Positive (Peer, prosocial motive)</td>
</tr>
<tr>
<td>Peer-Recency</td>
<td>Positive (Peer, prosocial motive)</td>
<td>Positive (Peer, prosocial motive)</td>
<td>Negative (Peer, antisocial motive)</td>
</tr>
<tr>
<td>Teacher-Primacy</td>
<td>Negative (Peer, antisocial motive)</td>
<td>Positive (Teacher, self-presentational motive)</td>
<td>Positive (Teacher, self-presentational motive)</td>
</tr>
<tr>
<td>Teacher-Recency</td>
<td>Positive (Teacher, self-presentational motive)</td>
<td>Positive (Teacher, self-presentational motive)</td>
<td>Negative (Peer, antisocial motive)</td>
</tr>
</tbody>
</table>
Coding of Open-Ended Questions

Children’s responses to the open-ended questions were transcribed from the audio recording and coded with the same coding system as study 3. That is, justifications for traits and relative niceness judgment were coded into the following four categories: reference to the outcome, reference to the teacher, reference to other self-serving motives, and other. Justifications for behaviour predictions were coded into the following seven categories: person reference, prosocial motive, reference to the absence of the teacher, social norms, self-interests, reference to competition, and other.

It was found that participants’ justifications fell into only one of the categories. The coding was fully completed by the first author. A second coder coded a random sample of children (20%), and reliability was high. Cohen’s Kappas averaged 0.97 (trait justifications = 0.96; behaviour prediction justifications = 0.95; relative niceness judgment justifications κ = 1.00). All disagreements were resolved through discussion.

Results

Preliminary analyses revealed that males rated the protagonists in the peer recency story as more favourable than did the females (Ms = 0.82 and 0.13 respectively, p = .02). Otherwise, no systematic gender differences were found on other measures. Thus, gender was not included in the subsequent analyses.

Trait ratings and justifications

Participants’ trait ratings were analysed using a 2 (Country: China, Australia) × 3 (Age: 6-year-olds, 8-year-olds, adults) × 2 (Context: peer, teacher) × 2 (Order: primacy, recency) repeated-measures ANOVA with country and age as between-subjects factor; context and order as within-subjects factors.
There was a main effect of context, $F(1, 111) = 47.27, p < .001, \eta_p^2 = .30$, with protagonists in the peer contexts rated more positively than in the teacher contexts ($M$s = 0.76 and -0.34 in the peer and teacher contexts respectively); a main effect of order, $F(1, 111) = 43.13, p < .001, \eta_p^2 = .28$, with protagonists in the primacy stories rated more positively than in the recency stories ($M$s = 0.61 and -0.19 in the primacy and recency stories respectively); and a main effect of age, $F(2, 111) = 8.34, p < .001, \eta_p^2 = .13$.

The main effects of context, order, and age were further qualified by two two-way interactions. The first interaction was between context and age, $F(2, 111) = 5.68, p = .004, \eta_p^2 = .09$, such that across both countries, the effects of context were only significant for the 8-year-olds and adults ($p = .27$ for the 6-year-olds and $ps < .001$ for the 8-year-olds and adults). The second interaction was between order and age, $F(2, 111) = 15.64, p < .001, \eta_p^2 = .22$, such that across the two countries, the recency effect was only exhibited among the 6-year-olds and the adults ($p < .001, p = .49$, and $p = .01$ for the 6-, 8-year-olds, and adults respectively).

Thus, the 6-year-olds’ trait ratings were highly influenced by the outcome of the last exemplar (i.e., the recency effect) such that protagonists in the recency stories were rated as more negative than protagonists in the primacy stories. The 8-year-olds and adults, by contrast, systematically differentiated the protagonists in the peer contexts from the ones in the teacher contexts, such that they gave more negative ratings to the protagonists in teacher contexts.

Participants’ justifications for their trait judgments in each story are shown in Table 5.2. It can be seen that, for the two stories in the peer contexts, all age groups from both countries responded similarly; they tended to refer to the behaviour outcome to justify their judgments. In the teacher contexts, by contrast, participants’ justifications became more complex, so that they varied by the participants’ age and culture, and the trait judgments they
made. Specifically, all age groups from both countries tended to justify their positive trait judgments in terms of the behaviour outcome. For the neutral and negative trait judgments, the 6-year-olds from both countries and the 8-year-olds from Australia were still inclined to make reference to the behaviour outcome; whereas the 8-year-olds from China and adults from both countries were more likely to make reference to the self-presentational motives of the protagonists in the teacher contexts.

In sum, when determining whether a person is nice or nasty, although 6-year-olds from both countries mainly based their judgments on the overt behaviour outcome, and they privileged the most recent information that they have been exposed to (i.e., the recency effect), the 6-year-olds from China began to refer to the protagonists’ self-presentational motives to justify their negative judgments. With age, children from both countries became less influenced by the order of the information, and became more influenced by the contexts in which the prosocial behaviours were displayed. By 8 years of age, children and adults from both countries began to make more negative trait evaluations of the protagonists in the teacher contexts, and increasingly made reference to the protagonists’ self-serving self-presentational motives to justify their negative evaluations.
Figure 5.1. Trait ratings by country, age, context, and order (error bars represent standard errors)
Table 5.2

Proportions of Coded Trait Justifications by Story, Country, and Age

(a) Peer contexts

<table>
<thead>
<tr>
<th></th>
<th>China</th>
<th></th>
<th></th>
<th>Australia</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6 years</td>
<td>8 years</td>
<td>Adults</td>
<td>6 years</td>
<td>8 years</td>
<td>Adults</td>
</tr>
<tr>
<td>Primacy story</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Nice</td>
<td>12</td>
<td>14</td>
<td>9</td>
<td>13</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
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<td>0.89</td>
<td>1.00</td>
<td>1.00</td>
<td>0.93</td>
</tr>
<tr>
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<td>--</td>
<td>--</td>
<td>--</td>
<td>0.07</td>
</tr>
<tr>
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<td>--</td>
<td>--</td>
</tr>
<tr>
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<td>17</td>
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<td>--</td>
<td>0.12</td>
</tr>
<tr>
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<td>2</td>
<td>3</td>
<td>3</td>
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<td>1.00</td>
</tr>
<tr>
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<td>--</td>
</tr>
<tr>
<td>Recency story</td>
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<td>12</td>
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<td>13</td>
<td>8</td>
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<td>--</td>
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<td>6</td>
<td>7</td>
<td>3</td>
<td>4</td>
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<td>1.00</td>
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<td>0.25</td>
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</table>
## (b) Teacher contexts

<table>
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<tr>
<th>Primacy story</th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6 years</td>
<td>8 years</td>
<td>Adults</td>
<td>6 years</td>
<td>8 years</td>
</tr>
<tr>
<td><strong>Nice</strong></td>
<td>11</td>
<td>7</td>
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</tr>
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</tr>
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</tr>
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<td>--</td>
</tr>
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<td>0.12</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Other</td>
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<td>--</td>
<td>0.47</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td><strong>Nasty</strong></td>
<td>4</td>
<td>7</td>
<td>8</td>
<td>1</td>
<td>10</td>
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<tr>
<td>Reference to the outcome</td>
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<td>--</td>
<td>8</td>
<td>1.00</td>
<td>0.5</td>
</tr>
<tr>
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<td>0.75</td>
<td>--</td>
<td>0.5</td>
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<td>Reference to other self-serving motives</td>
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<td>--</td>
<td>0.25</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Recency story</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nice</strong></td>
<td>6</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Reference to the outcome</td>
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</tr>
<tr>
<td>Other</td>
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<td>--</td>
<td>1.00</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td><strong>Neutral</strong></td>
<td>2</td>
<td>2</td>
<td>11</td>
<td>--</td>
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</tr>
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</tr>
<tr>
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<td>--</td>
<td>0.55</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td><strong>Nasty</strong></td>
<td>8</td>
<td>10</td>
<td>12</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Reference to the outcome</td>
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</tr>
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<td>0.70</td>
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<td>0.17</td>
</tr>
<tr>
<td>Reference to other self-serving motives</td>
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<td>--</td>
<td>0.08</td>
<td>--</td>
<td>0.17</td>
</tr>
<tr>
<td>Other</td>
<td>0.12</td>
<td>--</td>
<td>0.08</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>


**Behaviour predictions and justifications**

Children’s behaviour predictions were also analysed with a 2 (Country: China, Australia) × 3 (Age: 6-, 8-year-olds, adults) × 2 (Context: peer, teacher) × 2 (Order: primacy, recency) repeated-measures ANOVA. There was a main effect of context, $F(1, 115) = 47.61, p < .001, \eta_p^2 = .29$; and a main effect of country, $F(1, 115) = 10.73, p = .001, \eta_p^2 = .09$. That is, participants made more positive future behaviour predictions of the protagonists in the peer contexts than in the teacher contexts ($Ms = 0.83$ and $0.48$ respectively); and Chinese participants made more positive behaviour predictions than did the Australian participants ($Ms = 0.68$ and $0.59$ respectively). There was also a two-way interaction between context and age, $F(2, 115) = 7.47, p = .001, \eta_p^2 = .12$, which was qualified by the three-way interaction between context, age, and order, $F(2, 115) = 3.53, p = .03, \eta_p^2 = .06$. Furthermore, there was another three-way interaction between context, order, and country, $F(1, 115) = 7.17, p = .01, \eta_p^2 = .06$.

