

# Summer Scientists Newsletter



2011/12

## Lincoln's first Summer Scientist week

More than 150 children took part in the first Lincoln Summer Scientist week, held in the Business and Law building during the last week of August 2011.



The event was a tremendous success for everyone involved!

We were delighted that all parents rated their and their child's experience at the event as positive, that they would recommend the event to someone else and come again next year.

Here are some of the parents' comments: "A far better knowledge of the types of research that are ongoing. Good to meet students involved in the course. Makes it feel more like a community and that we can take part and help";

"Very interesting to see the research in action and it is good to see how a fun day can also be important in terms of learning"; "Children can have fun doing research!"; "Presented the human face of research"; "Science is more interesting now".

Thank you all for taking part and making our first Summer Scientist week such a great success!



## What we found

The week was a great opportunity for us to find out more about how children develop and learn, including the development of language, motor control, emotion regulation, altruism and decision making. We had lots of fun and hope that you did too!

Here is what we discovered! Thank you to all of you who took part! We could not do any of this without your help.



### Taking your fears away

In this game children listened to stories about a character who was in different situations which might have made them angry, sad, scared or happy. Children were asked which emotion the character might be feeling and what the character might be able to do or think about to make themselves feel better. We wanted to find out how children think about managing their emotions and discover how this changes with age. Older children were more likely to describe strategies that would include changes to how they interpret a situation to reduce how scared/angry/sad they were feeling, and younger children were more likely to describe strategies that would include changes to their behaviour, such as leaving a situation that made them scared/angry/sad. Children identified similar strategies to cope with their emotions even when presented with scenarios that evoked different emotions.

### what do you know about your dog?

This game teaches children about safe behaviour with dogs, including their own dog and aims to improve safe interactions between children and dogs. During the Summer Scientist week children played with The Blue Dog interactive game and we kept in touch with a number of families who were happy to see us again so that we could monitor how much the children were learning from this game. Because it's a year long evaluation we are still collecting information but the results so far indicate that children are learning about safe behaviour thanks to this game. Ultimately we are hoping to find that it also affects children's actual behaviour with their dogs and helps them behave more safely around them.

### I can't decide

In this game children had to decide whether they wanted to have an immediate but smaller reward (e.g. 1 sticker), or wait patiently until the end of the game to get a bigger reward (e.g. 4 stickers). Even adults tend to be impulsive when making such decisions, and I was therefore very surprised to find that children who played the game proved to be very astute economists and patient. This meant that we could not answer our focal question of whether children are more patient when they make decisions for someone else. They were so patient in their decisions that there was no room to be any more patient. But it does show us that children can make difficult decisions when we ask the right questions. And this we need to know more about.

## Catch the dots

In this game children saw lots of dots move around the screen, but they had to remember where the special dots were hiding, and touch them at the end of the game. We were really surprised at how many positions the children could remember, with even the youngest (4 years) managing to find the correct spots most of the time. This indicates that young children are more able to split their attention than we previously thought and provides a basis for future work.

## Catch the lights



As adults we tend to reach out with the hand closest to a target, regardless of whether this is our preferred or non preferred hand. Four years olds also tend to copy this pattern of movement, but 7 year olds will tend to use their preferred hand across space. In this game, buttons that could light up were presented in an arch across the reaching space. The children had to press the buttons when they lit up, either as fast as they could, or as carefully as possible. To make things slightly trickier, half the time we asked them to begin with their arms crossed! We found that when asked to be as fast as possible all children tended to use the hand closest to the target, whereas when asked to be accurate, the older children would use their preferred hand. This suggests that we have to be very careful when we consider the instructions we give in handedness tasks, as some of the findings in the literature may be directly related to the question we ask.

## How many stickers can you get?

Altruistic behaviour can occur through three types of reciprocity: 1) direct reciprocity (individual A acts altruistically towards B and B reciprocate the

altruistic act to A), indirect reciprocity (individual A acts altruistically towards B and receives an altruistic act from C), and generalised reciprocity (individual A acts altruistically towards B and B acts altruistically towards C). In this game, we used the distribution of stickers as a measure of altruistic behaviour and we analysed what rules children follow when acting altruistically. We found that stickers are distributed according to direct reciprocity but not according to indirect or generalised reciprocity. These findings suggest that direct reciprocity may be the most important and basic form of reciprocal altruism, and that indirect and generalised reciprocity may only appear in adults.

## To the gorp and to the pilk

We played a game with stickers to find out if children can learn about left and right. Children were asked to place stickers on a white board. Depending on where they placed the stickers we saw what their understanding of the words 'left' and 'right' was. We used the words 'gorp' and 'pilk' to make sure that any knowledge children already have does not interfere with the study. Children showed different strategies in learning these terms for "left" and "right", with especially the older children generalising quickly and efficiently.

## Pink for girls and blue for boys?

We showed children coloured dots on a computer monitor and measure which ones they prefer. We would like to thank parents for participating and are still testing more children on this study as we need bigger numbers to compare girls' and boys' preferences for colour at different ages and to measure whether colour preferences develop or change over time.

## How do children learn about the world and about words?

Children looked at named and unnamed pictures on a laptop monitor and showed us their preferences for some stimuli over others. We also learned if they understood words like "he" and "she". These studies are still ongoing and more participants are welcome.

## Colouring Competition Winner

We asked children to produce the new logo for our Summer Scientist week and were really thrilled with the many brilliant pictures we saw. With so many wonderful entries, the judges had a very difficult decision to make. Our judges, Prof. Mary Stuart, Vice-Chancellor of the University, Prof. Harriet Gross, Head of School of Psychology and Dr Fenja Ziegler, Summer Scientist organiser, all agreed that judging the competition was one of the most fun things they ever did at work! And, thankfully they also agreed on the winner.



Our winning artist is 8-year old **Caitlin Miller**.

Caitlin will see her logo used for everything Summer Scientist 2012. And as a little thank-you for helping us with such brilliant design work, she also received a book token.

## For your Diaries: Lincoln Summer Scientist 2012

Our Summer Scientist event 2012 will take place from **20th - 24th August 2012** in the Business and Law building on Brayford Pool campus. With all new token games, an even bigger funzone and some more activities for parents to enjoy, too! Book your place online <http://www.lincoln.ac.uk/psychology/summerscientist/> when the booking opens in June. We hope to see you there!



## Psychology at the open Lincoln Academy lecture

Dr Fenja Ziegler is giving a public lecture as part of the Lincoln Academy series on 19th June from 6pm. Fenja will talk about “We are all mindreaders and fortune-tellers: A psychological investigation of the power of imagination”. You can find out more and register for this and other free events here: <http://www.lincoln.ac.uk/home/campuslife/whatson/eventsconferences/>

## Thank you to:

We would like to thank Children’s Links for sponsorship of the event. We would also like to thank Mount Street Infant Academy, Lincoln, for lending us chairs and Westdale Infant School, Nottingham for lending us tables which were all just the right size for our summer scientists!

