

TEDS 21 is *App*-ening

Dear TEDS twins (and your parents),

It is amazing to me to realise that TEDS began more than 20 years ago. Your parents joined TEDS when you were one year old and they told us about your development when you were 2, 3, 4, 7, 9, 10, 12, 14 and 16 years old. Your teachers and schools added information in the school years. You contributed to TEDS directly after age 9. Your support has made TEDS the most important study of its kind in the world.

Now TEDS is ready to invite you to participate in the first follow-up since you were 16. We call this follow-up 'TEDS 21'. The purpose of TEDS 21 is to look at what is called 'emerging adulthood'. Dramatic changes in society have created this new uncharted stage of development. Adulthood no longer happens right after secondary school. Adulthood now seems far away and many 20-somethings are

not at all sure they want to go there! There are no jobs for life. Most people do not have children until they are 30. On the positive side, this gap offers freedom to find fulfilling relationships and jobs. On the negative side, there is much more uncertainty, which can be stressful.

We want to know what you think and how you feel about this time of your life. For example, the TEDS 21 questionnaire asks you about your goals, relationships, and employment, and your attitudes about health, finances, and online behaviour. I am sure you will find TEDS 21 interesting and relevant.

TEDS was at the cutting edge over a decade ago when we introduced web-based testing. TEDS 21 will continue to lead the pack. We have designed an app that will allow you to complete the questionnaire on the go using your mobile phone or any other device. The app will give you immediate feedback, something that you've told us you wanted. You'll also be able to share your progress on social

media as a way to interact with other twins. We hope that you and your twin will encourage each other to complete the questionnaire and compare feedback!

TEDS 21 will be rolled out over the next few months. When you receive your invitation to participate, I hope you will realise how important this is to us. TEDS 21 is the culmination of 20 years of TEDS.



Professor Robert Plomin

Director, Twins Early Development Study

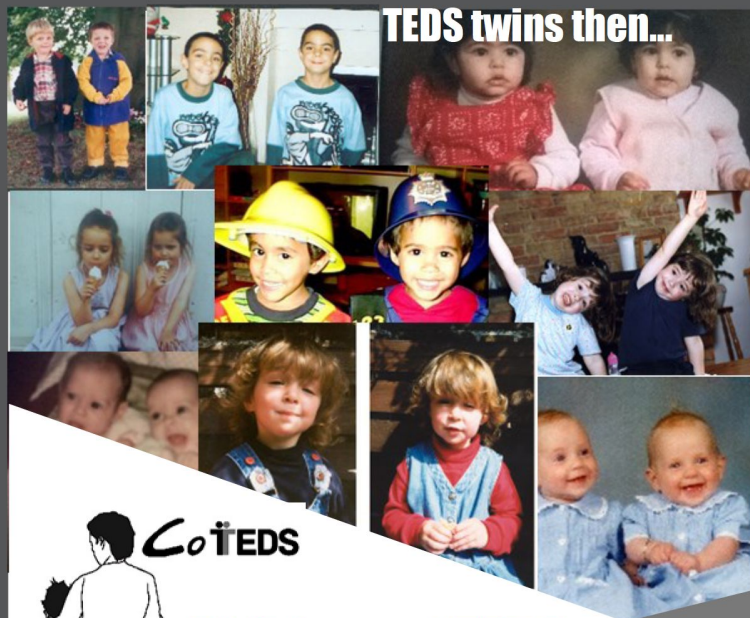
See personalised feedback on our new app!

Features of the TEDS app:

- Relevant questionnaires
- Personalised feedback
- Share your score on social media
- Update your contact details
- New reward system
- Complete anywhere
- Insightful personality tests



TEDS won King's College London's Research Project of the Year!



TEDS twins then...



Children of TEDS twins now!



Children of TEDS

You may have already heard about the new TEDS study called Children of TEDS (CoTEDS). Since receiving funding from the Wellcome Trust and The Royal Society to run this study, the CoTEDS team have been hard at work designing the first questionnaire to send out to TEDS twins with children. The aim of CoTEDS is to collect data on the development of the children of TEDS twins, as well as the types of experiences encountered by TEDS twins who have entered parenthood. This data will be invaluable for research into the roles that parents play during child development, and the ways in which different traits can run in families. Data from CoTEDS will make TEDS the world's *first* ever twin study to collect information on both twins and their children from birth.

