TEDS

SPRING 2012

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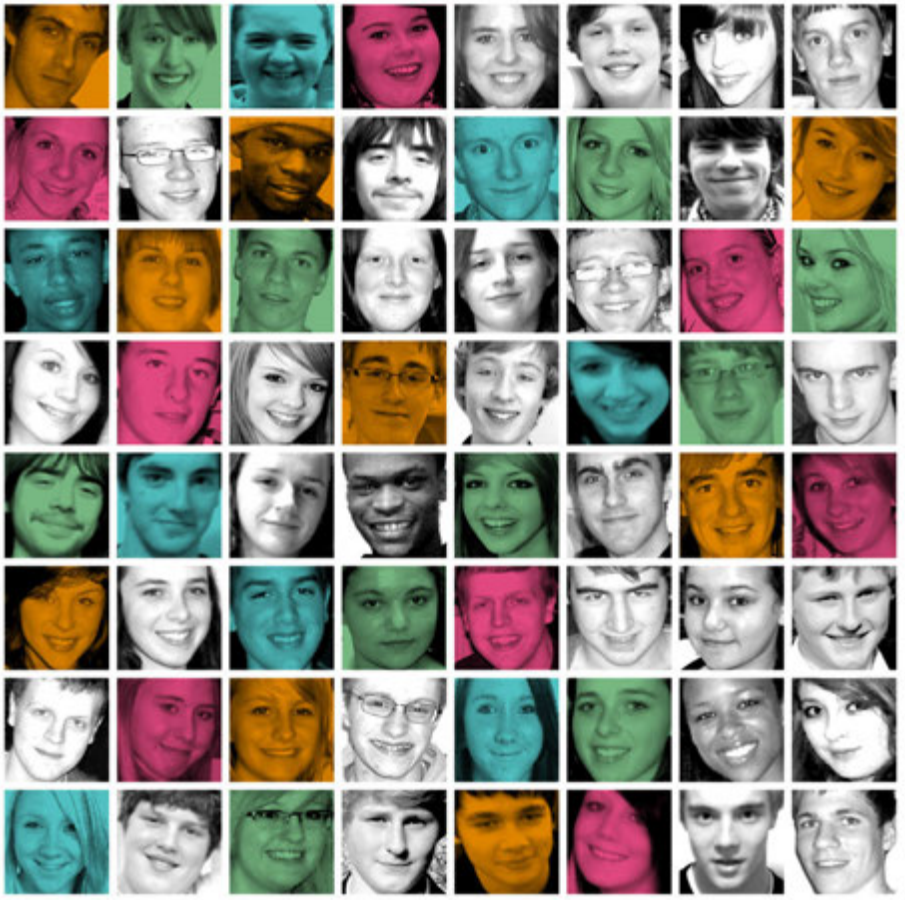
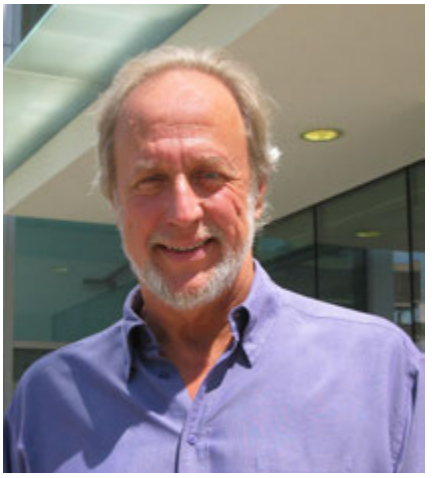
THE NEWSLETTER FROM TEDS [TWINS EARLY DEVELOPMENT STUDY]



£2 million Research Council award

Congratulations to Professor Robert Plomin, the Principal Investigator on TEDS, who has been selected out of 2,284 applicants for an Advanced European Research Council award of over £2million. Professor Plomin will use this highly prestigious grant to undertake research into the 'Genetics of High Cognitive Abilities'. ●



Happy birthday!

2012 marks the 18th birthday of our eldest members. Since 1996 our researchers based at King's College London have been exploring the roles of nature and nurture, genes and environment, and how they interact to shape our learning, behaviour and abilities. Over 15,000 families originally signed up for the project with around 11,000 remaining involved to the present date. This makes TEDS one of the largest twin studies in the world!