To better understand the above interaction effects, the 2 (Context: peer, teacher) × 2 (Order: primacy, recency) repeated-measures ANOVAs were performed separately for each age group within each country. Children’s responses are summarised in Figure 5.2. For the 6-year-olds from both countries, children’s behaviour predictions did not differ by context or order ($ps > .06$). For the 8-year-olds, children from China made more positive predictions of the protagonists in the peer contexts than in the teacher contexts, $F(1, 15) = 5.28, p = .04, \eta_p^2 = .26$; but children from Australia did not make such a differentiation, $p = .09$. For the adults, among the Chinese, there was a main effect of context, $F(1, 23) = 15.87, p = .001, \eta_p^2 = .41$, and an interaction between context and order, $F(1, 23) = 4.60, p = .04, \eta_p^2 = .17$; and among the Australian, there was a main effect of context, $F(1, 32) = 100.00, p < .001, \eta_p^2 = .76$, and a main effect of order, $F(1, 32) = 6.32, p = .02, \eta_p^2 = .17$. Thus, even though adults’ predictions were somewhat influenced by the order of the information, the clearer
picture was that, the 8-year-olds from China and adults from both countries began to expect more positive future behaviours from the protagonists in the peer contexts than in the teacher contexts. Children’s justifications for their behaviour predictions in Table 5.3 also shows that, from 8 years of age, participants from both countries became more likely to explain their negative behaviour predictions of the protagonist in the teacher contexts in terms of the absence of the teacher in the novel situation.
Figure 5.2. Proportion of positive behaviour predictions by age and story type
Table 5.3

*Justifications for Behaviour Predictions*

(a) Proportions of justifications for positive predictions by country, age, and story

<table>
<thead>
<tr>
<th>Justifications</th>
<th>China 6-year-olds</th>
<th>China 8-year-olds</th>
<th>China Adults</th>
<th>Australia 6-year-olds</th>
<th>Australia 8-year-olds</th>
<th>Australia Adults</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Peer P R P R</td>
<td>Peer P R P R</td>
<td>Peer P R</td>
<td>Peer P R P R</td>
<td>Peer P R P R</td>
<td>Peer P R P R</td>
</tr>
<tr>
<td>N</td>
<td>13 13 12 12</td>
<td>14 12 6 10</td>
<td>25 21 13 17</td>
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<td>9 12 5 8</td>
<td>30 34 7 11</td>
</tr>
<tr>
<td>Person reference</td>
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<td>0.57 0.58 0.33 0.40</td>
<td>0.80 0.52 -- 0.35</td>
<td>0.56 0.17 0.50 0.33</td>
<td>0.56 0.33 -- 0.25</td>
<td>0.73 0.74 0.57 0.27</td>
</tr>
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<td>0.21 0.25 0.33 0.40</td>
<td>0.04 0.09 -- 0.06</td>
<td>0.11 0.25 0.30 0.33</td>
<td>0.22 0.33 0.60 0.13</td>
<td>0.07 0.18 -- --</td>
</tr>
<tr>
<td>Reference to the teacher</td>
<td>-- -- 0.08 --</td>
<td>-- -- -- --</td>
<td>-- -- --</td>
<td>-- -- --</td>
<td>-- -- --</td>
<td>0.03 -- -- --</td>
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<td>-- -- --</td>
<td>-- -- --</td>
<td>-- -- --</td>
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</tr>
<tr>
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<td>0.14 0.08 0.17 0.10</td>
<td>-- -- 0.77 0.12</td>
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(b) Proportions of justifications for negative predictions by country, age, and story

<table>
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<th>Justifications</th>
<th>China</th>
<th>Australia</th>
<th>Adults</th>
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<tbody>
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<td>6-year-olds</td>
<td>8-year-olds</td>
<td>Adults</td>
</tr>
<tr>
<td></td>
<td>Peer       Teacher</td>
<td>Peer       Teacher</td>
<td>Peer       Teacher</td>
</tr>
<tr>
<td>N</td>
<td>3          3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Person reference</td>
<td>0.33        0.67</td>
<td>0.25</td>
<td>0.75</td>
</tr>
<tr>
<td>Reference to the teacher</td>
<td>--          --</td>
<td>0.25</td>
<td>--</td>
</tr>
<tr>
<td>Self-interests</td>
<td>0.33        0.33</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>Other</td>
<td>0.33        0.25</td>
<td>--</td>
<td>0.50</td>
</tr>
</tbody>
</table>

*Note.* P = Primacy story, R = Recency story
Relative niceness judgment and justification

The proportions of participants’ endorsements of the nicer protagonists were shown in Figure 5.3. For the 6-year-olds from both countries, children’s endorsements were at chance levels such that no systematic choice preference was observed, \( \chi^2 (2) = 4.63, p = .10 \), and \( \chi^2 (2) = 1.20, p = .55 \), for Chinese and Australians respectively. For the 8-year-olds, children from China systematically endorsed the protagonist who shared in the teacher’s absence as nicer and none of them judged the two protagonists as equally nice, \( \chi^2 (1) = 9.00, p = .003 \); whereas children from Australia randomly endorsed one of the protagonists, \( \chi^2 (1) = 1.67, p = .20 \). For the adults, the Chinese adults’ endorsements were at chance level, such that they were more likely to endorse the protagonist who shared in the teacher’s absence or judge the two protagonists as equally nice, and none of them endorsed the protagonist who shared in the presence of the teacher, \( \chi^2 (1) = 2.67, p = .10 \). Adults from Australia, by contrast, systematically endorsed the protagonist who shared in the teacher’s absence as nicer, \( \chi^2 (2) = 31.82, p < .001 \). In sum, with increasing age, children and also adults from both countries became less likely to endorse the protagonist who shared in the presence of the teacher as nicer.

Table 5.4 shows participants’ justifications for their endorsements. It revealed that, first, there was an age-related increase in participants’ reference to the teacher to explain their endorsements of the protagonist who shared in the teacher’s absence. Second, participants’ endorsements were related to their justifications. Specifically, participants who made reference to the outcome were more likely to endorse the protagonist who shared in the presence of the teacher or to endorse randomly; and participants who made reference to the teacher were more likely to endorse the protagonist who shared in the teacher’s absence.
Figure 5.3. Proportion of children’s endorsement of “nicer” protagonists
Table 5.4

*Proportions of Justifications for Relative Niceness Judgment*

<table>
<thead>
<tr>
<th>Endorsements</th>
<th>N</th>
<th>Reference to the outcome</th>
<th>Reference to the teacher</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>China</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer only</td>
<td>9</td>
<td>--</td>
<td>1.00</td>
<td>--</td>
</tr>
<tr>
<td>Equally nice</td>
<td>2</td>
<td>--</td>
<td>--</td>
<td>1.00</td>
</tr>
<tr>
<td>Teacher present</td>
<td>5</td>
<td>0.40</td>
<td>0.60</td>
<td>--</td>
</tr>
<tr>
<td>8 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer only</td>
<td>14</td>
<td>0.14</td>
<td>0.86</td>
<td>--</td>
</tr>
<tr>
<td>Equally nice</td>
<td>0</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Teacher present</td>
<td>2</td>
<td>--</td>
<td>1.00</td>
<td>--</td>
</tr>
<tr>
<td>Adults</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer only</td>
<td>16</td>
<td>0.06</td>
<td>0.81</td>
<td>0.13</td>
</tr>
<tr>
<td>Equally nice</td>
<td>8</td>
<td>0.50</td>
<td>0.13</td>
<td>0.37</td>
</tr>
<tr>
<td>Teacher present</td>
<td>0</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td><strong>Australia</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer only</td>
<td>6</td>
<td>0.84</td>
<td>--</td>
<td>0.16</td>
</tr>
<tr>
<td>Equally nice</td>
<td>3</td>
<td>1.00</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Teacher present</td>
<td>6</td>
<td>0.50</td>
<td>0.17</td>
<td>0.33</td>
</tr>
<tr>
<td>8 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer only</td>
<td>10</td>
<td>0.60</td>
<td>0.40</td>
<td>--</td>
</tr>
<tr>
<td>Equally nice</td>
<td>0</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Teacher present</td>
<td>5</td>
<td>1.00</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Adults</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer only</td>
<td>26</td>
<td>0.04</td>
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<tr>
<td>Equally nice</td>
<td>6</td>
<td>1.00</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Teacher present</td>
<td>1</td>
<td>1.00</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>
Comparisons between study 3 and 4

Practically, study 3 and 4 can be combined to be conceived as a 2 (Country: China, Australia) × 3 (Age: 6-year-olds, 8-year-olds, adults) × 2 (Motive: no motive, motive) × 2 (Context: peer, teacher) × 2 (Order: primacy, recency) design, with country, age, and motive as the between-subject variables; and context and order as the within-subject variables. There were some slight differences in age – 6-year-olds from Australia in study 4 were younger than in study 3 (Ms = 6.49 and 7.09 respectively) – but it was decided to proceed nonetheless, as this small difference is of very little a priori importance for the core questions. Thus, it was possible to compare participants’ performance across study 3 and 4 to examine how children’s trait ratings and behaviour predictions would be influenced by the explicit provision of the motive information.

