

gemini

health and development in twins

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NEWSLETTER 2022



GEMINI TEAM
(from left to right,
top to bottom):
Chiara Gericke,
Lisa Heggie, Dr
Clare Llewellyn,
Kristiane Tom-
merup, Dr Rana
Conway, Gaby
Heuchan, Dr Alice
Kininmonth, Dr
Zeynep Nas, Dr
Andrea Smith, &
(not pictured: Dr
Ali Fildes, Dr Abi
Fisher and Dr
Moritz Herle)

Gemini informs government advice

Our research informed government guidelines on feeding children aged 1-5 years, in a report by the Scientific Advisory Committee on Nutrition. The report acknowledges Gemini's finding that toddlers' picky eating has a strong genetic component - it is not all about parenting, as any parent will know! The report also highlights our findings that a healthy home environment during the preschool years can protect children who are genetically more susceptible to obesity.

Everyone's talking about Gemini

In October, Dr Clare Llewellyn (Gemini director) was one of only 30 scientists globally to be invited to speak at the Royal Society, for a meeting about weight and health. She summarised Gemini's findings from the last 15 years for more than 1000 scientists and journalists, attending from all over the world. Throughout 2022 the team have presented important Gemini research at scientific meetings in the UK, the US, Portugal and the Netherlands, as well as on the BBC (see **page 3**). All this ensures the information you have given is used to advance our understanding of children's health and development.

Gemini award

Dr Alice Kininmonth received a prestigious award at the UK Congress on Obesity for her research into the link between parental feeding practices in early childhood and adolescents' eating behaviour. Her research was recognised as the highest quality at the conference.

Dietary data collection

You may remember completing food and drink diaries for your twins when they were about 2 years old (some of you completed these again when they were 7). This created one of the UK's largest and most valuable resources on toddlers' diets (read about our diet diary research on **page 2**). It may surprise you to hear that researchers know very little about what adolescents eat and drink and why. Next year, we will therefore be asking the twins to tell us about their food and drink consumption. **Please look out for information about this new study in 2023!**

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Keep up to date with
us all year!



Gemini-Health and
Development in
Twins



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geministudy.co.uk

Welcome to the 15th Gemini newsletter

You have been part of the Gemini study for one and a half decades! Thank you for your continued participation – Gemini is one of the most valuable resources for child health and development. As 2022 comes to a close, we have lots of positive news to share with you.

Another Gemini team baby has been born!

Dr Ali Fildes (Gemini Deputy Director) welcomed her baby boy in January! Ali recently returned to work and is excited to be working on Gemini again. *"Having my second child has given me a tiny insight into the challenges (and joys) twin parents must experience from the outset. I continue to be in awe of all parents of multiples – you are heroes!"*

New members of the team

The Gemini team is growing and now includes 12 staff and students. Welcome to new PhD researcher Gaby Heuchan, who joins current Gemini PhD students, Lisa Heggie and Kristiane Tommerup. You can read about Gaby's and Lisa's research on **page 2**. Congratulations Dr Alice Kininmonth, who passed her PhD in April and became a Gemini postdoctoral researcher. You can read about Alice's PhD research on **page 3**. Lastly, we welcome 2 MSc Health Psychology students, Olivia Orr and Amber Hunt, who are undertaking their research dissertations on Gemini.

NEW GEMINI TEAM MEMBER

Gaby Heuchan, Gemini PhD Student

Hi, I'm Gaby and I've just started my PhD with the Gemini team, funded by the Economic and Social Research Council. I completed my MSc in Clinical and Public Health Nutrition at UCL in 2021. My main interests are to understand how foods and drinks influence our health, such as our weight and cancer risk. Outside of research I love sport and have recently taken up boxing!

What will your research focus on?

