

TEDS NEWS

2007



Twins Early Development Study (TEDS), PO83 Freepost LON7567, London SE5 8YZ. Freephone: 0800 317029 e-mail: teds@iop.kcl.ac.uk

TEDS is now in its 12th year and we continue to make very important scientific discoveries. We appreciate that most of you like to be kept up to date with our results and so in this newsletter we have outlined some of our most recent work.

We could not do this crucial work without your help, and the TEDS team is forever grateful to you all for helping us by filling in our questionnaires or doing our telephone or web-based activities. The larger the number of families we have involved in our studies the better the research we can do, so every single piece of information is vital to us. Thank you so very much for all your help.

Luckily for us many of you enjoy taking part in TEDS! Becky emailed us to tell us how much she enjoyed taking part:



'Hiya, I really enjoyed the TEDS online games, they were really fun!!! Thankyou for the vouchers that you sent my brother and I (I'm going to use them shopping soon!). I really like being a member of TEDS, and I will always remember the hand puppet activity that you did at our house when we were younger!'

Photo Competition

We would like to invite all of the TEDS twins to take part in a photo competition. We would like you to send us a photograph of something that is important to you; it could be your family, a pet or a picture related to something you like doing. All photos need to have been taken in the last 3 months and be clearly marked with your name and ID. This is not a competition of photographic technique - we will be looking at the idea behind your photos. There will be 20 prizes of £20 Love2shop gift vouchers.

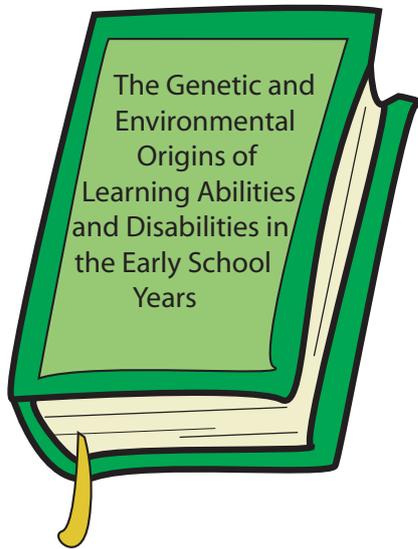
The closing date is the 28th February and the prizes will be awarded on the 10th March. You may only enter one photo each. Winners will be contacted by phone in the first instance and winners' names will also be entered onto our web site. All prize photographs will appear on the web site and we will also have a selection printed in our 2008 newsletter. We hope all of you will send us your photographs. We are happy for you to email them to us at teds@iop.kcl.ac.uk, or send photographs in the mail. We will unfortunately not be able to return any photographs you send us.



Exciting Discoveries So Far

A book on TEDS!

A major event is taking place in TEDS. We are publishing a book that brings together findings from the lengthy booklets, forms and surveys that you kindly filled out at 7, 9, and 10 years old. We have already published more than 100 scientific papers on information collected from TEDS but, because you have provided us with such a rich set of data, we decided to write a book that focuses on some of the key discoveries from TEDS about the nature and nurture of how children do at school.



It's unlikely that the TEDS book will hit the best-seller lists - it's an academic book, as you can see from its title. But we are very pleased that we have been invited to publish it as part of a prestigious series of monographs produced by the International Society for Research in Child Development. Books in this series are distributed to all members of the Society, which means that our book will come to the attention of most scientists in the world who are interested in this topic. Because the publication process takes so long (more than a year), we have made the manuscript available at www.teds.ac.uk in case you want to take a peek at it before publication.

Although there have been a few other twin studies of children during the early school

years, the other studies only included a few twins, and the twins in each study differ a lot. Also, previous studies have only explored children's reading but TEDS is studying how children do in maths, science and other kinds of learning skills as well as reading. A huge advantage of TEDS is that it includes two kinds of evaluations. There are teachers' assessments based on the National Curriculum, and scores from our own measures such as the recent web-based quizzes like General Knowledge or Hidden Shapes.

The book focuses on three key findings about 'nature and nurture' that are titles of chapters in the book. We will just mention these now but we plan to describe them in more detail in the next newsletter.

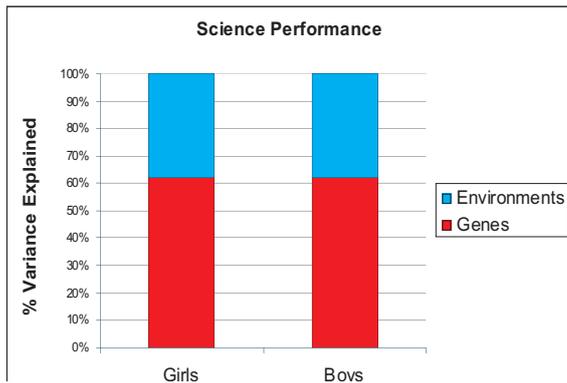
First, 'The abnormal is normal'. In other words, what we call disability is really the low end of ability, not something 'abnormal'. Second, 'Genetic stability, environmental change'. What this means is that genetic factors mostly make children stay the same from year to year - what makes them change is the environment.