Participants’ trait ratings across the two studies are shown in Figure 5.4. In study 3, when no motive information was provided, children from China began to marginally differentiate the protagonists between the two contexts in their trait ratings from 6 years of age, such that they gave more negative evaluations to the protagonists who undertook the prosocial behaviours in the presence of the teacher, and they also increasingly referred to these protagonists’ self-presentational motives to justify their negative evaluations, both in their trait ratings and in their relative niceness judgments; whereas among the Australians, only the adult participants made such distinctions. In the present study, by contrast, when motive information was provided, although the 6-year-olds from China did not consistently differentiate the protagonists between the two contexts either in their trait ratings or in their relative niceness judgments as in study 3, 8-year-olds from both countries were able to differentiate the protagonists across the two contexts, both in their trait ratings and in their relative niceness judgments.
Figure 5.4. Trait ratings by country, motive, age, context, and order (error bars represent standard errors)
Participants’ behaviour predictions across the two studies are shown in Figure 5.5. In study 3, when no motive information was provided, only adults from both countries differentiate the protagonists between the two contexts in their behaviour predictions, such that they expect more future prosocial behaviours from the protagonists in the peer contexts. In study 4, by contrast, when motive information was provided, even the 8-year-olds from China began to make such distinctions in their behaviour predictions.

In sum, the comparison between study 3 and 4 showed the effect of motive information was present in two ways. First, the provision of motive information made the contextual differentiation more pronounced for children at 8 years of age. That is, the 8-year-olds from Australia began to differentiate the protagonists across the two contexts in their trait ratings, and the 8-year-olds from China began to differentiate the protagonists across the two contexts in their trait ratings and behaviour predictions. Second, the provision of motive information diminished the cultural difference between the two countries. Within each age group, participants from both countries began to perform more similarly to each other.
Figure 5.5. Proportion of positive behaviour predictions by country, motive, age, context, and order
Discussion

In addition to the manipulations of the contexts in study 3, the present study further provided children with the motives underlying the protagonists’ behaviours in each context. That is, the protagonists’ prosocial actions were driven by altruistic motives in the peer contexts, and were driven by self-presentational motives in the teacher contexts. In the present study, it was shown that adults from both countries performed in a similar way; they made more negative trait ratings to the protagonists who undertook the prosocial behaviours in the teacher contexts, and they expected more negative future behaviours from them. They also tended to refer to the self-presentational motives of the protagonists in the teacher contexts to explain their more negative trait ratings and behaviour predictions. The 6-year-olds from both countries were also similar to each other in that they mainly based their trait inferences on the behaviour outcome. They exhibited the recency effect in their trait ratings, and they did not make the distinctions between the protagonists across the two contexts either in their trait ratings or in their behaviour predictions. The 8-year-olds from both countries differentiated the protagonists across the two contexts in their trait ratings, and the 8-year-olds from China performed like the adults, so that they also made the distinctions between the protagonists across the two contexts in their behaviour predictions.

Study 4, together with study 3, therefore seemed to suggest that the provision of motive information only had influences on children at 8 years of age, and the provision of motive information had a greater effect on the 8-year-olds from Australia than on those from China. That is, on the one hand, adults from both countries readily made use of the contextual information to spontaneously infer the protagonists’ distinctive motives in each context and took the motives into account when making trait inferences. They showed systematic contextual differentiations in their trait ratings and behaviour predictions no matter whether the motive information was provided or not. The 6-year-olds from both countries, on the
other hand, did not show the contextual differentiations even when motive information was explicitly provided. The 8-year-olds, however, benefited from the additional motive information such that the protagonists in the teacher and peer contexts became more differentiated.

The current findings also suggests that the lack of contextual differentiations among the 6- and 8-year-olds from Australia in study 3 may be due to different reasons. That is, the lack of contextual differentiations of the 6-year-olds was more likely to be attributed to their difficulty in understanding the self-presentational motives. They did not understand that others may be motivated by self-serving motives to undertake prosocial behaviours, nor did they negatively evaluate the ulterior self-presentational motives even if such motives were made salient. The lack of contextual differentiations of the 8-year-olds from Australia, however, was more likely to be attributed to their limited ability or proclivity to use the contextual information to spontaneously infer the self-presentational motives. They began to give more negative evaluations to the protagonists in the teacher contexts when they were explicitly told that their prosocial behaviours were arising from self-presentational motives.

It thus seems that an important developmental transition emerges from 6 years of age. Initially, children are neither able to use the contextual cues to spontaneously identify the self-presentational motive, nor do they negatively evaluate such motive. Later, children are still either (i) unable to spontaneously identify the self-presentational motive or (ii) disinclined to consider it relevant (if they are from an individualist culture in particular), but they do begin to negatively evaluate it when the motive information is made salient in the telling of the story; that is, when social information indicates that it should be considered. Finally, children become both able to use the contextual cues to identify the most plausible motive driving a prosocial behaviour, and to integrate the identified motives into their trait reasoning. Thus, even though children are able to take the simple motives (e.g., positive,
negative, incidental) into account when making trait inferences at about 5 to 6 years of age (Heyman & Gelman, 1998), it takes another two or three years for them to understand the more sophisticated social motives such as self-presentation.

In the present study, although the provision of motive information has amplified the effect of context, and diminished the cultural difference between Australia and China, the 8-year-olds from China still showed better understanding of the self-presentational motives than their Australian counterparts: they differentiated between the protagonists across the two contexts both in their trait ratings and in their behaviour predictions. Chinese children’s higher sensitivity to the self-presentational motives was consistent with prior findings (e.g., Heyman et al., 2007) and our predictions.

Two interpretations of these findings can be put forward to explain Chinese children’s higher sensitivity to the self-presentational motives. The first is that, as influenced by the collectivist cultures, children from China may attend more broadly to the contexts in which behaviours are undertaken, and they may be more aware of external factors (i.e., the teacher) in motivating the protagonists’ prosocial behaviours than children from Australia. Children from Australia, by contrast, may attend primarily to the focal protagonist and they may be more inclined to perceive the prosocial behaviours as indications of the protagonists’ altruistic traits (Miller, 1984; Morris & Peng, 1994; Norenzayan, et al., 2002). To test this possibility, future research can incorporate eye-tracking technology into the current design. By tracking participants’ visual attention to the illustrations, it may be possible to examine whether participants from China in fact pay more attention to the teacher than participants from Australia (e.g., Lagattuta & Sayfan, 2013; Masuda et al., 2008).

The second possibility is that, compared to Australia, China is a developing country with fewer social resources that are centralized and controlled by a small number of people. Thus, it is argued, people in these developing countries need more manipulative strategies,
such as self-presentational behaviours, to achieve particular social goals (Pandey, 1986). It is possible that more frequent observation of and engagement in self-presentational behaviour makes Chinese children more aware of others’ self-presentational motives. To test this possibility, in the future, the procedure used in Leimgruber et al. (2012) can be borrowed to examine whether self-presentational behaviour is more prevalent among the Chinese children, then to examine the association between children’s reasoning about self-presentational motives and their own engagement in the self-presentational process.

A further cultural difference emerging from the current study was that participants from China made more positive behaviour predictions of the protagonists than did the participants from Australia, especially among the adult participants and of the protagonists in the teacher contexts. Adults’ justifications suggest that, the cultural difference in behaviour predictions may be due to the different implicit personality theories that people from the two countries hold regarding their beliefs about the malleability of personality. That is, people from Australia are more likely to hold an entity theory (i.e., entity theorist), which says that dispositions or traits are more fixed and cannot be changed at will. Adult participants from Australia expected the protagonists to behave in a consistent pattern in the future as they did in the past (i.e., undertaking antisocial behaviours when the teacher is not present): that is, the best predictor of future behaviour is past behaviour. By contrast, people from China are more likely to hold an incremental theory (i.e., incremental theorist), which says that dispositions or traits are flexible and malleable (Choi, et al., 1999; Dweck, et al., 1993; Norenzayan, et al., 2002). Adult participants from China were more tolerant of the child protagonists and expected them to be shaped in a positive way by situational influences. For example, more adults from China than those from Australia made the following comments such as, “it is normal for children to display negative behaviours”, and “they are still learning and they will behave in a more appropriate way if they receive more guidance and education”. Such
comments indicate that in future research, it may be fruitful to see whether Chinese and Australian adults are differentially sensitive to development when reasoning about moral traits.