I will be using the diet diaries that you completed for your twins when they were young, to find out how many ultra-processed foods toddlers eat in the UK. Ultra-processed food is a new topic of research, so I'm very excited to be working in this area. I will find out if toddlers and children who eat fewer ultra-processed foods have healthier weight gain into adolescence and better appetite regulation. I will also find out, for the first time, how nature (genes) and nurture (our environments) influence toddlers' and children's consumption of ultra-processed foods.

Why is this important?

We know very little about how consumption of ultra-processed foods in toddlerhood affects later health and development. My PhD will provide new knowledge to inform government food policy and support children's health.



Lisa Heggie, Gemini PhD student

I joined Gemini in January 2020 to study how toddlers' consumption of sugar and low-calorie sweeteners (e.g. aspartame) affects their longer-term health and development, such as their growth and liking for sweet tastes. I will also be exploring how toddlers' consumption of sugar and sweetener changes, or stays the same, as they mature into older children. I feel so grateful to have been able to use the Gemini dietary information—it is truly unique.

As part of my research, I have developed a way to estimate the amount of low-energy sweeteners in drinks that are commonly consumed by British toddlers and children, using Gemini (e.g. how much Aspartame is in low calorie squash). This is really important work because, in the UK, food and drink products don't report this on nutrition labels. I then looked at the main sources of low-energy sweeteners in toddlerhood and childhood, which were fruit-flavoured squashes (e.g. low-sugar Ribena) and carbonated drinks (e.g. Diet Coke). When it came to sugar, pure fruit juice was the biggest contributor, but other key sources differed by age. Toddlers were consuming a lot of their sugar in yoghurts, whereas older children were getting more of it from cakes and chocolate bars.

My PhD research is part of a large European project called SWEET, which aims to understand how low-energy sweeteners affect health, to inform government policy. This year, I presented some of my findings to other researchers in the Netherlands and Portugal at large scientific meetings. You can see an infographic of my research here: <https://tinyurl.com/LisaHeggieBlog>. Thank you for being a part of this study.



THE IMPORTANCE OF THE HOME ENVIRONMENT

Dr Alice Kininmonth, Research Fellow

You may remember being interviewed by telephone about your home when your twins were 4 and again when they were 12 years old. We asked lots of questions about the types of foods and drinks in your home, the opportunities for physical activity, and screen time. Thanks to you, we were able to use this information to see, for the first time, how the home environment changes over time. We also studied how the home environment shapes children's health and development over time (such as their weight), as well as how children themselves shape their home environment (such as influencing what foods and drinks are in the home).

We found that children living in a healthier home environment at 4 years of age were more likely to have a healthy weight at 12 years of age, and children living in a healthier home environment at 12 years of age were also more likely to have a healthy weight. Less access to media devices, and less time spent using them, seemed particularly important at both ages. Our findings were published in the International Journal of Obesity. **You can read more about the study here:** <https://tinyurl.com/GeminiPaper>.

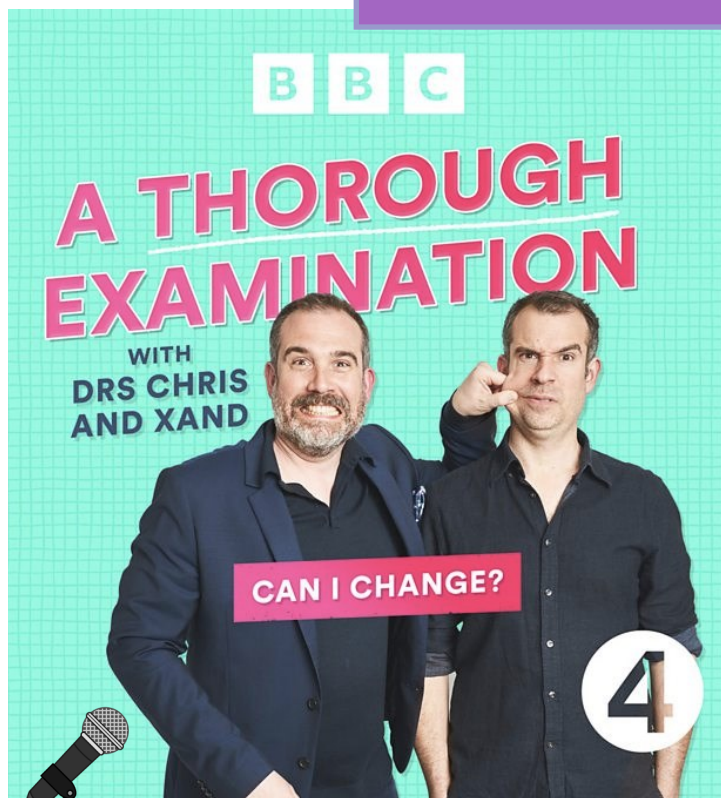
This research would not have been possible without your time and dedication of all the Gemini families. Thank you!