Inspired by the early days of TEDS, we'll be sending CoTEDS T-shirts to the children of TEDS twins who take part!



If you are a TEDS twin who is a parent, or expecting to become a parent, please let us know by filling in our online form: <https://goo.gl/Cr7Kxy> (link also on the TEDS website), or send us an email coteds-project@kcl.ac.uk. Parents of TEDS twins with children can also fill in our online form, to let us know that you've become a grandparent! We can then invite all TEDS twins with children to participate in CoTEDS, when we send out our first questionnaire.

Your stories

An exciting new CoTEDS family...

Sinéad Riley and William Jordan started dating 6 years ago, after meeting at a weekend of brass band rehearsals in the Lake District. Sinéad didn't realise that William was a twin until she met his family – and it took another year to realise that they were both part of TEDS, after they both received copies of a TEDS questionnaire to fill in! So you can imagine the excitement in the TEDS office when Sinéad got in touch about **CoTEDS**... Big congratulations to Sinéad and William – who are expecting a baby girl this spring, and who are the first TEDS twins (that we know of) to start a new family made exclusively of TEDS participants!



“ My brother and I are proud to be TEDS twins and still continue taking part in the various studies despite my brother living the other side of the world! He moved to Australia 3 years ago after having a year out, and is now in New Zealand. I have been lucky enough to see him once a year since. We are still close as ever, perhaps even more so. I miss him a lot and it has been very hard at times being apart, going through uni and big birthdays not being together. We have just celebrated our first birthday together in 3 years, fortunate enough to spend this in Sydney together, visiting with my parents. We can't wait to continue with TEDS. I'm not sure when I will see him again but as twins it is very special to be together, and is never to be taken for granted. It is amazing to be part of TEDS. Thank you



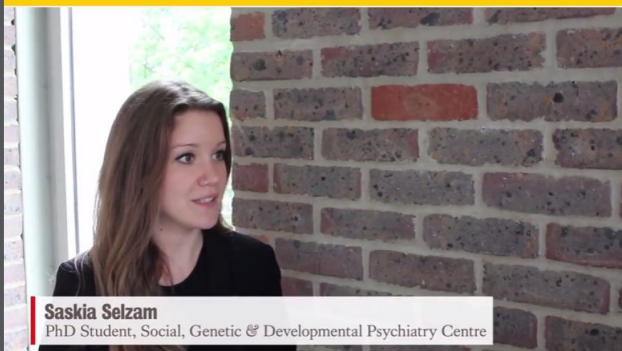
Emma Rumble and William Rumble ”

TEDS Research: What does your DNA say about YOU?

A new genetic method makes it possible to estimate strengths and weaknesses -directly from your DNA! This method is called *polygenic scoring*. *Polygenic* refers to the many DNA markers of very small effect which contribute to making each of us unique. We now know that there is no single gene for height, intelligence, personality or even depression, but that thousands if not tens of thousands of DNA markers each have a tiny effect on human traits. For this reason, it is important to take all these markers into account to understand why individuals differ from another.

Let's think about educational achievement, how we calculate a polygenic score for this trait, and what it could tell us. Large scale studies have identified which genetic markers are linked to educational achievement. We can use this information to create an education polygenic score for an individual by screening their DNA and summing the tiny effects of each DNA marker linked to educational achievement. If someone has a higher polygenic score, they are more likely to perform better at school than someone with a lower polygenic score.

So, why is this useful? The great thing about polygenic scores is that we can create them for any human trait. In the future, they may be used to help diagnosis and treatment of clinical disorders and physical diseases. Polygenic scores also have the potential to identify children that could be at risk of learning difficulties, therefore creating opportunities for early intervention. Currently, I am waiting for my DNA results and I am excited to calculate my own polygenic scores!