Finally, it was also noteworthy that in the study by Heyman et al. (2013), 6-year-old North American children showed their preference for a protagonist with self-presentational motives (i.e., the public giver) when motive information was not provided; and their preferences were random when motive information was provided. But the 6-year-olds in the current studies performed in a different way. Specifically, the 6-year-olds from China, similar to their 9-to 10-year-olds from the North America, began to show their preference for the protagonists with lower self-presentational motives, even though such preference was only observed in study 3; whereas the 6-year-olds from Australia did not make systematic distinctions between the two protagonists on either measure. These results, suggests that, first, compared to children from North America and Australia, children from China were more likely to negatively evaluate the protagonist who was driven by self-presentational motive, which further supports the hypothesis that children from the collectivist cultures (e.g., China) are more alerted to the self-presentational motives than are children from the individualist cultures. Second, although children from both North America and Australia are influenced by the individualist cultures, they may respond differently to each other. Arguably, the different responses may be due to different experimental procedures, such as the number of behaviour exemplars and the nature of the audience in the scenarios (i.e., peers versus teacher), a possibility that needs to be examined. For example, it is possible that the provision of the protagonists’ antisocial actions in the absence of the teacher in the present study reduced Australian children’s endorsements of them as nicer. It is also possible that to get the teacher’s approval may be more salient to children and may incur more negative social evaluations than to get the popularity among the peers. Future studies can test these two
possibilities with between-subject designs to examine the effects of the number of exemplars and audience. For example, in addition to the two stories of the teacher contexts of the current study, children can be also presented with another two stories in which the protagonists undertake two prosocial behaviours in the presence of a group of peers and undertake one antisocial act in the peers’ absence. Moreover, the different response between children from North America and Australia may suggest that there are sub-cultural differences within individualist cultures, even though the difference within the individualist cultures may be less remarkable than the difference between the individualist and collectivist cultures.

In sum, the present study, together with study 3, provides evidence that children’s understanding of self-presentational motives underlying the prosocial behaviours develops gradually from 6 years of age. Similar to children’s performance on many other self-presentation tasks, the age between 8 and 9 years of age is an important transition, during which children begin to negatively evaluate the prosocial behaviours that are explicitly driven by such self-presentational motives. Furthermore, children from China showed higher suspicion of the possible self-presentational motives than did children from Australia.
CHAPTER 6

GENERAL DISCUSSION

In this thesis, four studies were conducted to examine how children and adults from China and Australia made moral trait inferences of other people on the basis of their inconsistent past actions that were dependent on contexts and motives. Participants were told hypothetical story vignettes in which different protagonists were depicted, and were asked a series of questions regarding each protagonist’s moral trait, motive, and future behaviour.

Specifically, in studies 1 and 2, 4- and 6-year-olds from China were presented with different protagonists who interacted inconsistently with different child recipients when no adults were present. The protagonists behaved either in a predominantly prosocial or antisocial way, with the inconsistent behaviour occurring at different positions of the story vignettes. Next, in study 3, children between 4 and 8 years of age and adults from China and Australia were presented with different protagonists who behaved in a predominantly prosocial way, with their prosocial behaviours undertaken either in the presence of an authority figure (i.e., a female teacher) or in her absence; and with the antisocial behaviour occurring at the beginning or end of the story vignettes. Finally, in study 4, 6- and 8-year-olds, and adults from both countries were presented with the same vignettes as study 3, with the additional provision of the protagonists’ underlying motives: the prosocial behaviours were arising from self-presentational motives in the presence of the teacher, and were arising from altruistic motives in her absence. In each study, participants were asked to judge whether each protagonist was nice or nasty (i.e., moral trait judgment, study 1 to 4); why the protagonist did something nice, either in the presence of the teacher or in her absence (i.e., motive attribution, study 3); and whether the protagonist would undertake prosocial or antisocial behaviour in a novel but related future situation in which the teacher is not present (i.e., behaviour prediction, study 4).
In this final chapter, I first present the main findings of the present thesis, including the discussion of the implications of these results. I then discuss the contributions and limitations of the present thesis, as well as the directions for possible future research.

**Summary of Findings**

**The Recency Effect in Trait Judgments**

In contrast to most of the extant research, which asks children to make moral trait inference of other people on the basis of a single behaviour or several behaviours that are of a consistent outcome, all of the current four studies presented children with people’s past moral behaviours that were of inconsistent outcome; the protagonists always displayed a mixture of prosocial and antisocial behaviours. This allowed a more subtle examination of how children process inconsistent behaviour information to make moral trait inferences.

It has been found that when witnessing people who have behaved inconsistently in the past and making trait judgments of them, different age groups made use of the inconsistent information in different ways. That is, children over 8 years of age and adults from both countries were less sensitive to the order of the inconsistent information; whereas the 4- and 6-year-olds from both countries were more susceptible to the recency effect, such that their trait judgments were strongly influenced by the outcome of the last exemplar. For example, in study 1 and 2, in both outcome conditions, the four-year-olds, but not the 6-year-olds, dramatically changed their trait judgments and increasingly made reference to the last and inconsistent exemplar to explain their trait judgments in the recency stories. Furthermore, the 6-year-olds from Australia in study 3; the 6-year-olds from both countries, and even the adults from Australia in study 4, exhibited a recency effect.

The recency effect in trait judgments was partially consistent with the order effect in the person-perception literature (e.g., Lagattuta & Sayfan, 2013; Luchins, 1957; Rholes &
Ruble, 1986), such that people did not perceive the inconsistent information equally if it was presented at different positions of the information stream. As suggested by study 2, the recency effects exhibited in the young children in the current studies were unlikely to be attributable to their inability to remember the information in the story. Rather, it is more likely that it is a reflection of the way in which they searched for and retrieved the information from memory (Austin, et al., 1977), as well as their nascent understanding of personality traits (Liu, et al., 2007).

That is, first, it was possible that, in comparison to the older participants who searched the information more thoroughly, young children might only retrieve the most salient and accessible information (i.e., the last exemplar) and terminated the search after the retrieval. This may explain why, in study 1, the 6-year-olds made comparable reference to the inconsistent exemplar in the primacy, middle, and recency story, whereas the 4-year-olds made more reference to the protagonists’ inconsistent exemplar in the recency story than in the other two stories.

Second, it was also possible that, in comparison to the older participants who integrated all the past behaviour information and formed a generalized impression of one person; young children’s impressions of a person were fragile and easily altered when facing new and incongruent information about that person. This explains why 4- and 6-year-olds in study 1 made different judgments of the protagonists in the recency stories even though both age groups made comparable reference to the protagonists’ inconsistent exemplar.

Even though the recency effect was not the main focus of the current thesis, its occurrence indeed helped establish the design for the subsequent studies, and it implied that the confounding effect of order needs to be considered in the future research where inconsistent information is presented. Indeed, the question of how information derived at different times is weighed in children’s trait judgments may be a fertile domain for future
research. In addition, in the future, two questions still warrant further examinations. That is, whether our perception of another person is more influenced by the first impression (i.e., the primacy effect) or by the most recent impression (i.e., the recency effect); and whether the recency effect increases or decreases with age. On this last point, study 4 threw up some confusing findings, which suggested that adults are still inclined to privilege recent information. On balance, it seems that the ways in which others’ motives become salient (i.e., via inductive processes or via testimony) may affect the value people place on them. When these sources motive information co-vary with order, or when they are highlighted, it may be that adults show an order effect but that order effect differs in nature to 4-year-olds preference for the most recent information.

**The Positivity Bias in Behaviour Predictions**

Across the four studies, it has been found that, participants’ behaviour predictions were less influenced by the order of the inconsistent information than were their trait ratings. Furthermore, participants tended to hold positive expectations of others’ future behaviours. For example, in study 1 and 2, although both the 4- and 6-year-olds made more positive predictions of the predominantly prosocial than the predominantly antisocial protagonists, they did not systematically expect negative behaviours from the predominantly antisocial protagonists. In study 3, children between 4 and 8 years of age did not differentiate between the protagonists in the peer and teacher contexts; and although adults from both countries expect more positive behaviours from the protagonists in the peer than teacher contexts, they did not systematically expect negative behaviours from the protagonists in the teacher contexts (this was particularly true of Chinese adults). Similarly, in study 4, even though the 8-year-olds from China and adults from both countries expected more positive behaviours from the protagonists in the peer than teacher contexts, the 8-year-olds and adults from China did not systematically make negative predictions of the protagonists in the teacher contexts.
On the one hand, children’s tendency to make positive behaviour predictions was consistent with the prevailing positivity bias in children’s trait reasoning (e.g., Boseovski, 2010), and the justification questions in the current studies have uncovered a plausible underlying source for the positivity bias. Children’s justifications suggested that the positivity bias can to some extent be attributed to their nascent understanding of traits. First, in comparison to adults (and especially the adults from Australia) who used traits to describe a person’s stable and enduring patterns of behaviours, children tended to use traits to make temporal evaluations of other people that are specific to a particular time and situation, and they thus did not expect the protagonists to behaviour in a consistent pattern in the future as they did in the past, especially the predominantly antisocial protagonists or the protagonists in the teacher contexts. Second, children in the current studies have difficulty combining the behaviour-to-trait inferences and trait-to-behaviour predictions together to make behaviour-to-behaviour predictions (Liu, et al., 2007). Finally, children’s predictions of other people’s behaviours were based on their desired expectations and common rules, rather than on people’s individual traits (e.g., Kalish & Shiverick, 2004). Thus, it seems that young children have not developed a disproportionate reliance on traits to guide their social inferences as the adults – especially the adults from individualist cultures – do.

