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THE NEWSLETTER FROM TEDS [TWINS EARLY DEVELOPMENT STUDY]

## Twenty years of TEDS



In 1995, we obtained permission and funding to establish the first systematic study of newborn twins in the UK. Birth records had just begun to record multiple births in 1993. Even though the birth records were not computerised, we managed to send invitations to 18,000 parents of twin pairs born in 1994-96, and 85% of the families agreed to participate. That was the birth of the Twins Early Development Study (TEDS).

This year we are celebrating TEDS' 20th birthday, a momentous achievement which we could not have

accomplished without the continued support of our participating twins and their parents. TEDS is the premier twin study of its kind in the world; more than 300 scientific papers based on TEDS data have been published – almost half in the past five years alone. In addition, more than 100 collaborators throughout the world are working on projects using data from TEDS.

Looking ahead, our next big push for the entire TEDS will begin after the twins'

**“TEDS is the premier twin study of its kind in the world”**

21st birthday. We will focus on what is called 'emerging adulthood' -- when young people transition to independence as they leave home and make their own way in the world. This stage of life is a 'tipping point' for the rest of the life course. Sweeping

demographic changes during the past few decades, such as changes in employment patterns and the increasing age of mothers at first birth (now 28 on average in the UK), have made emerging adulthood not the brief transition into adult roles it once was, but rather a distinct and transforming period in the life course. Therefore we are excited about conducting pioneering research on the risk and protective factors responsible for good vs poor outcomes in emerging adulthood in order to promote individualised approaches to education, health and wellbeing.

**I hope that you will continue to contribute to TEDS during this next stage.**

### Send us your snaps

As TEDS turns 20, so do you! We always love receiving your pictures so if you have any Birthday snaps, we would love to see them!

## Film premier to celebrate 20 years



With TEDS' 20th anniversary fast approaching we've teamed up with filmmaker David Martin to capture the faces behind TEDS. This short documentary takes us into the homes of a handful of TEDS twins who have contributed to TEDS data over the years.

This film serves as a unique opportunity to hear from some of you

about your experience of being a part of TEDS since you were born.

Furthermore, given that TEDS twins are scattered around the country (and the world), this project also offered TEDS Research Worker, Ziada, an opportunity to see Cambridge, Epsom, Lincoln, Whitton and Brighton!

An important aspect of the film is the uniqueness of each pair of twins. The different talents, likes and dislikes help to reiterate the importance of both genes and environment in making us all individuals. This film will also help to

broadcast TEDS research worldwide. In fact we will be screening the film on TEDS' 20th anniversary to more than 100 collaborators — who knows, maybe it will even reach Hollywood! With over 20,000 of you involved in TEDS we hope this film helps to put a face behind the research, a meaning behind the data, and the story behind it all.



**Keep an eye on our Facebook and Twitter for the film!**

## Introducing the new Deputy Director of TEDS: Thalia Eley



**Thalia with her three boys**

I am really delighted and honoured that Robert has asked me to be Deputy Director of TEDS with a view to taking over the reins from him at some point in the future. As many of you may know, I

joined TEDS in 1996 as a fresh-faced post-doc, and worked on the very first datasets created from the information you all provided. I also ran a spin-off study called TEDS-ECHO (Emotions, Cognitions, Heredity and Outcome) which involved 300 pairs of TEDS twins coming to visit us here at the Social Genetic and Developmental Psychiatry Centre on two occasions.

### What excites me about TEDS:

I am particularly interested in the links between what we experience, how we think, and how we feel. I have worked with several twin samples other than TEDS and have become increasingly involved in working with data where

the twins are parents rather than children (also known as the 'children of twins design'). As with the classic twin design, this method compares identical and non-identical twin families and allows us to explore the relative contribution of nature and nurture to transmission of traits within families. So, for example, are you similar to your parents because of what you inherit from them or because they bring you up?

I am very excited that the TEDS twins have started to have children and hope to find out as much as possible about the 'children of TEDS' in future research.

## New members of the TEDS team



Ziada and Emily joined the TEDS team late in 2014 as Research Workers and we have been keeping them busy! In their

first 2 months they helped mail out 5,700 DNA kits and 10,500 letters! They have also been working on the upcoming TEDS film, sending out witty and interesting tweets, designing the infographic and getting involved with TEDS research.

