THE UNIVERSITY OF QUEENSLAND
AUSTRALIA
early cognitive development unit

Welcome to our April 2008 ECDU Newsletter!

We would like to sincerely thank you for your contribution to our unit, as you have not only increased our knowledge on children's development but assisted our students in obtaining their degrees at both the postgraduate and undergraduate levels. This newsletter shows studies that have been completed over the last year.

Do Infants Treat Hands like Faces or like Objects?

It is well established that infants' spontaneous responses to humans differ from their responses to nonhuman objects. From an early age, infants address social behaviours, such as smiling and vocalising, to other humans whereas they tend to reach toward nonhuman objects. Previously-published studies that have established this effect have used faces or upper torsos as the key human stimulus, so we do not know if infants' unique responses to other humans depends on the presence of a face, or if other parts of the human body also trigger social behaviours in infants.

There are reasons to suppose that human hands may also engender social responding in infants. For instance hands, like faces, are often a focus of social and communicative exchanges, in adult-adult and infant-adult interaction alike (e.g., waving, pointing, teasing games).

The study we recently completed sought to explore young infants' spontaneous responses to human hands. 4-month-olds and 6-month-olds were presented with real human faces, real human hands, and the same body parts represented by a mannequin. Their spontaneous responses to each stimulus were coded from videotape.

We found that infants' responses to hands were distinct, in particular, infants at 4 and 6 months of age, tended to look up and visually scan the space above the hands. This was observed in both the human and mannequin hands conditions, though infants looked up more frequently and for longer in the human hands condition. Infants did not scan above the faces. Infants smiled and vocalised toward the faces but not to the hands; responses to the mannequin and human faces were similar.

Thus infants' responses to hands differ from the social responses typically addressed to faces, but it also appears that by 4 months, when infants see human hands, they look up to find the face.

The Picture Book Studies

Recent research has shown that children can imitate an action sequence depicted and described in a picture book. Very little, however, is known about the individual contribution of the text versus the pictures to children's picture-book imitation.

In this experiment an imitation procedure was used to investigate whether 24-month-olds use language cues in books to facilitate imitation and whether they use the pictures in books symbolically in the absence of language cues. The children were shown a book depicting how to make a toy rattle and were asked to reproduce it themselves. Children (N=39) were assigned to one of four conditions: a book with the target pictures plus narration (*complete*); a book with the target pictures and no narration (*empty narration*); or a book with narration but no pictures (*full narration*). The children's ability to assemble the toy rattle was assessed in the imitation test. The *control* group were not shown the book but their spontaneous production of the target actions was assessed.

Following this, all children were given a live demonstration of the actions and another opportunity to make the rattle to show they were motivated to complete the task. Results showed that the *full narration* and the *complete* conditions exhibited imitation by outperforming the *control* group, whereas, the *empty narration* condition did not show imitation as their performance did not differ from the *control* group. Thus, the children were not using the pictures in the book symbolically; however, they did use the experimenter's narration to make the toy rattle.

Moreover, the children's motivation test scores were significantly higher than their imitation test scores except for the *complete* group who benefited from both the pictures and narration. This shows that under some conditions imitation from a live model is easier than imitation from a picture book. Findings were interpreted in terms of the role of language in memory, children's symbolic development as well as the media deficit effect and the practical implications of reading to children.

Learning To Help

Helping behaviour is an important part of contemporary society, and research indicates that such behaviour emerges in humans at a very young age, during the second year of life. This study therefore examined 18-month-olds' ability to engage in instrumental helping behaviour, the act of manipulating objects with the intention of helping another person progress towards achieving a goal. The study investigated infants' natural tendency to engage in this type of helping, and explored whether they could be encouraged to increase their helping behaviour after watching adults model such behaviour on television.

The infants who participated in this study were tested in one of three conditions. Across all conditions, infants were presented with eight tasks representing different types of instrumental dilemmas. Infants in the first experimental condition were not exposed to television – they were simply presented with the eight instrumental dilemmas. This was in order to gain an idea of their natural ability to engage in helping behaviour.

Infants in the second condition were shown televised clips of adults engaging in helping behaviour that was identical to what was expected of the infant, before each experimental task was presented.

Infants in the third condition were shown televised clips of adults engaging in helping behaviour that was only generally similar to what was expected of the infant, before each experimental task was presented.

It was predicted that infants who were exposed to televised modelling would help more than infants who did not have this exposure. It was also predicted that infants who watched identical televised modelling would show the most helping behaviour, because copying what is shown on television should be easier than generalising from one situation to another.

Contrary to expectations, there was no overall effect of televised modelling on infants' helping behaviour. However, general televised modelling was effective in facilitating certain types of instrumental helping behaviour in 18-month-olds. These findings are important because they show that 18-month-olds can learn to help others from watching general modelling of helping behaviour on television.

It might therefore be useful for infants' television programming to include modelling of helping behaviour.

Thinking about the Future-

The development of Foresight in Early Childhood

Humans frequently think about the future. Constructing a mental image of possible future events is typically referred to as future mental time travel (Suddendorf & Corballis, 1997). Currently, it is not clear when children acquire this capacity. Some preliminary studies have suggested that it emerges in childhood between the ages of 3-5 years.

The easiest way for us to share our future mental time travels is to tell other people about them. This is typically how researchers have measured children's mental time travels in past studies. However, we can also express our future mental time travels though actions (e.g. rehearsing for an upcoming event or saving money for retirement). The aim of the current study was to examine future mental time travel in children by comparing a new behavioural measure (the 'rooms task') with an existing verbal measure (the 'yesterday /tomorrow' task).

Eighteen 36-month-olds and seventeen 48-month-olds completed two tasks. The rooms task, required the children to select a tool in one room whose utility was for the solving of an anticipated future problem in a second room. In the yesterday/tomorrow task, children were asked to report activities that they did yesterday and ones that they were going to do tomorrow.

The results indicated that only a minority of the 3-year-olds but the majority of the 4-year-olds could successfully perform these tasks. Additionally, it was found that children who could successfully complete one task, were likely to also perform well on the other.

Finally, children who made the correct tool selection were also likely to report the future utility of the tool. It is believed that these verbal and behavioural measures are equivalent in their ability to measure future mental time travel in young children.

We currently have some studies in progress involving children aged from newborn to 5 years. If your child/ren or your friend's children fall into any of these ages, we would love to have you participate in our studies again. If you would like more details or an appointment, please call us on **3365 6323.**
You can also register your interest on:

http://www2.psy.uq.edu.au/research/ecdu/