TWINS EARLY DEVELOPMENT STUDY NEWSLETTER 2025

TEDS is celebrating its 30th anniversary this year!

A message from the director, Professor Thalia Eley

I joined the TEDS team in 1996, but even before that Robert had been in touch asking me to think about how we might measure anxiety-related traits in, at the time, very young TEDS twins. At that point, this was a new and unusual thing to do, as the prevailing view was largely that the emotions children and teenagers had were temporary and rarely important enough to warrant attention. We knew almost nothing about the extent to which genetic factors versus the environment were important in children's emotional development.

Over the past 3 decades, the data you have all provided have been ground-breaking in shedding light on this topic. We have shown that even as young as 4 years old, there are distinct types of anxiety-related traits (e.g. general worry versus fear about separation from the main caregiver), and that these are in fact somewhat stable across development. This makes sense when you think that anxiety would have been useful to humans from an evolutionary perspective – we needed people who could perform well in high stress situations (e.g. by fighting off a predator), but we also needed others to be good at thinking about how to protect ourselves (e.g. by selecting a sensible place to make camp). What has particularly interested me about how genetic factors influence anxiety-related traits is that they are rather general and stable, influencing all types of anxiety across all life stages. In other words, it seems that what we inherit is how anxious we generally feel in response to challenges we face.

What I find helpful from this, is that it shows that although some of us are more prone to develop anxiety in the face of stress, it is not deterministic. We can all identify and use strategies that help manage our mood from everyday healthy routines such as exercise and sleep to accessing psychological treatments such as Cognitive Behaviour Therapy. The addition of linked medical records in TEDS will build on this work from the last 30 years, making it even more possible to study why some people experience anxiety and how to help.

A message from the founder, Professor Robert Plomin

TEDS was launched in 1995 with major funding from the UK Medical Research Council (MRC). This MRC funding has continued without break for 30 years, making TEDS the longest continuously funded MRC programme grant. Anniversaries prompt memories. The first memory that comes to my mind is meeting with officials at the Office for National Statistics (ONS) to explore the possibility of a systematic twin registry. I was excited to learn that in 1993 ONS had begun to record multiple births on birth certificates and computerise births, making it possible to search for the 1% of newborns who are twins. With this good luck, and the help of ONS, TEDS was conceived.

TEDS was born when we were able to contact parents of twins born in England and Wales in 1994-1996. It was a big ask of parents of newborn twins to participate in a long-term study but despite the doubled demands of caring for twins, over 10,000 parents agreed to participate in TEDS.

The ensuing 30 years have flashed by as TEDS has grown up with you through childhood, adolescence and now adulthood. Thanks to your participation through these three decades, TEDS has become the foremost study of psychological development, leading to over 500 scientific papers involving 150 researchers at 50 institutions.

TEDS research has contributed to discoveries that have fundamentally changed how we think about nature and nurture in development. These findings are summarised in a paper published in Psychological Medicine, 'What clinicians should know about the contribution of modern behavioural genetics to psychiatric problems.' This paper and other papers from TEDS are available from the TEDS website (click on tabs for 'Researchers' and then 'Scientific publications').

I am tremendously grateful for your participation over these 30 years. If you ever want to get in touch, please feel free to contact me at robert.plomin@kcl.ac.uk.

Even if we haven't heard from you in a while, we still consider you as a TEDS participant. We still hold your data and hope you will join us for our next wave of data collection!

ATTENTION PLEASE!

If you think we may have not have the correct contact details, please get in touch here!

Or via email: teds-project@kcl.ac.uk

SCIENCE IN ACTION!

Read about how TEDS data have been used in recent research!

CRACKING THE STEM CODE: HOW MATHS INTEREST, CONFIDENCE, AND ANXIETY SHAPE CAREER CHOICES

A recent study using TEDS data from ages 16-21 investigates how maths interest, self-efficacy, and anxiety during the teenage years influence Science, Technology, Engineering, and Mathematics (STEM) career choices in emerging adulthood. The research suggests that an individual's interest in mathematics, belief in their ability to succeed in maths (self-efficacy), and their levels of anxiety towards maths play a significant role in shaping their decision to pursue a STEM career. However, this relationship might look different for boys and girls. Researchers found that a higher interest in maths positively correlates with the likelihood of pursuing a STEM career for both males and females. However, some relationships differed for boys and girls. For example, for females but not males, greater confidence in one's mathematical abilities supports the decision to enter SEM fields. In contrast, for males but not females, higher levels of anxiety about maths negatively affect the choice of a STEM career. The study shows the importance of both psychological and emotional factors in career decisions and suggests that interventions aimed at reducing maths anxiety and boosting self-efficacy could support young people to pursue STEM careers.