On the other hand, Chinese adults’ more positive predictions than their counterparts’ from Australia might reflect their different beliefs about the malleability of personality. Adults from Australia are likely more influenced by the Western individualistic cultures so that they tend to view a person as comprising a unique configuration of internal attributes (e.g., mental states and traits), such that the person is conceived as relatively independent of other people and of contexts. In contrast, adults from China are likely more influenced by the Eastern collectivist cultures that they view a person as interdependent with the in-group members and the surrounding contexts, and thus contexts are included in the characterization
of the person. Accordingly, it is to be expected that Western people will usually overestimate the behaviour consistency across time and situations; whereas Eastern people are more attentive to the joint effects of dispositions and situations when making behaviour predictions, and traits are deemed as more flexible and malleable (Nisbett, 2004). Thus, adult participants from Australia, were more likely to expect the protagonists to behave in a consistent pattern in the future as they did in the past (i.e., undertaking antisocial behaviours when the teacher is not present). By contrast, adult participants from China were more tolerant of the child protagonists and tended to expect them to be shaped in a positive way by situational influences (e.g., appropriate education).

**Age-related Increase in the Use of Contextual and Motive Information**

Participants’ performance across the four studies has shown that children younger than 8 years of age from both countries mainly based their trait inferences on the protagonists’ overt behavioural outcomes. First, they were inclined to attribute the protagonists’ prosocial behaviours to their altruistic motives, self interests, and their friendship with the recipients, regardless of the contexts in which the prosocial behaviours were undertaken. Second, the predominantly antisocial protagonists were negatively rated; and the predominantly prosocial protagonists were positively rated, irrespective of the contexts in which the prosocial behaviours were undertaken, or the motives that drove these prosocial behaviours. Third, they also did not differentiate between protagonists in their behaviour predictions. It was noteworthy that although the six-year-olds from China also made the distinctions between the protagonists across the two contexts in study 3, their motive attributions and trait justifications did not show their systematic use of the contextual information, and they did not consistently make such distinctions in study 4.

Participants from about 8 years of age, by contrast, start to make more use of the contextual and motive information in their trait judgments and behaviour predictions. As
shown in study 3 and 4, even though all the protagonists behaved in a predominantly prosocial way in the past, they began to differentiate them by the contexts in which their past prosocial behaviours were undertaken, and by the motives that drove their prosocial behaviours. Specifically, in study 3, the 8-year-olds from China and adults from both countries made systematic use of the contextual information to infer the different motives underlying the protagonists’ prosocial behaviours, such that they began to attribute self-presentational motives to the protagonists when their prosocial behaviours were undertaken in the presence of the teacher. They also made more negative evaluations about the protagonists in the teacher contexts than in the peer contexts; and adults also expected more positive behaviours from the protagonists in the peer contexts than in the teacher contexts. Furthermore, in study 4, when the protagonists’ altruistic and self-presentational motives were explicitly provided, the 8-year-olds from Australia also began to make the distinctions between the protagonists across the two contexts in their trait judgments; and the 8-year-olds from China performed similarly to the adults, in that they made such distinctions in their behaviour predictions.

In sum, study 3 and 4 have shown that, with age, children are more likely to take the contextual and motive information (specifically the self-presentational motive in the current studies) into account when making trait inferences. In addition, there is an important developmental transition emerging from 6 years of age. Initially, children are neither able to use the contextual cues to spontaneously identify the self-presentational motive, nor do they negatively evaluate such motive. Later, children are still unable to spontaneously identify the self-presentational motive, but they begin to negatively evaluate it when the motive information is made salient. Finally, it is not until at least 8 to 9 years of age that children are able to use the contextual cues to identify the most plausible motives underlying prosocial behaviour, and integrate such motives into their trait reasoning. In other words, 8-year-olds
began to understand that people may be motivated to present themselves in particular contexts to be positively evaluated, and their prosocial behaviours can be self-serving rather than for the benefits of the recipients. Moreover, they also began to perform like the adults in that they negatively evaluate the people whose prosocial behaviours were out of self-presentational motives.

The late use of contextual information in identifying the self-presentational motives was consistent with findings that children do not systematically make reference to the self-presentational motives to explain and predict people’s emotion displays, verbal statements, or other self-presentational processes until about 8 years of age (Banerjee & Yuill, 1999a; Bennett & Yeeles, 1990a, 1990b; Heyman & Legare, 2005). It suggests that even though children are able to take simple motives (e.g., positive, negative, incidental) into account when making trait inferences at about 5 to 6 years of age (Heyman & Gelman, 1998), it takes another two or three years for them to understand the more sophisticated social motives such as self-presentation. Also, it suggests that, children may implicitly engage in the self-presentational process years before they can understand and explicitly reason about the concept of self-presentation (Leimgruber, et al., 2012).

**Cross-cultural Variations in Children’s Sensitivity to Contextual and Motive Information**

In addition to the general age-related increase in the use of contextual and motive information, children from China seemed to develop the sensitivity to contextual and motive information earlier than did the children from Australia. For example, in study 3, there was an increase in Chinese children’s reference to the teacher in their motive attributions and negative evaluations of the protagonists in the teacher contexts from 6 to 8 years of age, but such increase was not observed among children from Australia. Moreover, the 8-year-olds from China more negatively evaluated the protagonists in the teacher than in the peer
contexts even when the motive information was not provided, and they expected more positive behaviours from the protagonists in the peer contexts than in the teacher contexts when the motive information was provided. Eight-year-olds from Australia, however, needed explicit motive information to engage in such negative evaluations, and they still did not differentiate the protagonists between the two contexts in their behaviour predictions.

The cultural difference found in the current studies extends the findings of Heyman, Fu, and Lee (2007) who showed that Chinese children have higher level of scepticism than children from North America when evaluating people’s self-descriptions of their evaluative characteristics. It seems that Chinese children also showed earlier awareness than their Australian counterparts of another aspect of self-presentation – people may deliberately behave in a prosocial way in the presence of an authority figure to be perceived in a positive light. Such sensitivity to contextual and self-presentational motives can be explained in two ways. First, because Chinese children grow up in a collectivist cultures, they may attend more broadly to the contexts in which behaviours are undertaken, and they may be more aware of the external factors (i.e., the teacher) in motivating the protagonists’ prosocial behaviours when compared to children from Australia. Children from Australia, by contrast, may attend primarily to the focal protagonist and they may be more inclined to perceive the prosocial behaviours as indications of the protagonists’ intrinsic traits.

The second possibility is that children from China are more alerted to self-presentational motives because Chinese people engage more in the self-presentational process than Australian people. On the one hand, as group harmony is highly valued in the collectivist cultures such as China, people in these societies are more concerned about how self is presented in order not to cause discord among group members. On the other hand, compared to Australia, China is a developing country with fewer social resources that are centralized and controlled by a small number of people. Thus, people living in such
developing countries may need more manipulative strategies to achieve particular social goals (Pandey, 1986). Hence, it is possible that the more observation and engagement in self-presentation themselves makes Chinese children more aware of others’ self-presentational motives. These two possibilities can be further investigated in the future (see Chapter 5, Discussion).

**Contributions, Limitations, and Future Directions**

The current thesis has contributed to our understanding of children’s developing trait inferences in at least the following ways. First, different from most previous studies that examined children’s trait inferences of other people on the basis of their consistent past actions, the current studies examined children’s trait inferences of other people on the basis of their inconsistent past actions. Second, the current studies extended the research on children’s considerion of motives in their evaluations of moral behaviours from the simple motives (e.g., intentional versus unintentional) to more sophisticated ones (i.e., self-presentational motives). In doing so, the current studies integrate two areas of research: children’s moral trait reasoning and their understanding of the self-presentational process. Third, in contrast to most studies that focus on children from Western individualist cultures, the current studies also included children from the Eastern collectivist cultures, thus enabling us to better understand the age and cultural difference in children’s understanding of other people’s moral character.

However, several questions have not been fully answered in the current thesis, thus raising several new directions for future research. First of all, as previously noted, because the focus of the current thesis was to examine the age and cultural variations in children’s use of contextual and motive information when evaluating people’s moral characters when their actions were inconsistent in the past, the interesting recency effect and positivity bias
emergent from the first two studies have not been further explored and warrant more investigations in the future.

Second, as the current studies targeted children between 4 and 8 years of age, little is known about children’s performance beyond this age span. For example, it has been shown in the current studies that children from China were more sensitive to the contextual and motive information than were children from Australia, and the adults from both countries performed in a similar way; but it is less known at which age that children from Australia begin to perform similarly to their Chinese counterparts. Therefore, in the future, children older than 8 and adolescents can also be included to create a larger age span and present a fuller developmental story. Despite the need to fill in this empirical gap, the comparison Figure in Chapter 5, Figure 5.4, shows a very compelling developmental trajectory. In this case, children from China and Australia appear to become somewhat alike as adults, which contrasts with traditional assumptions about cultural differences in trait inferences and behaviour predictions (Nisbett, 2004). It should be kept in mind, however, that these tasks would have been very straightforward for adults; they were designed to elicit differences in children, not adults. And yet, in the behaviour predictions, cultural differences still emerged. But there is a cautionary note here, if moving forward into later childhood and adolescence, it may be necessary to use more subtle or implicit measures to fully tap cultural differences.

