

THIS
ISSUE

geminini

health and development in twins

Gemini team
updates

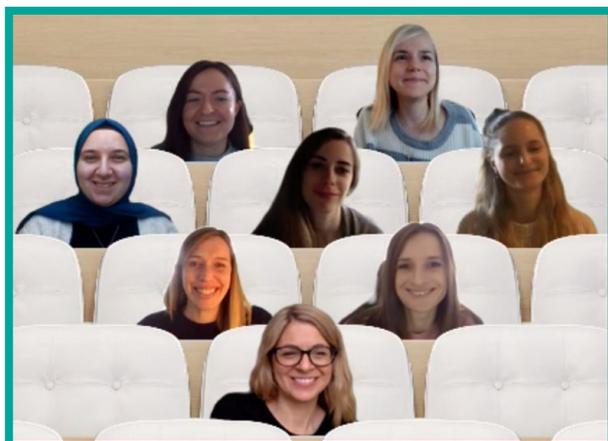
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NEWSLETTER 2021



GEMINI TEAM (from left to right, top to bottom): Lisa Heggie, Dr Andrea Smith, Dr Zeynep Nas, Francesca Bentivegna, Kristiane Tommerup, Dr Ali Fildes, Alice Kininmonth & Dr Clare Llewellyn (not pictured: Dr Abi Fisher and Dr Moritz Herle)

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us all year!



Gemini-Health and
Development in
Twins



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Welcome to the 14th Gemini newsletter

2021 has been another challenging year for all of us; many of you continue to experience disruption to your lives as a result of the pandemic. As this difficult year comes to a close, we wanted to thank you for your incredible support for the study over the last two years, and to share some positive news.

Gemini Director, Dr Clare Llewellyn, Returns to Gemini as a New Parent

I am excited to be working on Gemini again, following maternity leave. Since having my own baby I have had the opportunity to reflect on the value of the study from a personal point of view. My daughter Eve (18 months old) is a fussy eater, which can feel stressful at times. I have taken great comfort from Gemini research showing that fussy eating is strongly influenced by our genes (as a fussy eater myself I passed on my genes!) – she was always going to be a bit pickier than some other children, simply because that is the way she is. We also conducted ‘Tiny Tastes’ when your twins were 3 years old, which showed that offering a child the same disliked food everyday (up to 15 times) will encourage them to accept it; this technique has worked really well for Eve. You can read the news coverage and BBC Podcast about our fussy eating research on the Gemini website, here: <https://bit.ly/3FLPivQ>.

New funding and new team members

Gemini has gone from strength to strength over the last year with a lot of new funding. *The Economic and Social Research Council* are funding Gemini to find out which parental feeding practices shape children’s eating behaviour in the preschool years, using information you gave us when your twins were young children. This new research, called the APPETiTE project, will be led by Alice Kininmonth [you can read about her on **page 3**]. The findings will be used to develop practical guidelines to support parents. *The Brain and Behavior Research Foundation* in the US is funding Dr Moritz Herle to explore why some adolescents are at greater risk of developing eating disorder symptoms while others are not [read more about his work on **page 3**]. Lastly, we are excited to welcome Dr Zeynep Nas to Gemini, who will join the programme of research into the genetic and environmental influences on eating disorders, funded by the charity ‘MQ – Transforming Mental Health’.

Gemini COVID-19 Research

We have now finished collecting data for the COVID-19 study. We were so interested to hear about your personal experiences of lockdown that we are inviting the twins to write a blog post from their own point of view for our website. Read more about this study and the blog post competition on **page 4**.

PhD Research

We currently have 4 PhD students working on Gemini. Lisa Heggie, funded by the European Commission is using the diet diaries you completed when your twins were 2 and 7 years old, to look at consumption of sweeteners (e.g., aspartame) and sugar, and food preferences and weight gain. As part of this research Lisa has calculated the amount of sweeteners added to all commercial foods/drinks consumed by the twins, which has been very challenging because this information is not always included in the ingredients list! You can read more about Lisa’s work here: <https://bit.ly/315bvzE>. Summaries of Francesca’s and Kristiane’s PhD research are shown on **page 2**, and Alice’s PhD research is described on **page 3**.