Ferdinand, R., Malanchini, M., & Rimfeld, K. (2024). Mathematics interest, self-efficacy, and anxiety predict STEM career choice in emerging adulthood. NPJ Science of Learning, 9(1), 66.

HOW GENETIC SENSITIVITY AFFECTS AUTISTIC TRAITS, EMOTIONAL DISTRESS, AND WELL-BEING

Some people are naturally more sensitive to their surroundings, which can make them more vulnerable to anxiety, depression, and stress. However, this same sensitivity can also have positive impacts, by increasing mindfulness, empathy, and well-being when in positive environments. Sensitivity is also linked to autistic traits, particularly in social communication difficulties, but the reasons for this connection are still unclear. Researchers using TEDS data studied 2,800 adolescent twins to explore how sensitivity relates to emotional problems, autistic traits, and well-being, and how this is related to genetics. Sensitivity was found to contribute to 12% of depression risk, 9% of autistic traits, and 8% of overall well-being differences. Sensitivity related to sensory stimulation and emotional reactivity was more strongly linked to emotional difficulties and autistic traits, whereas an appreciation for beauty and art, known as aesthetic sensitivity, was associated with positive well-being rather than emotional distress. This study shows that being genetically more sensitive may increase the impact of stress, making some people more vulnerable to emotional problems. High sensitivity can heighten stress but also promote well-being in supportive environments, with future research needed to explore how genetics and environment shape sensitivity, mental health, and resilience.

Assary, E., Oginni, O.A., Morneau-Vaillancourt, G. et al. Genetics of environmental sensitivity and its association with variations in emotional problems, autistic traits, and wellbeing. Mol Psychiatry 29, 2438–2446 (2024).

TEDS30 study – please take part

It's not too late to take part in this important study!

The questionnaire is available online and typically takes 20 – 30 minutes to complete. You will be sent a £10 Love2Shop reward code to thank you for taking the time to help with our research. If you need your log in details, please contact us!

tinyurl.com/ybszca6d

Your data from TEDS30!

38% of you spend 3-4 hours outside during the summer

91% of you regularly use social media

92% of you do some exercise every week!

36% of you spend at least 1 hour a day reading for pleasure

22% of you take time to pray or meditate

The data you have provided have been crucial for many young researchers' PhD work!

Congratulations to Francesca and Elisavet on completing their PhDs at TEDS, shown here celebrating!

Elisavet

Elisavet's PhD was driven by the urgent need to address the rising rates of mental health problems in youth. She focused on better understanding how anxiety symptoms and behavioural problems develop from early childhood into young adulthood. She initially modelled the different symptom trajectories from age 4 to 26. Elisavet explored key genetic and early-life factors - such as the family environment and individual characteristics - that could put some children at high risk of a more severe or persistent trajectory. She subsequently developed prediction models of the trajectories which have the potential to inform the development of screening tools for early identification of children at risk for experiencing anxiety and behavioural problems, ensuring that they receive the support and interventions they need.

Francesca's PhD opened the door to a new area of research on specific cognitive abilities using using twin and DNA analyses. The idea is to separate truly specific genetic effects from the effects of general cognitive ability (aka intelligence). For example, at school, you might have thought you were better at English than maths. However, people who are good at English also tend to be better than average at maths. This is due to general cognitive ability which pervades all cognitive abilities. Francesca's research has begun to identify genetic effects on specific abilities that are independent of general cognitive ability. Eventually this will make it possible to predict children's truly specific abilities so that we can foster their strengths and enhance their weaknesses.

Francesca

THE CHILDREN OF TEDS TWINS

CoTEDS

CoTEDS is our study for the Children of TEDS Twins! We aim to understand the role that parents play during child development. Your child's other parent can take part too, if applicable to your family. Details to register below!

JOIN COTEDS!

We are always looking for TEDS twins with children to join CoTEDS, so if you would like to get involved, scan the QR code or fill out an online form at https://goo.gl/Cr7Kxy to register your pregnancy or child!

