THE UNIVERSITY OF QUEENSLAND
AUSTRALIA

Early Cognitive Development Centre
School of Psychology

January 2019

ECDC RESEARCH RESULTS

All of us at the ECDC would sincerely like to thank you for participating in our studies during 2018. You have helped increase our knowledge about children's development, and also assisted our students in obtaining their degrees at both the postgraduate and undergraduate levels. We hope you will enjoy reading about our recent research results. For more information, please check out our website ecdc.psychology.uq.edu.au

Do facial expressions influence 4-11 year-olds' judgements about people's personalities?

Adults usually perceive happy faces as trustworthy and angry faces as strong and dominant. However, little is known about children's judgments of facial expressions.

In this study, children aged 4 to 11 years were read a storybook about a treasure-hunting adventure. During the adventure, children faced a variety of challenges and had to select a partner to help them; some challenges required a trustworthy partner and others required a dominant partner.

Unlike adults, children's judgements did not appear to be influenced by subtle facial expressions. They were no more likely to choose a happy face in a challenge that required trustworthiness than in one that required dominance, and were no more likely to choose an angry face in a challenge that required dominance than in one that required trustworthiness.

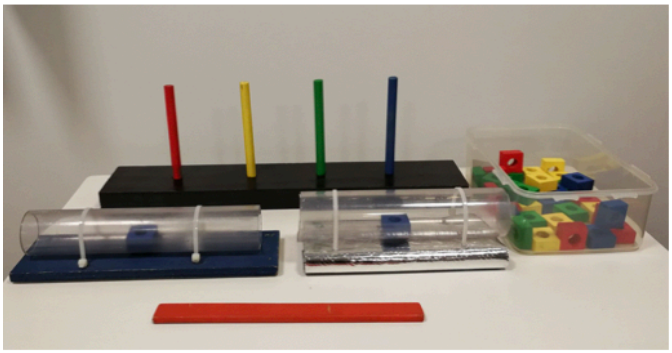
With more intense facial expressions, children's judgments of angry faces were more adult-like. They selected angry faces more often in challenges that required dominance than in challenges that required trustworthiness. However, unlike adults, children were no more likely to choose a happy face in a challenge that required trustworthiness than in a challenge that required dominance, even when viewing intense expressions.

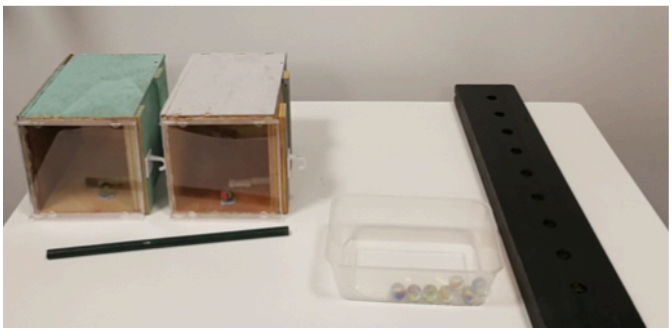
This study shows that children perceive at least some *intense* facial expressions similarly to adults, but that they are still learning how to interpret and judge *subtle* facial expressions.

A social dilemma: will 4-5 year-olds break social norms to help someone in need?

Encouraging children to act compassionately (i.e., helping someone who is upset) can have significant benefits for both the child and society.

Research suggests that when there is a material cost for helping, children are less inclined to do so. However, it is not yet understood how non-material costs (e.g., violating a social rule) influence compassionate helping in children. For example, imagine a crying person cuts in front of you in the line at the doctor. Do you enforce the norm and make them go to the back of the line? Or do you act compassionately and let them see the doctor before you?