**Ziada** joins the team from across the pond (Canada) with a Bachelors in Behavioural Neuroscience and a Masters in Mental Health Studies from King's College London. She is currently investigating the influence of genes on academic choice and the role of gender in science achievement. Ziada brings an international flare to TEDS, although her colleagues are often puzzled by her use of Canadian phrases!

**Emily** completed her Masters in 2013 in the Science of Psychology, Genetics and Education at

Goldsmiths, University of London and she is currently looking at the relationship between timing of puberty and later behavioural outcomes. Emily's favourite hobby is baking (which the TEDS team are happy about) and she also enjoys going to museums and hanging out with her friends.

They are both hoping to do their PhDs next year at the Social, Genetic and Developmental Psychiatry Centre.

## It's a small world



"I am Shannon Elizabeth Davies. I am 19 years old, from Liverpool and I am a TEDS twin.

Last September I joined the University of Derby to study Product Design and moved into student accommodation with 5 wonderful women. About 3

months in we had a night where we all sat around chatting. I told the girls I had a twin, to which one of my flat mates said she also had a twin. My next question was of course "OMG, are you a TEDS twin?" She screamed with excitement saying yes! It was none other than TEDS twin Beth Campbell from Yorkshire.

The rest of the flat just looked at us confused, thinking what the hell is a TEDS twin! I have never met another TEDS twin before (other than my sister of course). I just think its wonderful how we lived together for 3 months not knowing, and that of all the flats we could have ended up in, we ended up in the same one!"

## TEDS twins love...

In order to find ways to make participating in TEDS studies easier and more fun for future TEDS tests, we asked some of you to tell us about your online experiences. Here are a few of our key findings:

**TEDS twins love... phones (and laptops):** Over 90% of the twins we asked go online with their phone most or all of the time and two thirds never or almost never use a desktop computer (and believe it should be in a museum)!

**TEDS twins love... science:** When asked 'why do you take part in TEDS studies', 84% of our sample said they were actively motivated by making a

contribution to science. We're thrilled to hear this because we can tell you that without your contributions, science wouldn't exist! Well, *some* science would, but not TEDS science. And we all know TEDS science is the best science!

**TEDS twins love... the internet:** A huge majority of our sample actively preferred to do studies online (86%), and to be informed about studies by email (96%).

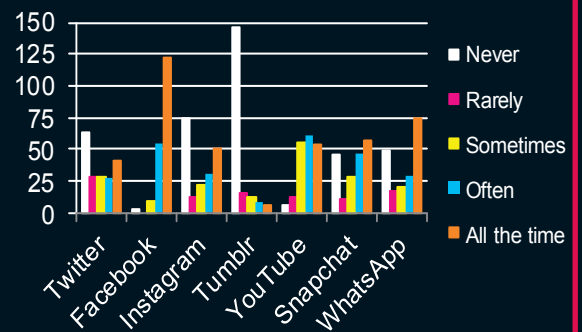
**TEDS twins love... Facebook:** Almost 100% of our sample said they used Facebook and

YouTube at least some of the time. 98% said they used Facebook 'All the time'. Admit it: you're updating your Facebook status right now to tell your friends this amazing statistic. Or possibly not.

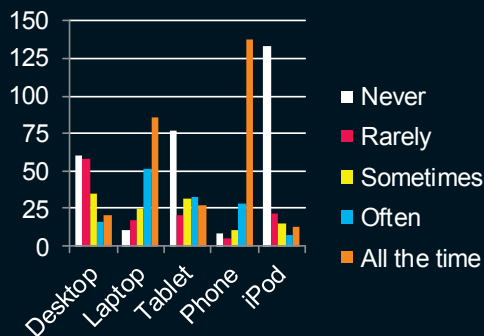
**TEDS twins love... feedback:** nearly 90% of our sample said they liked to get feedback about how

they did on TEDS studies. We also asked what types of studies participants enjoyed most (...and least). Research about beliefs and attitudes 'won' – hopefully this means our sample enjoyed taking part in this survey!

### How often do you use social media? (N = 190)



### How often do you use the following devices? (N=190)



**Thank you to those who participated in this study, we hope to incorporate your feedback into future studies!**

## From your DNA to discovery



Recently, we invited over 5500 of you to provide your DNA to enable exciting new research in TEDS. The DNA comes from saliva that many of you have already returned to us. About 1 million markers will be extracted and used in cutting-edge research that analyses hundreds of thousands of bits of DNA across all the chromosomes to investigate factors involved in learning, health and disease.

