

NEWSLETTER

THIS ISSUE

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GEMINI RESEARCH IN 2016

Welcome to the 9th Gemini newsletter

Gemini is now in its 9th year, and 2017 will be the study's 10-year anniversary! We want to take this opportunity to thank you for the wealth of information you have provided us with over the years, and for your continued participation in the study. Gemini is now an internationally renowned study that has revolutionised our understanding of early growth and eating behaviour.

2016 has been one of the busiest years yet for Gemini. We have published findings in numerous scientific journals, spoken at several national and international conferences, won awards for our research, and received an extraordinary amount of press coverage. Our research this year has featured in every newspaper, on the television, and on many radio stations, including BBC Radio 4's Today Programme. We have summarised the highlights of this year's research and media coverage in this newsletter; we hope you enjoy reading about it.

Other exciting news is that Hayley Syrad passed her PhD examination in October and is now Dr Syrad. Gemini has now trained 4 PhD students, and continues to train PhD and MSc students.

Remembering Professor Jane Wardle

Last year was a very sad time for the Gemini team because we lost Professor Jane Wardle, our director, who set Gemini up. In September this year we held a memorial day for her at the Royal College of Physicians in London, to celebrate her outstanding contributions to science. It was a fantastic day, attended by more than 200 scientists from all over the world, and featured much of Gemini's research.

Gemini's bright future

Gemini is the largest twin study ever set up to understand genetic and environmental influences on early growth and behaviour. Gemini has one of the richest datasets in the world of early growth; and the largest dietary dataset for toddlers in the whole of the UK. It is therefore one of the most important studies of child development ever undertaken, and we will continue to take it forward. Dr Clare Llewellyn now leads Gemini, which includes 2 other senior researchers (Dr Ali Fildes and Dr Abi Fisher), 2 PhD students (Andrea Smith and Moritz Herle), and many MSc students.

We are currently applying for funding to invite all of the Gemini families to come to London to meet the researchers, and take part in some detailed laboratory-based research. Early next year we will be sending out a new questionnaire to mark the 10-year anniversary of the study— you can read more about this on page 4.



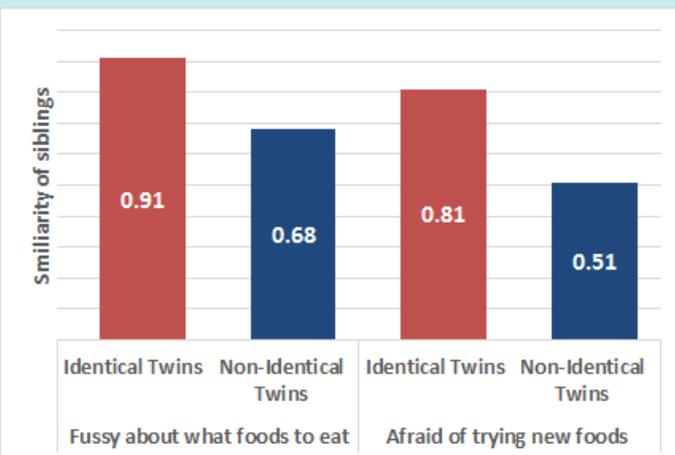
The Gemini Team (top left to right): Dr Clare Llewellyn, Andrea Smith; (bottom left to right) Dr Abi Fisher, Dr Alison Fildes, Moritz Herle

FOOD FUSSINESS IS HEAVILY INFLUENCED BY GENES

In autumn a new Gemini study was the focus of a frenzy of media attention—you may have read about it, seen it reported on the television, or heard about it on the radio. We reported that fussy eating in toddlerhood is heavily influenced by genes. The important take-home message of this research is that parents are not entirely to blame for their child's fussiness around food. This study, published in the *Journal of Child Psychology and Psychiatry*, used information that 1,932 Gemini parents provided us with about their twins' fussiness around food when they were about 16 months old. We were interested in two aspects of fussiness: (i) being afraid of trying new foods, and (ii) being fussy about what foods to eat (often picky about certain textures).



Gemini PhD student Andrea Smith (bottom left) on the BBC Radio 4 Today Program talking about the findings



Similarity of identical and non-identical Gemini twins on how fussy they are about what foods to eat and how afraid they are about trying new foods.

Although we know lots of toddlers are fussy about their food, it can be frustrating and worrying for parents. We therefore wanted to find out where it comes from in the first place—nature (the child's genes) or nurture (their environment). A simple way to find this out is to compare how similar identical and non-identical twin pairs are—if identical twins are more similar to each other than non-identical twins, genes are important in influencing their fussiness. We found that identical twins are much more similar to each other when it comes to being fussy about their food. This suggests that genes are important in explaining why some children are so difficult to please with meals, and flatly refuse to try anything new, while others are easy going.