Third, 'Generalist genes, specialist environments'. That is, genetic factors that affect how well children do in reading, for example, also affect how well they do in maths. What makes children better in one subject than another is mostly environmental factors. These findings have far-reaching implications for child development and education. We will discuss some of these in the next newsletter.

Our findings depend entirely on your goodwill. We know that sometimes you must look at our booklets and think 'when am I ever going to find time for that - times 2!' So we really do appreciate your energy and efforts to keep going with this. TEDS is thriving because of your hard work - thank you!

Other TEDS Findings

Girls and Boys and Science

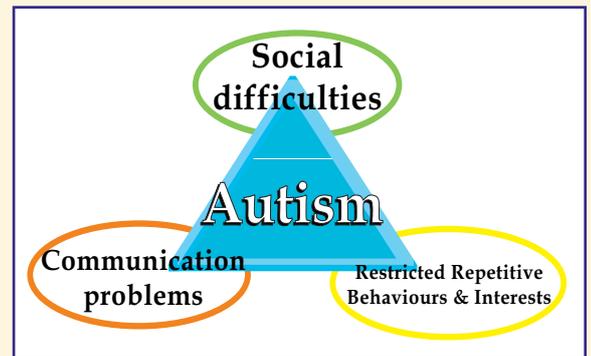


The TEDS book will summarise key findings about how children do at school. Most research on school performance focuses on reading and, more recently, on maths. TEDS provides the first genetic study of the timely issue of how girls and boys perform in science. We wanted to test whether boys or girls were better at science and also whether the same genes and environments influence science ability in both boys and girls. Often people think that boys are much better at science than girls. However, with your help, we have shown that in primary school girls are just as good as boys at science. We have also shown that the same genes, and

the same kinds of environments, both influence science ability in boys and girls. We are hoping to look at sex differences in science performance in secondary school, so keep up the good work!

Fresh approach to the mystery of what causes Autism

Although TEDS focuses on how children learn at school, we also studied several important aspects of problem behaviours that affect children's performance at school. One set of TEDS studies that is making a major impact involves studying both autism and autistic-like behaviours that everyone shows in the whole population. Recent autism research in TEDS has looked at whether the three behaviours characteristic of autism spectrum conditions always occur together, and whether they are caused by the same genes. Autism is thought to involve the three types of behaviours shown in the figure. This research shows that



different genes affect the three types of behaviours. This work, which is led by Dr Angelica Ronald who is a postdoctoral researcher, is summarised in the October 2006 issue of the prestigious journal Nature Neuroscience called 'Time to Give Up on a Single Explanation for Autism'. You can hear more about this research on a podcast available online at <http://www.nature.com/neuro/podcast/index.html> (the section by Dr Ronald of TEDS on our autism research is about half way through the podcast).

We are now carrying out research to identify the genes that contribute to risk for autism. If different genes influence the three problems, it is possible that quite different areas of the brain are affected by them. Therefore it is not surprising that some children just show one of the problems, while others show all three. These children might be having problems with home and school life but no one realises why. Through your help in TEDS this research might improve how problems like this are dealt with in the future.

Not all bullies are the same

In a study published in the Journal of Child Psychology and Psychiatry, research led by Dr. Essi Viding investigated antisocial behaviour such as bullying and getting into fights. Using genetic methods, we showed that there are different genetic types of antisocial children, those who show empathy (understanding others) and those who do not. Antisocial behaviour combined with lack of empathy shows especially strong genetic influence. The antisocial behaviour of children who showed empathy was mainly due to environmental influences. While strong genetic influence does not mean that nothing can be done to change problem behaviour, it does remind us that there are individuals who are particularly vulnerable and who need help early on.



We have a new PhD student this year - Sophia Docherty



Sophia is a molecular geneticist who studied at Imperial College. She is conducting the first DNA study of mathematical ability, and how it relates to other skills such as reading. With your help - via the web-based activities and questionnaires - we can look at how our genes might affect these separate learning activities.

Professor Robert Plomin with the Office Team, from left to right Jane (Web co-ordinator), Andy (Datamanager), Tricia (Project co-ordinator), Professor Plomin, Emma (Research worker) and Rachel (Research Worker) who has been one of the callers on the end of a telephone since she first did the 7-year telephone interviews with you.



We now have a new section on our website with answers to frequently asked questions. This covers general questions about TEDS, along with other queries about filling in our booklets and logging on to do the web activities.
Go to <http://www.teds.ac.uk/information/faqs.htm> to find out more.



This January, 6178 families will be invited to take part in our web-based activities, many of you for the first time; we are very much looking forward to hearing from you. We would also like to thank you for your continued support; we couldn't do this without you. These activities give us the opportunity to launch our new thank-you vouchers! To give you more choice in selecting your treat, we

will be sending thank-you vouchers from Love2shop. You can chose to spend these in a range of High Street shops including WH Smith, JJB Sports, HMV and River Island.



Have you changed your address or phone number?

Your name.....the children's names.....&.....

New Address

Postcode Telephone no.