Third, the current studies have shown the cross- and within-cultural individual difference in children’s reasoning, but have not addressed the factors that contributed to such individual differences. That is, it has been found that children from China develop contextual and motive sensitivity earlier than children from Australia. It has also been found that some 6-year-olds from China have already inferred the self-presentational motives from the contextual information and negatively evaluated them, but some 8-year-olds were still insensitive to contexts or motives. But less is known about what factors influenced children’s
reasoning. Therefore, another fruitful direction in the future is to examine the individual differences in people’s sensitivity to others’ self-presentational motives.

Individual difference in self-presentational understanding can possibly be explained by the simulation theory in the ToM literature (Harris, 1995). According to the simulation theory, we understand other people’s mental states by putting ourselves in the same circumstances and understanding our own mental states. Hence, it is possible that people who engage more in the self-presentational process themselves have a greater insight into the self-presentational motives of other people. Following this perspective, the link between the engagement in and understanding of the self-presentational process can be examined in the future, followed by an examination of the factors that contribute to the individual differences in the engagement in and understanding of the self-presentational process. Several personality constructs have been suggested in the previous literature to explain individual difference in self-presentation engagement, and these factors can be explored in the future to examine whether they can also explain the individual difference in self-presentational understanding. For example, it has been suggested that people who are more concerned about how they are evaluated by other people, and who have higher willingness and ability to regulate their behaviours (i.e., high self-monitors, see Snyder, 1987) are more likely to engage in and be aware of the self-presentational process (e.g., Banerjee, 2002b; Schlenker & Weigold, 1992). It has also been suggested that, people who were high on Machiavellianism are more likely to engage in the self-presentational process, which is manipulative in nature (Pandey & Rastogi, 1979). Therefore, in the future, in addition to the same procedure as the current studies, participants’ self-monitoring scores (Banerjee, 2002b) and Machiavellian traits (Nachamie, 1966) can also be measured to examine possible links between these personality measures and children’s understanding of self-presentational motives.
Finally, it is also interesting to examine the effect of audience in children’s reasoning about self-presentational motives (Banerjee, 2002). For example, because of the influence of the Confucian tradition, teachers are highly respected in China. Thus, the teacher, as the audience in the current studies, may be more salient for Chinese children when identifying the protagonists’ self-presentational motives. In other words, it may be that children from Australia were less sensitive to the contextual and motive information in the current studies because they were less concerned about impressing the teacher than were children from China. In the future, other audience (e.g., parents, a group of peers) can be included to examine whether the nature of audience may influence children’s identifications of the self-presentational motives.

Conclusions

The current thesis showed that when making moral trait inferences of other people on the basis of their past inconsistent actions, people of different age groups prioritized different aspects of the information. Specifically, children younger than 8 years of age mainly based their judgments on the overt outcomes; and children younger than 6 years of age were more likely to be influenced by the most recent information they had witnessed. From about 8 years of age, children began to go beyond the overt behaviour outcome and take the contextual and motive information into account. They increasingly attributed self-presentational motives to the protagonists who undertook the prosocial behaviours in the presence of the authority figure, and negatively evaluated them. Furthermore, children from China developed such contextual and motive sensitivity earlier than did the children from Australia.
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Appendix A

Ethics Approvals and Associated Forms

A.1 Human research ethics approval

RESEARCH INTEGRITY
Human Research Ethics Committee
Email: humanethics@sydney.edu.au

Address for all correspondence:
Level 6, Jane Foss Russell Building - 002
The University of Sydney
NSW 2006 AUSTRALIA

Hof: [MF/IFG]
28 July 2011
Dr Marc de Rosnay
Senior Lecturer
School of Psychology
Faculty of Science
The University of Sydney
Email: marc.derosnay@sydney.edu.au

Dear Dr de Rosnay

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

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

Protocol No.: 07-2011 / 13999
Approval Period: July 2011 to July 2012
Annual Report Due: 31 July 2012

Authorised Personnel:
Dr Marc de Rosnay
Ms Amy Hawker
Ms Ming Yuan
Ms Nicole Mallin-Casalis
Ms Linda Rooney

Documents Approved:
- Who will be nice and who will be nasty? (Study 1):
  Parent/Guardian Information Statement (version 1, 23/06/2010)
  Parental (or Guardian) Consent Form (version 1, 23/06/2010)
- The Development of Moral Self Understanding (Study 2):
  Parent/Guardian Information Statement (version 1, 23/06/2010)
  Parental (or Guardian) Consent Form (version 1, 23/06/2010)
- Children’s understanding of the moral implications of social inclusion (Study 3):
  Parent/Guardian Information Statement (version 1, 23/06/2010)
  Parental (or Guardian) Consent Form (version 1, 23/06/2010)
- Instruments:
  Story Examples for Study 1
  Moral Self-concept puppet interview for children
  Example procedures for task assessing children’s understanding of mixed moral emotions
  Antisocial Process Screening Device - Parent Version (as revised - version 2)
  Inventory of Callous Unemotional Traits (Parent Version)
  Kiilide Mach Scale
  Social Maturity Rating Scale (SMR)
  Strengths and Difficulties Questionnaire
  Teacher Rated Empathy Questionnaire
  Child Behaviours Coding Scheme for empathic responding to others distress
  Story vignettes for Study 3

Manager Human Ethics
Mr Margaret Fancier
Tel: +61 2 9351 8176
Email: margaret.fancier@sydney.edu.au

Human Ethics Secretariat
Ms Patricia Eisenhauer
Tel: +61 2 9351 8172
Email: patricia.eisenhauer@sydney.edu.au

Ms Karen Greer
Tel: +61 2 9351 8171
Email: karen.green@sydney.edu.au

Ms Kate Roberts
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Email: kate.roberts@sydney.edu.au

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The HREC is a fully constituted Ethics Committee in accordance with the National Statement on Ethical Conduct in Research Involving Humans-March 2007 under Section 5.1.29.

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

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

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

Chief Investigator / Supervisor's responsibilities to ensure that:

1. All serious and unexpected adverse events should be reported to the HREC within 72 hours.
2. All unforeseen events that might affect continued ethical acceptability of the project should be reported to the HREC as soon as possible.
3. You must retain copies of all signed Consent Forms and provide these to the HREC on request.
4. It is your responsibility to provide a copy of this letter to any internal/external granting agencies if requested.
5. All research participants are to be provided with a Participant Information Statement and Consent Form, unless otherwise agreed by the Committee. This following statement must appear on the bottom of the Participant Information Statement: Any person with concerns or complaints about the conduct of a research study can contact the Manager, Human Ethics, University of Sydney, on +61 2 8627 8176 (Telephone), +61 2 8627 8177 (Facsimile) or: nh.university@Sydney.edu.au (Email).
6. Any changes to the protocol including changes to research personnel must be approved by the HREC by submitting a Modification Form before the research project can proceed. Please refer to the website at http://sydney.edu.au/research/support/ethics/human/forms to download a copy of the Modification Form.
7. A Completion Report should be provided to the Human Research Ethics Committee at the completion of the Project.

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

Yours sincerely

[Signature]

Dr Margaret Feodo
Manager, Human Ethics
On behalf of the HREC
A.2 Parental information statement and consent form

The University of Sydney
School of Psychology
Faculty of Science

ART 15 211 513 404
Marc de Rosnay PhD
Senior Lecturer
Room BM344
Brunnian MacCallum Building A18
The University of Sydney
NSW 2006 AUSTRALIA
Telephone: +61 2 9351 4528
Fax: +61 2 9351 5223
Email: marc.derosnay@sydney.edu.au
Web: sydney.edu.au/psychology

PARENT/GUARDIAN INFORMATION STATEMENT

TITLE: CONSCIENCE AND CONDUCT
Who will be nice and who will be nasty?

1. What is the study about?

This research examines how children between 4 and 10 years of age understand other people as moral agents. Specifically, we are interested in how children keep track of other people’s behaviours (e.g., do they do nice/nasty things?) and motivations (e.g., are they spontaneously kind or are they only kind when there is an adult watching?), and how they synthesise this information to decide whether someone is nice or nasty, honest or dishonest. This study will help us to better understand the ways in which children make decisions about whether other people are trustworthy or kind, and the ages at which children start to understand these aspects of personality. Your child was selected as a possible participant in this study because he/she is of the target age and your school has kindly agreed to support this research.

2. Who is carrying out the study?

The study is being conducted by current senior research students, Ms Ming Yuan and Ms Annabel Marsh, and will form the basis for the degree of Doctor of Philosophy (PhD) undertaken at The University of Sydney under the supervision of Dr Marc de Rosnay, a Senior Lecturer in the School of Psychology.

3. What does the study involve?

This study will be conducted at your child’s school. Your child will sit in a quiet section of the classroom with a female research assistant and hear a number of short stories in which other children do things that are nice (e.g., helping or sharing), nasty (e.g., ignoring someone else in need or not sharing) or neutral. After hearing about a few behaviours of the children in each story, your child will be asked to talk about the personalities (e.g., nice/nasty, honest/dishonest) and feelings of the story characters. In addition to these stories, we will also present them with a puppet interview in which two puppets make opposing statements (e.g., some days nothing makes me grumpy—some days everything makes me grumpy) and your child is asked to decide which puppet is more like them. This puppet interview allows us to get some information about how your child understands other’s own behaviours.