Over 1,700 children registered in CoTEDS!

JOIN US!

Sign up to CoTEDS here!

OUR DNA STUDY

We are collecting DNA from saliva samples to explore the influence of genes and environments across generations.

The DNA data will be analysed to help us learn more about the genetic factors that play a part in the development of human language, thought and behaviour.

We will be offering a £10 Love2Shop voucher as a reward for every DNA sample returned!

FOCUS GROUPS

Last year, we held focus groups with CoTEDS parents to explore your thoughts and opinions on what we can do to ensure the study remains as engaging as possible.

We created a **Focus Group Report** to share our findings with you. Scan the QR code above to see the full report. We are excited to host them again with you this year!

Earn a **£10 Love2Shop voucher** for every questionnaire you complete!

Co_TEDS | CoTEDS-project | CoTEDS.project

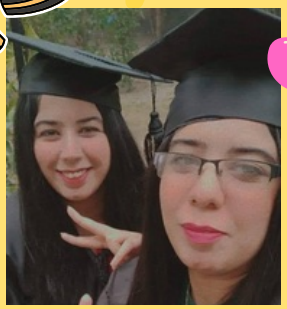
NEW to TEDS & COTEDS

Ray joined TEDS as data manager alongside Andy McMillan in January 2025. He studied biochemistry and worked at AstraZeneca before researching scoliosis genetics at King's College London. He gained experience with research datasets, then managed operations at the NIHR Research Design Service, and worked on clinical trials at St John's Institute for Dermatology, focusing on psoriasis genetic markers. Later, he became a data facilitator at the NHS England Genomic Lab Hub and senior data manager for King's Military Health Research and longitudinal studies. His hobbies include pottery, gardening, and quizzing, with some unsuccessful appearances on TV game shows.

Nadine joined the CoTEDS team as a Research Assistant in March 2024 to pursue her interests in child development and background in childcare after completing her MSc Psychology Conversion Degree in 2022. Before this, she was at the King's Centre for Military Health Research where she worked with military personnel to investigate the effects of war on health and wellbeing. Nadine is interested in the interplay between nature and nurture and its application in mental health treatments. In her free time, Nadine enjoys nature walks and yoga.

Kaito completed his BSc in Psychology at King's in May 2024, during which he did a placement in TEDS under Robert Plomin. In October 2024, Kaito started his PhD in Behavioural Genetics supervised by Robert, with his current project focusing on multivariate GWAS analysis to explore general and specific genetic effects on cognitive abilities. Kaito is also interested in using machine learning methods to improve polygenic score prediction, which he hopes to do in TEDS. His hobbies include rock climbing and playing bass guitar.

YOUR PICS AND STORIES



Sadiah and Mariah are both currently pursuing MPhil degrees in Media Studies

Amy and Liam celebrated their 30th birthdays together

Shannon got married and Alix was her bridesmaid

Layla and Tanya spent the day at the Nations Cup international netball series

Aimee's first baby being cuddled by twin, Joanna

Chloe and Abigail co-authored a book, and recently won a publishing contract with BIS Publishers

Hannah, graduating with a distinction, Level 3 in Business Administration Apprenticeship with twin sister Sophie

Carrie got married in the summer and her twin sister, Ella, was maid of honour

Alecia got married in October 2024 and her twin, Alex, was "Chief Maid of Honour"

Maddie and Toni celebrating New Year together in Barcelona

Laura and Natalie with their other siblings celebrating Laura's wedding

Lewis and Ryan celebrating an award for their security business

Meesha and Paige celebrated their 30th birthdays with their children who in CoTEDS

Elodie and Candice found out they were both pregnant in December, only one week apart in due dates

Kirby recently married her husband at Disney World and her twin brother officiated

Sasha got married in Italy, and her twin, Lewis, 'married' them, with an exceptional performance

Millie and Jess completed a memorial walk, with friends, in memory of their dad, Richard Teare.

Amy completed a stained glass course and made a lovely piece for her new home!

Sinead was bridesmaid at her twins wedding! Here with her partner, who is also a TEDS twin, and their beautiful flower girls!

Celebrating Imogen's hen do in Ibiza. Gina organised the hen do and was maid of honour

Fay got married in September 2024 and twin, Tom, walked her down the aisle

When Laura visited Emily in London they went to see the TEDS mention in the science museum