NEW GEMINI TEAM MEMBERS

Kristiane Tommerup, Gemini PhD Student

Hi! My name is Kristiane, and I am a 2nd year PhD student in the Gemini Research Team, funded jointly by the *Economic and Social Research Council* and the *Biotechnology and Biological Sciences Research Council*. I first joined Gemini during my Master of Science degree (MSc) in Health Psychology at UCL and have been lucky enough to stay in the team for my PhD. I am very interested in health inequalities and digital health (e.g., apps providing health information), and I have become rather obsessed with knitting over the lockdown period!

What will your research focus on?

For my PhD I am exploring environmental and genetic influences on healthy growth in infancy. We know infancy is an incredibly important period that shapes the future health and wellbeing of children, but little is known about how early milk-feeding practices influence growth during this period. For example, for bottle-fed babies we don't know much about the importance of the amount of milk offered per feed, the number of bottle-feeds per day, or the timing of feeds. I will be using the information you provided when your twins were babies to explore these questions in depth. The findings will help to design and create new content for the Baby Buddy 2.0 App, a free smartphone app that supports parents through the early years of childhood (currently used by over 250k parents in the UK!).

Why is this important?

As these findings will be included in the Baby Buddy App, parents from across the UK will have easy-to-access and evidence-based support for feeding and caring for their child. These findings can also shape policies and interventions to support healthy growth right from the start of life. Thank you for all of your past and future contributions, we couldn't tackle these problems without you!



Francesca Bentivegna, Gemini PhD Student

Hello! My name is Francesca and I joined the Gemini team as a PhD student in June this year, funded by the *Medical Research Council*. I am originally from Italy, where I studied Psychology at the University of Padua as an undergraduate student. I then spent 6 months studying Social Psychology at Vrije Universiteit Amsterdam, before undertaking a Master of Science (MSc) in Clinical Mental Health Sciences at UCL.



What will your research focus on?

My MSc research focused on eating disorders, and I will continue on this path during my PhD. I will investigate whether young children who are very responsive to food cues (i.e. want to eat when they see, smell or taste delicious food) and impulsive, are at greater risk of experiencing binge-eating in early adolescence. I will also explore whether food cue responsiveness, impulsiveness and binge-eating share common genes. To do this, I will use the information you gave us about your twins' eating behaviours when they were five years old, and the information the twins themselves gave us recently when they were 12-14 years old.

Why is this important?

Eating disorder symptoms tend to emerge during adolescence and are distressing. Binge-eating, in particular, is under-researched and poorly understood. We hope that a better understanding of the causes of binge-eating will make it easier to intervene early and prevent this eating disorder from developing.

THE HOME ENVIRONMENT, APPETITE & GROWTH

Alice Kininmonth, Gemini PhD student

Over the past four years I have had the pleasure of working on the Gemini study as a PhD student, funded by the *Economic and Social Research Council*. My research explored the role of the home environment in children's appetites, what they eat, how active they are and how they grow. To examine this, I used information collected through telephone interviews that were first carried out with Gemini families when the twins were 4 years old, and again when they were 12. These interviews collected detailed information about the food, physical activity and media (e.g. TV and other screens) environments within the family home. Using this information, I was able to investigate how the home environment changes over time and, importantly, how our genes and the home environment interact to influence appetite and growth during childhood. The findings of this research will be published soon in scientific journals. I also presented these findings at the International Conference for the European Childhood Obesity Group (ECOG) in November 2021. You can see an infographic of my research here: <https://bit.ly/3nrHKBL>.



Alongside my PhD, I also worked on the Gemini Covid-19 study, you can read more about this on **page 4**. Over the past 2 years, I personally carried out 464 Gemini Home Environment Interviews and had the privilege of speaking with many Gemini families over the telephone. I would like to say a huge thank you to all of you for your time and commitment – we could not do this research without you.