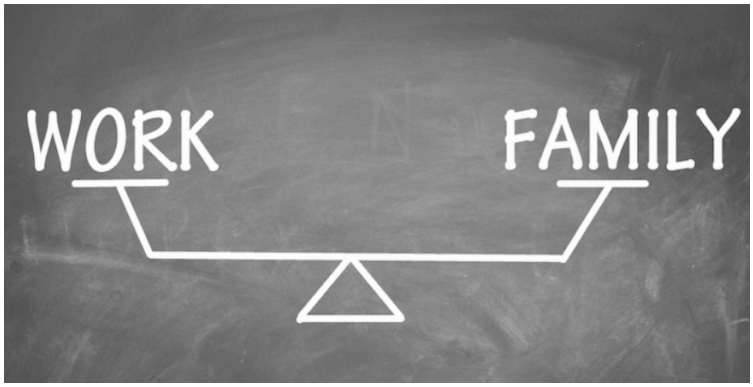
This study aimed to examine whether children would deviate from a social rule to help someone in need. We gave children three tasks with novel apparatus (e.g., two boxes & two tubes).

Children were put into three groups. In the first group, children were <u>not</u> shown how to use the apparatus, and in the second group, children <u>were</u> shown how to use the apparatus. In the third group, children were shown how to use the apparatus and also told about a social rule “Everyone here uses this box/tube, but no one here uses this box/tube”.

Next, children were given the opportunity to help a puppet retrieve missing pieces for a game, but helping would mean breaking the social rule. We found that *all* children helped at high levels, and that breaking the social rule did not influence their helping behaviour.

Overall, this study shows that children are more motivated to act compassionately than we previously thought.

What do parents and 5-12 year-old children think about work, after school care, and recovery time?



As a working parent with school aged children it can sometimes be difficult to balance work and family life. Part of this can include work recovery time, which is important for every employee.

However, it is not clear how working parents fit in work recovery time or how it might impact their children. We wanted to find out how parents recover from work, if they use after school care to achieve this, and how their children view work and recovery time. Working parents and their 5-12 year-old children participated in interviews with the aim of gaining both parent and child perspectives. Thirty families were interviewed with parents ranging in occupation, work hours, and types of after school care.

Early findings suggest that most parents make time to recover from their workday through a range of activities. After school care was not usually used as a way to fit in this recovery time but rather it was essential for parents to work. The interviews also found that both parents and their children typically had positive views of after school care and work.

How does being poor or wealthy affect 4-5 year-olds' experience of high economic inequality?

Economic inequality refers to a large gap between the rich and the poor. Economic inequality has been found to affect the way adults treat other people, and has even been linked to lower helping behaviours. This study looked at how children's position in society (i.e., their wealth) might affect their giving behaviour when faced with high or low inequality.

Four and five-year-olds played a series of games with six puppets and each gathered tokens during the competition. Some children saw *high inequality* in outcomes – where some puppets received many tokens and other puppets received very few. Other children saw *low inequality* in outcomes – where all puppets received a relatively equal number of tokens. Children were also either one of the *top earners*, or one of the *bottom earners*. At the end of the games, children swapped their tokens over for stickers to keep.

We then showed children an image of a poor child and asked them if they would like to give their stickers to this child. They were also given one extra token to share with whichever puppet they chose.

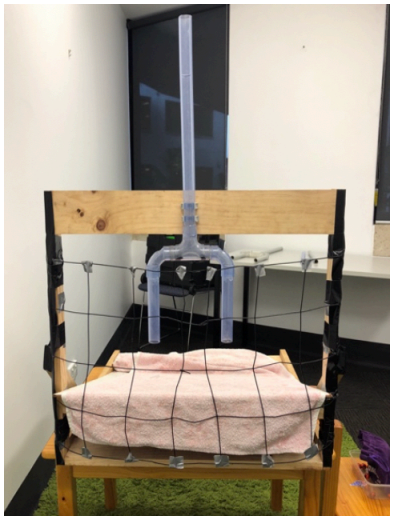
With this study, we hope to understand how different economic factors impact young children and how they behave. We are currently three quarters of the way through data collection and expect to finish by March 2019. Feel free to send me an email (kelly.kirkland@uqconnect.edu.au) if you wish to stay updated with the results of this study in 2019.