You can watch my video on polygenic scores on our TEDS Youtube Channel here: <https://goo.gl/7XUEVf>

TEDS Research: Media use

Cell phones, tablets and laptops play an even more important role in everyday experiences—in fact TEDS decided to develop an app for this very reason! Despite this increase in online use in young adults in general, we all differ in the extent to which we use online media and what we use it for. TEDS wanted to know why—and you helped us! Thanks to your data we've discovered that young adults are not just passively influenced by online media—but instead, they actively select, modify and interpret their media experiences largely based on their DNA. This is true for a diverse number of online experiences from online gaming to time spent on educational websites and even Facebook. Why is this exciting? Understanding media use provides an excellent opportunity to investigate genetic contributions to experience—when people are free to choose their environmental experiences, these choices are largely driven by their unique genetic propensities. The next step is to collect more data to help us understand how online media use relates to your experiences navigating through emerging adulthood.



Listen to the author of the paper talk about this research: <http://www.bbc.co.uk/programmes/b08b7vyd>

My PhD with TEDS



After four wonderful (and exhausting!) years, I've reached the end of my TEDS PhD. My research has examined the genetic and environmental influences on diverse abilities, including face recognition and spatial skills, and their links to educational outcomes. Key findings have included: 1) A large amount of the variation in GCSE grades (around 50-60%, depending on the subject) is attributable to genetic variation in the population. 2) Individual differences in face recognition ability have a strong genetic component, and these influences are unique to this specific skill, rather than shared with other abilities. 3) Spatial ability has long been thought to be very complex, comprising a large number of different skills, but our research in TEDS has suggested that much of this apparent complexity is an illusion: the variability across diverse spatial skills is actually driven by a single set of genetic and environmental components. 4) Spatial ability is related to success in science and mathematics GCSEs, while social abilities (such as face recognition) are associated with English and humanities subjects; both of these links have a strong genetic component.

The research done in TEDS – in areas like the above, and many others – makes an important contribution to understanding how our abilities, interests, attitudes and other traits develop, and how they help to shape our lives. On a personal note, I'm delighted to have been able to undertake my PhD as part of such a great team, and now (as a post-doctoral researcher) look forward to all the research still to come. All of this is made possible by the ongoing contributions of the TEDS twins and their families. So on behalf of all our researchers – past, present and future – thank you!

Dr. Nicholas Shakeshaft

TEDS in the news!

MailOnline

Do YOU feel anxious when you have to do math or read a map?

A Simple DNA Test Could Predict How Well Your Child Will Do At School

HUFFPOST TECH

theguardian

Genes that influence how long you stay in education uncovered by study

Genes determine how young use internet and social media

FINANCIAL TIMES

TEDS has been in the news quite a lot recently talking about our research - from media use to map reading - your data contributes to a lot of important findings. If you want to know more about our research, check out our Youtube page where we have set up 'TEDS talks'. These are short, 5-minute videos where we talk to TEDS researchers about their research.



If there is anything you would like covered in these talks, get in touch! You can find them on our website or on our YouTube page 'TEDS Project'.

Your twin pics!



Social media



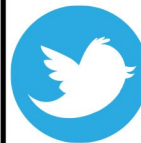
Lauren: Currently watching the twins project DVD with my twin  



Angela: My twins who have been part of TEDS since they were born graduate from the University of Leeds on Thursday 15th December. They both took Social Work and both got a 2:1. Both have jobs working as social workers in Leeds. Yes they are identical



#TEDStwins Ran into another **#tedstwin**? Met up in an unsuspected place? Tweet us your stories and we'll include them in our newsletter!



@Ledgend3: me & **@georgiaaobrien** met working in America at a summer camp, we were separated from our twins so became each others substitute

@HannahLOu1se: me and **@BeccaFrost96** met at Uni and are on the same course doing Veterinary Nursing at the RVC!



@georgiaaobrien: **@danielleingram_** and I met on our university netball team and bonded over our teds shopping trolley tokens



Got something to say?
Facebook/TedsProject | @TedsProject

Thank you to all our twins and their families for their ongoing support in TEDS