The last four years as a Gemini PhD student have been an incredible experience. Although I will be finishing my PhD in January, I am pleased to say that this is not the end of my journey with Gemini. I will be continuing as a Gemini Postdoctoral Fellow in 2022, undertaking research as part of the new APPETitE project [see **page 1**].



MORE NEW RESEARCH ON EATING DISORDERS

Dr Moritz Herle, Research Grant Lead

Hi, I'm Moritz, and I completed my PhD as part of the Gemini Team in 2017. For my PhD I studied why some children are likely to eat more or less in response to negative emotions – called 'emotional eating'. After my PhD, I moved to Great Ormond Street Hospital Institute of Child Health, to research the causes of eating disorders in children. Now, I am very excited to return to work on Gemini, funded by a prestigious Young Investigator Grant from The Brain and Behavior Research Foundation in the US. I will use all the information that you and your twins have contributed over the past 14 years to better understand why some children develop eating disorders (such as anorexia nervosa) when they are teenagers. Gemini's unique twin design means I can explore the genetic and environmental influences on eating disorders and their risk factors. I'd like to thank all the Gemini families for your on-going support; it is all of you who make this important research possible.





Gemini COVID-19 Research

Between July 2020 and October 2021, Gemini families took part in telephone interviews and online questionnaires to share your experiences of COVID-19. This research, funded by the *Economic and Social Research Council* through a COVID-19 specific grant, aimed to understand how the pandemic impacted family life; we have learned about the challenges you faced, and how the pandemic affected your home environment, health behaviours (such as diet and physical activity) and wellbeing. We have now finished collecting data for this project and are preparing our findings to share with other researchers, policy makers and the wider public. Thank you to the Gemini families who took part in this important study during a very difficult time.



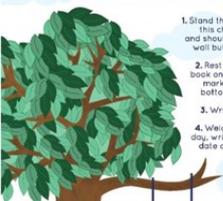
We would like to hear from you!

Share your experiences of the COVID-19 pandemic

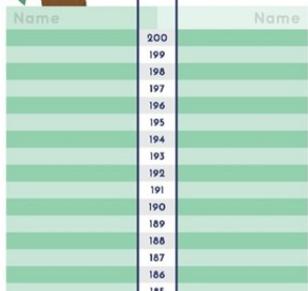
Communicating with Gemini families throughout the COVID-19 pandemic opened our eyes to the unique experiences and challenges faced by young people. We would like to give Gemini twins an opportunity to share more about their lives during the pandemic in their own words. We are inviting you to send us a short blog post (no longer than 750 words) about how the pandemic affected you, how it has changed your life (for the better or worse) or how it has made you feel. We will publish a selection of these blogs on the Gemini website. If your blog is chosen you will receive a **£20 shopping voucher**. Please send your blog post to gemini@ucl.ac.uk by **31st January 2022**.



GROWTH CHART



1. Stand the child barefoot against this chart with his/her bottom and shoulder blades touching the wall but looking straight ahead.
2. Rest a cereal pack/hardback book on top of his/her head and mark on this chart where the bottom of the packet/book is.
3. Write the date by the mark.
4. Weigh the child on the same day, write his/her weight by the date and repeat for each twin every 3 months.



Invitation to send us your growth data

When the Gemini study was first set up over 14 years ago, one of the main research questions was; how do genes and the environment influence growth during the first 5 years of life? The value of the Gemini study has now been recognised by many research funders, and we are able to extend our study to investigate how genes and the environment influence growth during adolescence – a period of very rapid growth and major development, similar to infancy. In order to continue with this part of the study, we need to collect and study height and weight data for the next few years. If possible, please do keep sending your twins' heights and weights to us every 3 months so we can track their growth. It doesn't matter how much or how little you have been sending us these measurements over the past few months or years; every measurement is valuable to us. As always, this is completely voluntary. Please use our online form to submit measurements: <https://bit.ly/3HSzd2P> or email them to us at: gemini@ucl.ac.uk. Thank you for your continued support.

