

IT'S THE PREGNANCY & BABY EXPO AGAIN!

The Pregnancy and Babies Expo is an important event whereby the ECDU gives you as parents an opportunity to register your child/ren to take part in our fun and exciting research and also to find out more information regarding the studies we conduct at The University of Queensland. Enclosed are complimentary passes to the Expo, so bring along your friends and family and visit us at Stand No. E19 at the Brisbane Convention Centre on Friday 18th - Sunday 20th June 2010. SEE YOU THERE!!

Being involved in our research not only increases our knowledge about children's development, but also assists our students in obtaining their degrees at both the postgraduate and undergraduate levels. 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. If you would like more details, please call us on (07) 3365 6323. You can also register your interest on: http://www2.psy.uq.edu.au/research/ecdu/

BODY EXPERTS – How do children learn to recognise the human body form?

Adults easily perceive the shape of the human body. We readily see bodies in abstract stick figures, giant balloons and ancient rock carvings, even though none of these is very similar to a real human body. Our ability to quickly and effortlessly see human bodies reflects our expertise at visually processing them. In a sense, we are all "body experts."



Brain imaging studies with adults have shown that this expertise for bodies is evident in a specialised area of the brain that responds almost exclusively to human bodies (but not faces—those are processed by an adjacent area). A key question is whether this specialised visual body processing is inborn or learned.

Our studies with infants can address this question. Over the last several years, we have been investigating when infants begin to easily recognise the human body shape. We test this by measuring how long they look at different types of bodies, including normal ones and "scrambled" ones. This tells us how interested they are in bodies, whether or not they can recognise normal bodies, and how long it takes them to visually process bodies. Across all of our studies with infants ranging from 4 to 24 months of age, the data show that visual interest in, and recognition of human bodies develops slowly during the first year and a half of life.

Furthermore, infants' learning about bodies is initially stimulus-dependent, meaning that they only recognise familiar, real human bodies at first, and then work their way to seeing bodies in more abstract stimuli like stick figures and ancient rock carvings. This means that they are generalising their knowledge about bodies from experience in a typical learning trajectory.

Based on this developmental pattern, we conclude that expertise in perceiving the human body is learned. It probably comes about because bodies are so common in our visual environment (everybody has one), and because they have social significance so we pay close attention to them.



PICTURE BOOKS - Can 9-month-olds learn from books?



In June last year we commenced a study investigating if 6-and 9-month-olds can learn and remember information from a picture book.

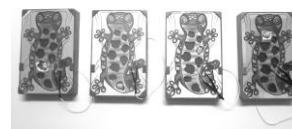


We are currently finalising the results and will publish these in our next newsletter. We thank all the parents for their continued commitment to this important research.

FORESIGHT - At what age do children develop the skill of thinking ahead?

As adults we often decide what to learn and practice in order to prepare for future events. But when do our children begin to think ahead?

Currently, our foresight study investigates children's growing capacities to think beyond the present moment and to learn and practice selectively, in preparation for a future situation. Specifically, we present children with games in two different rooms, and give them the opportunity to practice something in one room that will be useful in the other.



Preliminary results show that children at the age of 4 and 5 can use the thought about the future to drive their preparatory behaviour.

An ongoing study is examining whether even 3-year-olds show early signs of foresight.

We are extending this study to include children with autistic spectrum disorder and are searching for more participants for this project. Please get in touch if you can help.

## NEWBORN IMITATION – Are we born with it?

Last year, the ECDU started a large-scale project investigating whether people are born with the ability to imitate or if it is a behaviour learnt over time. We have been testing newborn babies up to 18 months to see if they have the ability to imitate facial expressions, hand gestures and vocalizations as a way to interact with other people.

Our findings so far indicate that 1 week old babies are capable of imitating and that babies who are easy-going and sociable in nature are the best. We are continuing to look at the rest of the results to see how important the role of imitating in the newborn period is, for development in later infancy.

Many of you now have come into the ECDU labs to do more tests as your baby approaches 18 months.

These tests examine a range of motor, mental and social skills, and we will use the results from the imitation tests in the newborn period to predict performance on these tasks.



We are very excited to be conducting such a large scale, novel study, and thank all the parents and bubs for their continued participation.

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## IMITATION = The Evolution of Human Culture?

Children are undeniably copycats when it comes to precisely mimicking every adult action, including completely irrelevant and illogical actions. For example, if an adult were to touch the peanut butter jar with his nose before twisting off the cap, a two-year-old would figure that's the accepted way to open a peanut butter jar. This response is known as over-imitation.

We recently tested this "over-imitation" behaviour on children from two entirely different cultures; from urban Brisbane and compared them with children from the remote rural African Bushman community in Africa's Kalahari Desert.



What we found was that children from BOTH cultures copied irrelevant and illogical actions from an adult.

Children from the remote Bushmen community are never 'taught' basic life skills. It is observing from their elders that children learn these skills. Scientists therefore have suggested that this "imitation habit" has been hard-wired into our minds since the evolution of man, and this "passing down" behaviour through generations could possibly have been associated with the creation of human culture.

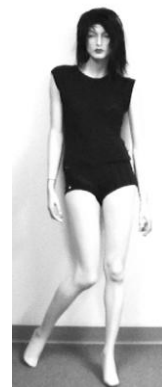
## HANDS - When do children expect human hands to be connected to a person?

It is not an uncommon event to glimpse a pair of hands, perhaps through a window or extending out from behind a curtain, performing an action on an object. In this event, the natural expectation is that the hands are connected to a person. Our research asked the question: *When do infants expect human hands to be connected to a person?*

To answer this question, we showed infants a pair of real human hands extending out from a curtain to play with a rattle. After infants had watched the hands for 20 seconds, then the hands retreated behind the curtain and an experimenter opened the curtain to reveal either a real person or a mannequin in the spot where the owner of the hands must have been. Infants' looking at these different outcomes was compared.



We found that 9 month olds looked significantly longer at the mannequin than at the person, which means that they were more surprised by—and needed more time to process—the unexpected mannequin compared to the person. By contrast, 6 month olds showed no differential looking. These experiments suggest therefore that infants acquire the expectation that hands are connected to a person between 6 and 9 months of age. This may seem surprising given that hands are common in infants' visual environments.



However a researcher from the USA, Richard Aslin recently did a study using a head mounted-camera to gather images of what one male infant observed during various scenarios in his day-to-day life at 15 and 38 weeks of age. These videos revealed that hands were visible to the infant approximately 44% of the time, however, when independent samples of 4- and 8-month-old infants watched the videos; they hardly ever looked at the hands. Instead, they preferred to gaze at faces and objects in the day-to-day visual scenarios.

Thus even though they are visible, infants may not spend much time looking at hands in the first several months of life, which could contribute to their failure to expect that hands belong to people prior to 9 months of age.

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## WANT TO FIND OUT MORE ?.....

Visit our website: <http://www2.psy.uq.edu.au/research/ecdu/> and click on "ECDU in the Media" to access some of our studies which have been recently published in world renowned science magazines.

This research is made possible by you and your children. We sincerely thank you for your contribution and ongoing support.