Can 3 year-olds and monkeys prepare for mutually exclusive outcomes of upcoming events?

The ability to imagine the future allows us to prepare for potential needs and threats. This trait is referred to as 'episodic foresight' and although human adults use it every day, relatively little is known about its development, and whether it is shared with animals.

We examined whether children could prepare for certain and uncertain events in the immediate future. In our first study, 3-year-old children were presented with two different games using a tube apparatus (see photo left) where the child was asked to catch marbles.

In the first game the experimenter dropped a marble randomly into either the left or right tube (left). We found that 3-year-old children tended to use one hand to cover only one tube exit at a time, therefore missing around half of the marbles.



In the second game, we used a white forked tube apparatus that looked like an upside-down 'Y' shape. The experimenter dropped the marble in the top of the tube and it fell randomly to either side. This was repeated using a clear version (see photo right). With the path of the marble visible, children performed slightly better than when the white apparatus hid the marble's path, but the children still typically prepared for only one exit.

In the second part of both experiments (game 1), two marbles were dropped simultaneously down both the left and right tubes . As was expected, the children found this task much easier and most of the children covered both exits from the very first trial. This suggests that 3 year-olds have trouble imagining alternative versions of a single future event, but they are quite good at preparing for two different future events at the same time.

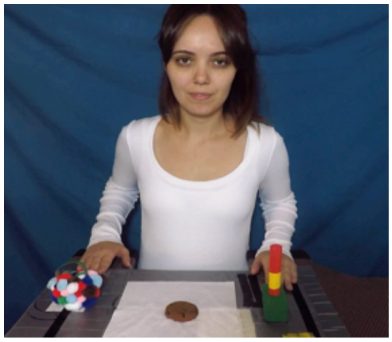
A further aim of this project was to give monkeys the same tasks. To do this we tested a baboon, a capuchin and two spider monkeys from Wildlife HQ Zoo in Nambour.

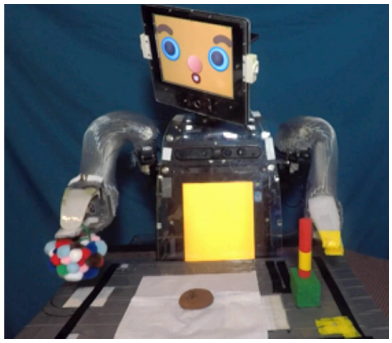
We found monkeys were not able to prepare for the two alternative outcomes, suggesting they may lack the capacity to conceive of alternate futures.

However, unlike 3-year-olds, the monkeys did poorly when the future outcomes were certain. There may therefore be differences in how 3-year-old children and monkeys think about and prepare for future events.

Do 3-6 year-olds use the "best" tool instead of following the crowd ?

Three- to six- year-old children were invited to help someone to crush a cookie. They first watched a video of either a robot or an adult showing how to crush a cookie by using a flimsy pom-pom and a hard, hammer-like tool. Children were told "*everyone* uses the pom-pom" and "*nobody* uses the hammer", but they could use any tool they wanted to crush the cookie. Would children copy the less efficient pom-pom approach just because everyone else uses it? Would their decision be influenced if the technique was shown by a robot?



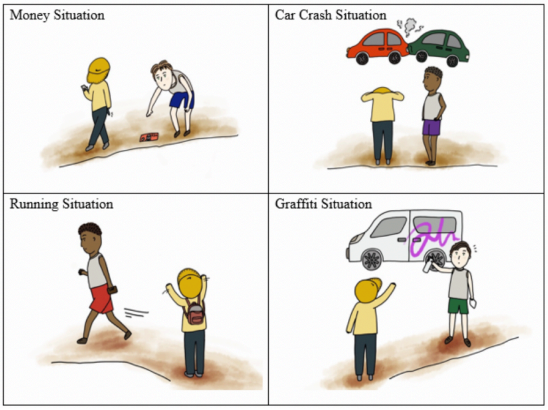


Overall, most of the children used the hammer to crush the cookie. They disregarded the norm and followed their own understanding to use the best physical tool for the job. However, 30% of children still used the pom-pom. But when children were shown by a robot instead of a human, this dropped to 17.5% for 4-6 year olds but not 3 year olds.