We hope that these findings can provide some relief for parents of difficult eaters, and that they challenge the commonly held belief that fussy eaters are a result of bad parenting. Importantly, these findings don't mean that food fussiness can't be changed. We know that an effective way to deal with very fussy children is to give them the 'problem food' over and over again for 15 days in a row. In fact, we have developed a tasting game for young children called 'Tiny Tastes' to help families use this approach to introduce foods that fussy eaters are reluctant to try.



Gemini twins Orla and Grace

WHERE EMOTIONAL EATING COMES FROM



Our emotions can affect the way we eat. When we are stressed or upset, some of us eat more than usual - this is called 'emotional overeating', while others respond by eating much less - so called 'emotional undereating'. These emotional eating behaviours are thought to be unhealthy and could contribute to people gaining or losing weight over time. Until now, we haven't known very much about emotional eating in childhood or how it develops.

Using the information generously provided by you, the Gemini families, PhD student Moritz Herle is trying to find out more about how emotional eating begins in early life and how it relates to growth. The importance of Moritz's work was recognised this year at the 2016 annual conference of the UK Association of the Study of Obesity where his study won a prestigious award.

During his PhD, Moritz will try to find out why some children emotionally under- or over-eat. This work is very important because it will help us understand the best ways to support families to encourage children's healthy eating and growth.



Gemini PhD Student Moritz Herle receiving his award at the UK Association of the Study of Obesity annual meeting

BRITISH TODDLERS' DIETS



Dr Hayley Syrad

Gemini has the largest dietary dataset in the UK for toddlers, and is therefore one of the most important studies in the world of early diet. In February we published a paper in *The British Journal of Nutrition* describing the diets of British toddlers, which had never been done before on this scale. We found almost all of the children were not meeting the recommendations for intakes of vitamin D and iron, from their diet alone. This appears to be similar for other young children in the UK, and these findings suggest that under fives might benefit from vitamin D and iron supplements.

Researchers have long been interested in whether it is *how much* or *how often* children eat, that is more important for weight gain. In June we published another paper in *Scientific Reports* that aimed to answer this question directly. We found children who ate larger amounts at each meal or snack grew faster from two to five years of age, but the children who ate more often through out the day did not. This tells us that it is large portions, rather than frequent eating, that is important in driving weight gain in young children. This work received lots of media attention because it highlighted the need for better portion size guidance for parents of young children. We are very grateful to the Gemini families for helping to contribute to such important research. THANK YOU!!



10-YEAR ANNIVERSARY QUESTIONNAIRE

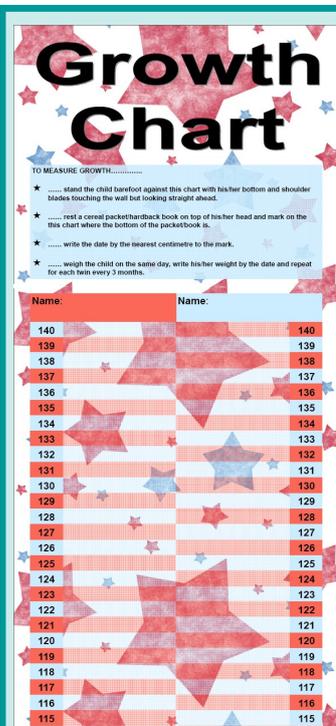
Turning 10 years old is an important milestone for every child. Double figures! It usually marks the last year of Primary School and the start of a period that represents a big step forward in children’s independence. Children increasingly develop their own opinions and ideas as they make the transition towards early adolescence. We would like to take this opportunity to ask the twins themselves to tell us what they think and feel about certain things. We would also like to ask the Gemini parents some more questions as well, of course! So please look out for our important 10 year milestone Gemini questionnaire in 2017.



Gemini twins Ben and Josh



Gemini twins Jeremiah and Jonathan



THANK YOU FOR MEASURING GROWTH

We are continuing to collect height and weight information, as this will allow us to track important growth patterns, and see how the information we have collected between birth and 10 years relates to your twins’ on-going growth and development. So please do keep sending in your measurements.

You can use our online form to submit your measurements at: www.geministudy.co.uk/gemweight, or email them to us: gemini@ucl.ac.uk.

Thank you all for your continued support and providing us with measurements. It is extremely important for our study. If you have found it hard to submit heights and weights every three months, please remember that providing any measurements at all is still very helpful. If your Gemini weighing scales or height charts need to be replaced, please don’t hesitate to contact us and we will happily send you some more.



Season’s Greetings