What has emerged from recent molecular genetic research is that most human traits are influenced by many genes and that individual genes have a small effect. This makes them exceedingly difficult to find. Therefore, researchers have started to combine molecular and traditional twin methods which can provide particularly strong evidence for genetic influence on traits. For example, a recent TEDS study<sup>1</sup> that used DNA data as well as measures of twins' reading and mathematical ability showed that these two traits are, to a large extent, influenced by the same genes. The study tested this in two ways, by comparing the similarity of thousands of twins, and by measuring millions of

tiny differences in their DNA. Both analyses showed that similar collections of subtle DNA differences are important for reading and maths.

The current DNA collection will enable many more exciting studies and help speed up the process of applying basic science to aspects of everyday life, including education, health and learning. If you have not yet returned your DNA kit and would like to contribute to this exciting research, please send it back in the freepost envelope provided.



<sup>1</sup> Davis, O. et al (2014) The correlation between reading and mathematics ability at age twelve has a substantial genetic component. *Nature Communications*. doi: 10.1038/ncomms5204



## Top tweets



#TEDStwins tell us your fav thing about being a #twin (other than being part of #TEDSproject of course) #perks #twinlife #twinlyfe

**Christine:** you can steal their clothes!

**Zak:** I never forget his birthday!

**Lucy:** you got a best friend for lifeeeee!

**Harriet:** a slide with TEDS data on teacher ratings has just popped up in my developmental psychology lecture!

**Hannah:** Definitely one of the more unconventional Christmas deliveries I've had... Thanks @TedsProject #twinlyf



@TedsProject



Fresh to Facebook

You spoke, we listened! With such a high number of TEDS twins on Facebook, we will be making sure to regularly update our Facebook page.

Make sure you check out the page for all the latest TEDS news, upcoming studies and interesting papers!



[www.facebook.com/TedsProject](http://www.facebook.com/TedsProject)

## A study to look out for....

## The heritability of fashion, food and music preferences in TEDS

There is considerable variation in fashion and music preferences among young adults. Think about someone you know, do you both wear trainers? Do you both listen to the same bands? The chances are that you will have some things in common but that there will be differences too. Stories of twins from within a family that have very different fashion and music tastes suggest that the shared rearing environment is *not* a key determinant. So what makes us vary? To help us answer this question, we will be asking some of you to tell us your preferences in order to identify broad sources of genetic vs environmental influence on such differences in musical and fashion choices.

In addition to fashion and music, we will also be asking you to tell us about your food preferences. Previous research in primary school age twins indicates that genes account for a moderate amount of the variability in food preferences, however the

variation is also influenced by the twins' shared environment; most likely reflecting the fact that young children have limited interaction with the environment outside of the family and home. Now that our TEDS twins are young adults, and likely to share less of their current environment, we are interested to see how this may affect their food preferences.

We hope that this study will broaden the knowledge of the heritability of preferences, beyond the traditional context of food, and shed light on fashion and music preferences which do not have such an obvious biological link. Furthermore, we hope our TEDS twins enjoy taking part in this novel area of research which could yield insights into the basis of human behavioural choices and is bound to generate much media attention.



Thank you!

From all at the TEDS team, a big **THANK YOU** for 20 years of commitment to TEDS.



Robert Plomin,  
Director



Thalia Eley,  
Deputy Director



Andrew McMillan  
Data Manager



Louise Webster,  
Finance controller



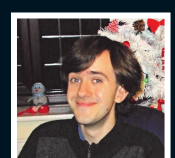
Rachel Ogden,  
Project Coordinator



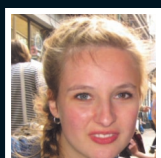
Neil Harvey, PA  
to Robert Plomin



Kerry Schofield,  
Post Doctoral Worker



Nicholas Shakeshaft,  
PhD student



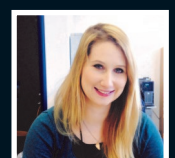
Eva Krapohl,  
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Kailli Rimfeld,  
PhD student



Ziada Ayorech,  
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Emily Smith-Woolley,  
Research Worker