Dr Alice Kininmonth completed her PhD research on Gemini earlier this year



GEMINI ON THE BBC



Gemini research on air

In December 2022, Dr Clare Llewellyn was invited as an expert guest speaker to join BBC Radio 4's popular show 'A Thorough Examination with Drs Chris and Xand'. Drs Chris and Xand van Tulleken – identical twin brothers and leading BBC science presenters – are very interested in whether people can change and, if so, how they do it. Their podcast focusses on the extent to which a person's personality is determined by their genetics, and how much is shaped by their environment.



*Gemini Director
Dr Clare Llewellyn*

In Season two's premier episode, Clare explains that twins are the perfect natural experiment for telling us how our genes and our environments shape who we are. Clare also opens up about the things she would most like to change about herself, namely her picky eating, and the steps she is taking to try and develop healthier habits. Whilst introducing Clare, Drs Chris and Xand highlight that the Gemini study is one of the largest studies of its kind ever established.

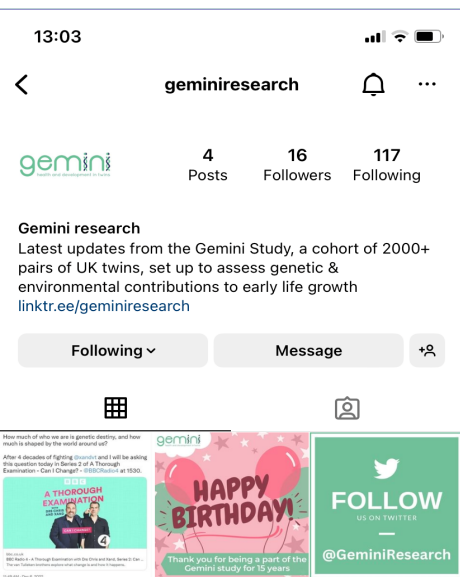
If you would like to listen to the full episode, follow this link: <https://tinyurl.com/ClareBBCRadio4>.



Gemini twin news

Earlier this year, Gemini twins Sophia and Melody took part in their school science fair, showcasing their knowledge about twins. Melody and Sophia used some of the information from our Gemini website to communicate how studying twins helps researchers understand how nature (genes) and nurture (environment) influence growth and behaviour. If you would like to see our information page set up for Gemini twins, follow this link: <https://tinyurl.com/InfoForTwins>. Well done Sophia and Melody, we are so proud to have you in our study!

If your twins have any exciting news this year we'd love to hear about it, please get in touch with us via social media.



Gemini Social Media

The Gemini team have increasingly been using social media to stay in touch with Gemini families and share updates. We have a brand new Instagram page, as well as our existing Facebook and Twitter pages that you can follow to see the latest research and news updates from the Gemini team. We regularly post 'happy birthday' messages, make research announcements, and chat with families. We also encourage Gemini families to share photos on these pages, we love seeing the twins as they grow.

If you have not already visited our social media pages, please do have a look and follow us – find our Facebook, Twitter, YouTube channel and newly launched Instagram pages here:

<https://linktr.ee/GeminiResearch>.



WISHING YOU A VERY

Happy Holidays

FROM THE GEMINI TEAM