This suggests older children are more likely to follow a human than a robot, but that 3 year olds do not care if the model is a human or a robot. Surprisingly, when we asked children which tool they thought was "best", most 3-year-olds said the pom-pom. This suggests that 3-year-olds think the "best" tool is the one that everyone uses. Whereas the older children stick with the hammer because they think the "best" tool is the most efficient one.

Do accent and race influence 5- to 12-year-old children's perceptions of others?

As humans, we live in a complex social world, where we often need to make quick judgements about who we can trust, rely on for information, and become friends with. For many years, researchers have focused on the role of physical appearance in children's social decision making. More recent research, however, suggests the importance of how people speak in how children perceive and interact with others. In particular, accent seems to be a powerful cue, but we don't know why this is the case and at what point in development children begin to rely on accent. To understand why and how children come to rely heavily on accent in determining their social interactions with others, the study investigated how accent and race play a part in the impressions they form about people.



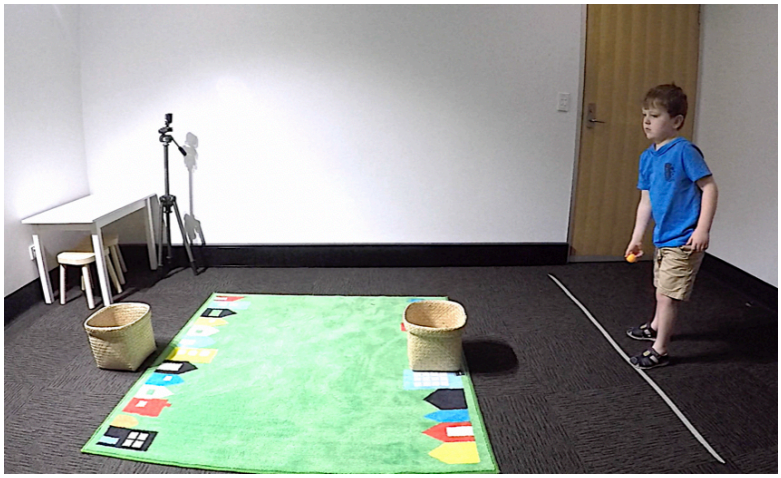
To do this, we first showed children cartoons of people engaging in "ambiguous" situations that could be interpreted in positive, neutral, or negative ways. The characters in these cartoons differed in race and accent, so that we could see if one or both of these factors influenced children's interpretations.

After the cartoons, we presented children a series of photographs of people who differed in race and accent ,(as identified by the accompanying voice recordings), and asked how "nice" and "smart" they perceived each person to be.

Our findings suggest that accent plays a greater role in children's perceptions of other people's personalities and abilities, over and above race, and that this reliance on accent in children's people perception increases across the primary school period.

Will 4-5 year-olds children cheat more after behaving generously?

Adults sometimes feel that they are allowed to behave immorally after behaving morally. For example, they tend to donate less to charity after recalling a time that they were particularly generous. We are investigating whether children also show this effect.