If you would like further information about the procedures outlined here, please do not hesitate to contact Dr Marc de Rosnay (see point 9 below).

4. How much time will the study take?

The study will take about 15 to 25 minutes of your child’s time.

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(5) Can I withdraw from the study?

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

(6) Will anyone else know the results?

Any information that is obtained in connection with this study and that can be identified with you or your child will remain confidential and will be disclosed only with your permission. If you give us your permission by signing the Consent Form, we may submit report(s) of the study for publication and the results may be presented at national and international conferences related to this area of research, but individual participants or schools will not be identifiable in such a report(s). In any publication, information will be presented in such a way that you or your child will not be able to be identified.

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

We do not anticipate that there will be any adverse consequences for your child by taking part in our study. However, there are no assurances that your child will receive any benefits from the study. If we have any indication that your child is unhappy or dislikes the procedures, which we do not expect, the study will be terminated. We will always speak with school staff in the unlikely event that this occurs.

(8) Can I tell other people about the study?

You are more than welcome to tell other people about the study as it will not affect the outcomes of the research.

(9) What if I require further information?

If you have any questions, we expect you to ask us. If you would like to know more at any stage, please feel free to contact Dr. Marc de Rosnay on (02) 9351 4526 or marc.de/rosnay@sydney.edu.au.

(10) What if I have a complaint or concern?

Any person with concerns or complaints about the conduct of a research study can contact the Manager, Human Ethics Administration, University of Sydney on +61 2 8627 8176 (Telephone); +61 2 8627 8177 (Facsimile) or humanethics@sydney.edu.au (Email).

This information sheet is for you to keep

Yours sincerely,

Marc de Rosnay, PhD
School of Psychology
The University of Sydney
Sydney, June 2011

Who will be nice and who will be nasty?

Version 1 23-06-2010
PARENTAL (OR GUARDIAN) CONSENT FORM

I, .................................................................................................................., agree to permit ........................................................., who is aged ........................................ years, to participate in the research project:

TITLE: Conscience and Conduct
Who will be nice and who will be nasty?

In giving my consent I acknowledge that:

1. I have read the Information Statement and the time involved for my child's participation in the project. The researcher/s has given me the opportunity to discuss the information and ask any questions I have about the project and they have been answered to my satisfaction.

2. I understand that I can withdraw my child from the study at any time without prejudice to my or my child's relationship with the researcher/s now or in the future.

3. I agree that research data gathered from the results of the study may be published provided that neither my child nor I can be identified.

4. I understand that if I have any questions relating to my child's participation in this research I may contact the researcher/s who will be happy to answer them.

5. I acknowledge receipt of the Information Statement.
6. I consent to:

i) Audio-taping □ YES □ NO □

ii) Receiving Feedback □ YES □ NO □

If you answered YES to the "Receiving Feedback Question (iii)", please provide your details i.e. mailing address, email address.

Feedback Option

Address: ________________________________

________________________________________

Email: ________________________________
Appendix B

Materials in Study 1 and 2

### B.1 Main Themes and Outcomes in Vignette A, B, C, and D

<table>
<thead>
<tr>
<th>Theme</th>
<th>Story</th>
<th>Exemplar</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Justin/Emily shares the candy OR Justin/Emily takes Adam/Anna’s chips</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Justin/Emily shares the cookies OR Justin/Emily takes Billy/Kathy’s chocolate bar</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Justin/Emily shares the strawberries OR Justin/Emily takes David/Grace’s grapes</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Alex/Gina shares the Play-Doh OR Alex/Gina takes Chris/Emma’s blocks</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Alex/Gina shares the bubble blower OR Alex/Gina takes Denis/Lily’s pinwheel</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Alex/Gina shares the bike OR Alex/Gina takes Kevin/Laura’s scooter</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Martin/Linda lends Spark/Alice the crayon OR Martin/Linda scribbles on Spark’s/Alice’s picture</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Martin/Linda helps rebuild Fred’s/Amy’s block tower OR Martin/Linda knocks Fred’s/Amy’s block tower down</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Martin/Linda helps rebuild Harry’s/Christina’s sand castle OR Martin/Linda knocks down Harry’s/Christina’s sand castle</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Johnny/Mary helps Bobby/Tracy fold a paper plane or ruins it</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Johnny/Mary helps Ryan/Sandy solve a jigsaw puzzle or messed it up</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Johnny/Mary helps Andy/Maggie reconstruct a Lego bus or breaks it</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Past actions</th>
<th>Prediction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Will Justin/Emily share the biscuits or take Alan/Lisa’s sandwich away?</td>
</tr>
<tr>
<td></td>
<td>Will Alex/Gina share the robot or take Eric/Rita’s remote car away?</td>
</tr>
<tr>
<td></td>
<td>Will Martin/Linda laugh at and make fun of the boy/girl that slipped after stepping on a banana peel, or help him/her get up?</td>
</tr>
<tr>
<td></td>
<td>Will Johnny/Mary help a girl/boy carry the box, or stick out the foot and trip him/her?</td>
</tr>
</tbody>
</table>
B.2 Sample Exemplars and Illustrations

Neutral exemplar

English: One day at school, during play time, Gina decides to play with her Play-Doh.

Another girl, Emma, is playing with some blocks.

Chinese: 一天在学校里，娜娜打算玩自己的橡皮泥。另一个女生安安在玩积木。

Positive exemplar

English: One day at school, during play time, Gina decides to play with her Play-Doh.

Another girl, Emma, is playing with some blocks.

Gina goes to Emma and asks if she would like to play with her Play-Doh. Emma is happy because she would like to play with the Play-Doh.

Chinese: 一天在学校里，娜娜打算玩自己的橡皮泥，另一个女生安安在玩积木。
娜娜走到安安面前，问她想不想玩自己的橡皮泥。安安很高兴，因为她喜欢玩橡皮泥。

Negative exemplar

English: One day at school, during play time, Gina decides to play with her Play-Doh. Another girl, Emma, is playing with some blocks. Gina goes to Emma and grabs her blocks, she takes the blocks away from Emma. Emma is sad because they were her blocks and now she has nothing to play with.

Chinese: 一天在学校里，娜娜打算玩自己的橡皮泥，另一个女生安安在玩积木。娜娜走到安安面前，把她的积木给抢了过来。安安很难过，因为这是她的积木，现在她没有东西玩了。
B.3 Story Sets

Four sets of story were generated and shown as below (1=neutral story, 2=primacy story, 3= middle story, 4=recency story). Each set was allocated randomly to each participant and appeared with equal numbers in each age group (8 times). The neutral behavioural exemplar always occurred at the beginning of the neutral story.

Set A:  A₁ B₂ C₃ D₄

Set B:  B₃ C₄ D₁ A₂

Set C:  C₁ D₂ A₃ B₄

Set D:  D₃ A₄ B₁ C₂
Appendix C

Materials in Study 3

C.1 Sample Illustrations, Stories, and Questions in English and Chinese

Peer-primacy story (boy version, English)

This story is about a boy called Justin. See, here is Justin.

One day at school, during lunch time, Justin has a bag of sweets. Another boy, Adam, also has a snack, he has a bag of chips.

Justin goes over to Adam and grabs his chips, he takes the chips away from Adam.

Adam is sad because they are his chips and now he has nothing to eat.
On a different day at school, during lunch time, Justin has a bag of cookies. Another boy, Billy, also has a snack, he has a chocolate bar.

Justin goes over to Billy and asks if he would like to have some of his cookies. Billy is happy because he likes the cookies.

On a different day at school, during lunch time, Justin has some strawberries. Another boy, David, also has some fruit, he has some grapes.

Justin goes over to David and asks if he would like to have some of his strawberries. David is happy because he likes strawberries.

Questions:

1. Trait: Is Justin nice or nasty? Is Justin a little bit nice/nasty, nice/nasty, or very nice/nasty? Why do you think Justin is a little nice/nasty, nice/nasty, or very nice/nasty?

2. Motive: Why do you think that Justin shared his cookies with Billy this time?

3. Behaviour prediction: The next day at school, during lunch time, Justin has a bag of biscuits and another boy, Alan, has a sandwich. Justin goes over to Alan. Do you
think that Justin will share his biscuits with Alan, or Justin will grab Alan’s sandwich and take it away from Alan?

Peer-primacy story (boy version, Chinese)

这个故事说的是一個叫做彬彬的小男孩。看，这是彬彬。

有一天课间，彬彬有一包糖。另一个男生聪聪也有一包零食，是一包薯片。彬彬走到聪聪面前，把他的薯片给抢了过来。聪聪很难过，因为这是他的薯片，现在他没东西吃了。

另一天课间，彬彬有一包曲奇饼，另一个男生琦琦有一块巧克力。彬彬走到琦琦面前，问他想不想吃点自己的曲奇饼。琦琦很开心，因为他喜欢吃曲奇饼。

另一天在学校里，彬彬有一些草莓，另一个男生畅畅也带了水果，是一些葡萄。彬彬走到畅畅面前，问他想不想吃点自己的草莓。畅畅很开心，因为他喜欢吃草莓。

问题：

1. 特质：彬彬是好孩子还是坏孩子？彬彬是有一点点好/坏，中等好/坏，还是非常好/坏？为什么你觉得他好/坏/既不好也不坏？

2. 动机：你觉得这次彬彬为什么会把曲奇饼给琦琦吃？
3. 行为预测：一天，在学校的午饭时间，彬彬有一包饼干，另一个男生小杰有一块三明治。彬彬走到了小杰面前。你认为彬彬是要分饼干给小杰吃，还是要抢小杰的三明治？为什么你觉得彬彬会分饼干给小杰吃/抢小杰的三明治？
Teacher-recency story (girl version)

This story is about a girl called Linda. See, here is Linda.