Thanks to the support of our families, our researchers have published nearly 300 papers in academic journals – making TEDS one of the preeminent studies in the scientific community. To learn more about some of the findings made possible with your help, please see overleaf. ●

Help us to keep in touch! We would be very grateful if you could return the enclosed card, with contact details of two relatives or friends we can contact in the event that we lose touch with you.

If you're interested in finding out more about the research going on at TEDS, details of several hundred of our published journal articles are available at **www.teds.ac.uk/publications.asp** Alternatively please do not hesitate to get in touch with the TEDS office directly at teds-project@kcl.ac.uk or on our freephone 0800 317029.

Once again, many thanks for your family's contribution to our study. It is much appreciated, as without your help none of our research would be possible.

More than just IQ

There's a strong relationship between academic achievement and intelligence. But there's more to school performance than just IQ – we've shown that confidence is also an important predictor of achievement, over and above the effect of intelligence.

Results suggest that this relationship may also go in both directions. While TEDS twins' confidence at age 9 led to better school results at age 12, we also found that those who achieved more at 9 had greater self confidence at 12.

The unique aspect of TEDS is that we can go further and ask about the roles of nature and nurture in creating this upward spiral between confidence and achievement. Both genes and environments seem to matter – some people are just more likely to be confident, but the research also suggests that helping students to be more confident and believe in themselves could have a positive benefit on their future achievements. ●

Time to give up on a single explanation for autism

Autism affects around 1 in every 100 individuals, and is a cluster of three areas of difficulty. Individuals with autism find social interaction hard, they commonly struggle to communicate with others, and finally, they often have highly focused interests or engage in repetitive behaviour.

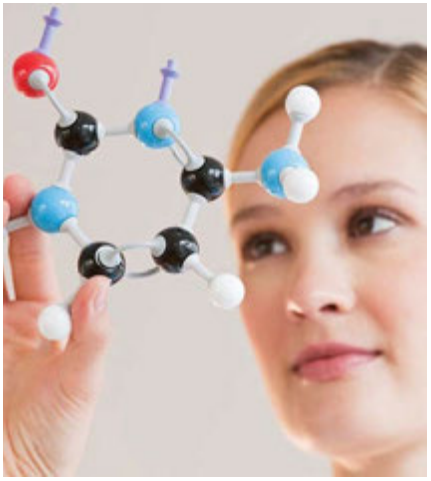
Up until now, the majority of research has looked for causes and cures for autism as a whole; however, TEDS research suggests that a more fruitful approach would be to study each of the three components of autism separately.

Data from TEDS were the first to show that these traits do not always occur together. For example, some people only have problems with communication, whereas others have difficulties with social interactions. We've also been able to show that different genetic and environmental factors are involved in predicting the development of each trait.
This exciting finding has important implications for the direction of future research seeking to explain the causes of autism and autism spectrum disorders. ●

The increasing importance of genes

Common sense suggests that as we get older the environment we grow up in should become more important in determining what our characteristics are like. We might expect this to be the case, since as we get older our experiences become more different and diverse from those around us. However, TEDS research indicates quite the opposite might be true: in the case of intelligence, genes rather than environment become more important with increasing age. TEDS researchers collaborated with scientists from five other twin studies from around the world to come to this intriguing conclusion.

Why might this be? One suggestion is that a process called 'gene-environment correlation' might be at work. That is, as



children grow up they increasingly select and modify their own experiences in part based on their genetic propensities. For example, teenagers who are naturally particularly good at sport or music will choose to spend more time engaging in this activity and so they become better and better! ●

Girls and science

In the UK, only 25% of people working in science and technology are women. One reason for this might be that typically boys are more likely than girls to choose certain science, engineering and mathematics courses when making course selections in secondary school. We looked to see whether differences in science performance exist between the sexes, at an age where everyone studies the same subjects at school.

More than 2500 families were assessed by their teachers at 9, 10 and 12 years. We found no evidence that there was any difference in science performance between boys and girls. The next challenge is to understand why girls are not selecting to study science, and what can be done to encourage more women to pursue scientific careers. ●