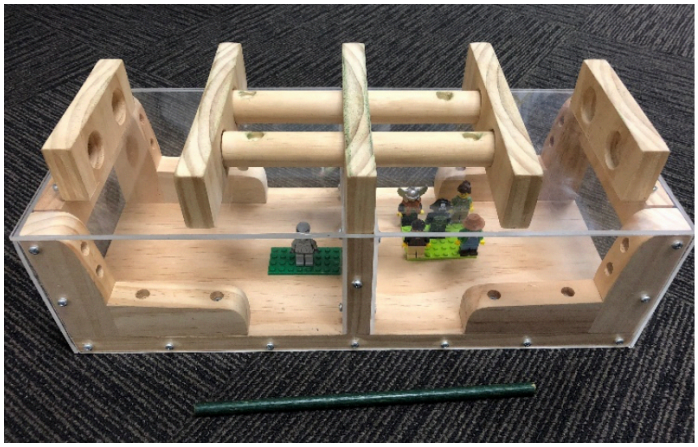


In this study, four and five-years-olds first played a series of games with a puppet. In some of these games the puppet needed help, and the child could easily help the puppet and almost always did so. They then had to stand behind a marked line to throw balls into buckets in exchange for a prize. All children were left alone in the room and they therefore had an opportunity to cheat for a greater prize.

This study is on-going, but we expect that children who had an opportunity to help the puppet will cheat more than children who did not. We also expect that children who had more opportunities to help will cheat even more. This is because they may feel that their previous generous behaviour 'balances out' misbehaving later. However, it is also possible that we will find the opposite pattern, as sometimes behaving well can lead to more good behaviour!

Will 3-5 year-olds still copy adults when it means they must give up a large reward?

Imitation plays a key role for learning and transferring skills and behaviours. In some cases, children copy so much that they even copy meaningless actions. For example, children will wipe a stick on top of a box before opening it, even though lifting the lid off is the only action necessary to open the box. This is known as "over-imitation".



Research shows that over-imitation occurs commonly by two years of age, and increases as we get older. In this study, we tested whether children would still over-imitate if there was a cost to do so. We also wanted to understand whether social influence (e.g., being watched by others) affects children's copying behaviour. To do this, we first showed 3 to 5 year old children a transparent box. The box had two identical sides, but one side had 1 Lego toy inside and the other had 5 Lego toys inside. An adult showed the child how to open the side of the box containing 1 Lego toy but also included irrelevant actions such as tapping a stick on top of the box. Children were then given 4 minutes to play while an adult stayed and watched, turned their back, or left the room.

We found that most children copied the adult's irrelevant actions, however they ignored the adult's demonstration and opened the other side of the box containing the larger reward (5 Lego toys)! We also found that children acted the same when the adult stayed and watched, turned their back, or left the room. This suggests that over-imitation behaviours do not change depending on social influence, however most previous research has found the opposite!

Why do children aged 32-36 months help, share, and comfort others?

Children as young as 14 months old demonstrate helping behaviour. Sharing and comforting behaviours develop soon after. It is still debated, however, what causes children to engage in these prosocial behaviours. Is it compliance with social "rules"? Or does it indicate that they understand other people's perspectives? In this study, children between 32- and 36-months old completed a series of tasks to assess this.

We measured whether the children would help someone in need, whether they would share with someone, and whether they would comfort someone in pain. We also measured if they understood that other people can have different preferences to them (e.g., someone might like broccoli better than cookies).

Finally, we showed the children videos of babies crying, laughing, babbling, or showing a neutral expression, and recorded how the children reacted to these videos. Results showed that 3-year-olds were able to reason about other people's mental states and consider their perspective, even when it was different from their own. However, children's expressions of sadness did not differ in response to the laughing, crying, babbling or neutral videos. However, children's happy expressions were more intense in the laughing condition than the neutral condition. Children who performed well on one task did not necessarily perform well on the other tasks, suggesting that children cannot simply be categorised as more "prosocial" or more "anti-social" than other children.

Overall, perspective taking ability and empathy are difficult to measure in such young children. Further research in this area is needed to examine the best methods to assess what underpins children's prosocial behaviours.

We currently have studies in progress involving children aged from newborn to 12 years. If your child/ren falls into any of these ages, we would love to have you participate in our studies again. If you have friends with children who might like to get involved, we would be delighted for them to become involved in our research.

To contact us, please email ecdc@psy.uq.edu.au or register your interest here