One day at school, Linda is drawing a picture and another girl, Alice, is sitting next to
her and also drawing a picture. This is their teacher Miss Smith. She is watching everyone in
the class.

Alice wants to draw some grass but can’t find her green crayon.

Linda lends Alice her green crayon. Alice is happy because now she can draw grass
on her picture.

On a different day at school, Linda is building blocks and another girl, Amy, is also
building a tower with blocks. This is their teacher Miss Smith. She is watching everyone in
the class.

Suddenly, Amy’s block tower falls over because it is too high.
Linda stops building his tower. Linda goes over to Amy and helps her build another tower. Amy is happy because Linda helped her build a tower.

On a different day, Linda is building a sand castle at the beach. Another girl, Christina, is also building a sand castle.

Linda goes over to Christina’s sand castle and kicks it down. Christina is sad because her sand castle is ruined.

Questions:

1. Trait: Is Linda nice or nasty? Is Linda a little bit nice/nasty, nice/nasty, or very nice/nasty? Why do you think Linda is a little nice/nasty, nice/nasty, or very nice/nasty?

2. Motive: Why do you think that Linda helped Amy build another tower this time?

3. Behaviour prediction: The next day at school, Linda sees another girl, Rose, slipped and fell on a banana skin. Do you think that Linda will laugh at and make fun of Rose, or Linda will help Rose get up?
Teacher-recency story (girl version, Chinese)

这个故事说的是一个叫做琳琳的小女孩儿。看，这是琳琳。

有一天在学校里，琳琳正在画画。另一个女生欣欣坐在琳琳的旁边，她也在画画。这是王老师，她在看着班上每位同学的表现。欣欣想画一些小草，但是她找不到自己的绿色蜡笔了。琳琳把自己的绿色蜡笔借给了欣欣。欣欣很开心，因为现在她有绿色蜡笔可以画小草了。

另一天在学校里，琳琳正在搭积木，另一个女生雯雯也在搭积木。这是王老师，她在看着班上每位同学的表现。突然，雯雯的积木倒了下来，因为它们实在太高了。琳琳走到雯雯面前，帮她拾起了积木，还和雯雯一起搭了一个新的城堡。雯雯很开心，因为琳琳帮助她搭了一个新城堡。

另一天，在沙滩上。琳琳在用沙子堆城堡。另一个女生蓓蓓也在用沙子堆城堡。琳琳走到蓓蓓的城堡前，用脚把蓓蓓的城堡给踢倒了。蓓蓓很难过，因为她的城堡被琳琳踢坏了。

问题：

1. 特质：琳琳是好孩子还是坏孩子？琳琳是有一点点好/坏，中等好/坏，还是非常好/坏？为什么你觉得她好/坏/既不好也不坏？

2. 动机：你觉得琳琳这次为什么会帮助雯雯搭积木？

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3. 有一天，琳琳看见一个另一个女生，露露，踩到香蕉皮后滑倒了。你认为琳琳是会上前取笑她，还是会帮忙把她扶起来？为什么你觉得琳琳会上前取笑她/帮忙把她扶起来？
C.2 Story Sets

Four sets of story were generated and shown as below (1 = peer-primacy story, 2 = peer-recency story, 3 = teacher-primacy story, 4 = teacher-recency story). Each set was allocated randomly to each participant and appeared with equal numbers in each age group.

Set A:  A_1 B_2 C_3 D_4
Set B:  B_3 D_1 C_4 A_2
Set C:  B_4 A_3 D_2 C_1
Set D:  C_2 A_4 B_1 D_3
Appendix D

Materials in Study 4

D.1 Sample Stories in English and Chinese

Peer-primacy story (boy version, English)

This story is about a boy called Justin. See, here is Justin.

One day at school, during lunch time, Justin has a bag of sweets. Another boy, Adam, also has a snack, he has a bag of chips. Justin thinks that Adam’s chips are delicious and he wants some himself. Justin goes over to Adam and grabs his chips. He takes the chips away from Adam. Adam is sad because they are his chips and now he has nothing to eat.

On a different day at school, during lunch time, Justin has a bag of cookies. Another boy, Billy, also has a snack, he has a chocolate bar. Justin thinks that his cookies are delicious. He wants to share some with Billy to make Billy feel happy. Justin goes over to Billy and asks if he would like to have some of his cookies. Billy is happy because he likes the cookies.

On a different day at school, during lunch time, Justin has some strawberries. Another boy, David, also has some fruit, he has some grapes. Justin thinks that his strawberries are delicious. He wants to share some with David to make David feel happy. Justin goes over to David and asks if he would like to have some of his strawberries. David is happy because he likes strawberries.

Peer-primacy story (boy version, Chinese)

这个故事说的是一个叫做彬彬的小男孩儿。看，这是彬彬。
有一天课间，彬彬有一包糖。另一个男生聪聪也有一包零食，是一包薯片。彬彬觉得聪聪的薯片很好吃，他也想吃。于是，彬彬走到聪聪面前，把他的薯片给抢了过来。聪聪很难过，因为这是他的薯片，现在他没东西吃了。

另一天课间，彬彬有一包曲奇饼，另一个男生琦琦有一块巧克力。彬彬觉得自己的曲奇饼很好吃，他想分点给琦琦吃，让他开心。于是，彬彬走到琦琦面前，问他想不想吃点自己的曲奇饼。琦琦很开心，因为他喜欢吃曲奇饼。

另一天在学校里，彬彬有一些草莓，另一个男生畅畅也带了水果，是一些葡萄。彬彬觉得自己的草莓很好吃，他想分点给畅畅吃，让他开心。于是，彬彬走到畅畅面前，问畅畅想不想吃点自己的草莓。畅畅很开心，因为他喜欢吃草莓。

**Teacher-recency story (girl version, English)**

This story is about a girl called Linda. See, here is Linda.

One day at school, Linda is drawing a picture and another girl, Alice, is sitting next to her and also drawing a picture. This is their teacher Miss Smith. She is watching everyone in the class. Alice wants to draw some grass but can’t find her green crayon. Linda wants Miss Smith to notice her and she wants Miss Smith to think she is nice. Linda lends Alice her green crayon. Alice is happy because now she can draw grass on her picture.

On a different day at school, Linda is building blocks and another girl, Amy, is also building a tower with blocks. This is their teacher Miss Smith. She is watching everyone in the class. Suddenly, Amy’s block tower falls over because it is too high. Linda wants Miss Smith to notice her and she wants Miss Smith to think she is nice. Linda stops building her
tower. Linda goes over to Amy and helps her build another tower. Amy is happy because Linda helped her build a tower.

On a different day, Linda is building a sand castle at the beach. Another girl, Christina, is also building a sand castle. Linda does not like Christina and wants to annoy her. Linda goes over to Christina’s sand castle and kicks it down. Christina is sad because her sand castle is ruined.

Teacher-recency story (girl version, Chinese)

这个故事说的是一个叫做琳琳的小女孩儿。看，这是琳琳。

有一天在学校里，琳琳正在画画。另一个女生欣欣坐在琳琳的旁边，她也在画画。这是王老师，她在看着班上每位同学的表现。欣欣想画一些小草，但是她找不到自己的绿色蜡笔了。琳琳想在王老师面前表现自己，让王老师觉得她是一个好孩子。于是，琳琳把自己的绿色蜡笔借给了欣欣。欣欣很开心，因为现在她有绿色蜡笔可以画小草了。

另一天在学校里，琳琳正在搭积木，另一个女生雯雯也在搭积木。这是王老师，她在看着班上每位同学的表现。突然，雯雯的积木倒了下来，因为它们实在太高了。琳琳想在王老师面前表现自己，让王老师觉得她是一个好孩子。于是，琳琳走到雯雯面前，帮她拾起了积木，还和雯雯一起搭了一个新的城堡。雯雯很开心，因为琳琳帮助她搭了一个新城堡。
那一天，在沙滩上。琳琳在用沙子堆城堡。另一个女生蓓蓓也在用沙子堆城堡。

琳琳不喜欢蓓蓓，她想故意惹蓓蓓不开心。于是，琳琳走到蓓蓓的城堡前，用脚把蓓

蓓的城堡给踢倒了。蓓蓓很难过，因为她的城堡被琳琳踢坏了。
D.2 Story Sets

Four sets of story were generated and shown as below (1 = peer-primacy story, 2 = peer-recency story, 3 = teacher-primacy story, 4 = teacher-recency story). Each set was allocated randomly to each participant and appeared with equal numbers in each age group.

Set A: A_1 B_2 C_3 D_4

Set B: B_3 D_1 C_4 A_2

Set C: B_4 A_3 D_2 C_1

Set D: C_2 A_4 B_1 D_3