Contributions wanted

If you read a paper published in a peer-reviewed journal (or at proof stage) and think it would be of relevance and interest to our wide audience, send a lively and informative review (up to 400 words) to Tom Stafford on tom@idiolect.org.uk.

Practice without repetition

Two recent papers explore the best way to learn motor skills. **TOM STAFFORD**

DIANE Ste-Marie and colleagues studied handwriting acquisition in children under two conditions – practising the letters either in blocks of each letter or in random sequences of all the letters. Acquisition of handwriting skill was slower under the random-order condition, but once acquired the skill was better retained. Also, those who had practised writing letters in a randomly given order were quicker when tested on writing out full words.

David Wright and colleagues show that groups of motor sequences are remembered better if they are practised interspersed with other groups of motor sequences, rather than in same-sequence blocks. Participants who did interspersed practice, when retested with a delay after acquisition, made fewer errors and produced the sequences faster than participants who did blocked practice. The authors conclude that those who did blocked practice didn't retain the 'chunked' form of the sequences.

Both sets of authors interpret their findings within the contextual interference effect (Magill & Hall, 1990). Wright *et al.* suggest that random practice enhances the actual representational structure of the movement sequence, rather than just improving inter-movement planning and preparation operations. Ste-Marie *et al.* emphasise the fact that random practice is likely to produce more effortful processing during acquisition, and the recruitment of cognitive resources involved produces deeper learning. The implications for handwriting practice in schools are obvious. Practice is important for learning, but it should be practice without monotonous repetition.

Ste-Marie, D.M., Clark, S.E., Findlay, L.C. & Latimer, A.E. (2004). High levels of contextual interferences enhance handwriting skill acquisition. *Journal of Motor Behaviour, 36*(1), 115–126.

Wright, D.L., Black, C.B., Immink, M.A., Brueckner, S. & Magnuson, C. (2004). Long-term motor programming improvements occur via concatenation of movement sequences during random but not during blocked trials. *Journal of Motor Behaviour, 36*(1), 39–50.

Reference

Magill, R.A. & Hall, K.G. (1990). A review of the contextual interference effect in motor skill acquisition. *Human Movement Science, 9*, 241–289.

Boys and problems with reading

What is the evidence for a male bias in reading disabilities? **FIONA LYDDY**

WHILE trends suggesting a male relative disadvantage for reading skills have appeared across many domains of reading skill, languages and age groups, some have argued that performance differences reflect testing or referral biases, rather than genuine sex differences. Even within general population reading assessments, however, such differences are evident. For example PISA, the Programme for International Student Assessment (see *www.pisa.oecd.org*), measured reading skills of 15-year-olds across 43 countries in 2000 and found that in every country assessed, females on average reached higher levels of literacy proficiency than males. The sex difference was statistically significant in all but two of the countries (these were at the lower end of performance). Adult literacy data have shown similar effects.

In spite of stark performance differences, the existence, causes and the relevance of such differences to reading disability are still debated.

A recent study by Michael Rutter (Institute of Psychiatry) and colleagues provides strong evidence for sex differences in reading disability across four epidemiological studies examining reading performance and IQ. These studies are unusual in the literature in that they use representative total population samples, with large sample sizes. The first study examined 989 participants, assessing for reading and IQ at ages 7, 9, and 11 years. A second study assessed 895 participants at ages 8 to 10. Both studies were conducted in New Zealand. A third study used the UK's Office for National Statistics data on 5752 participants aged 9–15 years. The fourth, a UK-based longitudinal twin study, assessed 2163 twins. Each sample was approximately 50 per cent male (between 49 and 52.1 per cent). In each study the measure of interest involved examination of reading performance by sex in the lowest 15 per cent of the distribution, with and without taking IQ into account. Children were classified with a disability if their reading scores were at least 1 SD below their IQ-predicted score.

Across all four studies males showed poorer reading performance, and, whether IQ-referenced or not, boys were more likely to be affected by reading disability. However, the magnitude of the sex difference varied over studies, with the UK data showing a smaller difference than the New Zealand data (consistent with PISA). This may reflect measurement differences across the studies. Overall, at least twice as many boys as girls were seen to be affected by reading disability, lending weight to the argument that reading disabilities are indeed more frequent in males.

Rutter, M., Caspi, A., Fergussen, D., Horwood, I.J., Goodman, R., Maughan, B. *et al.* (2004). Sex differences in developmental reading disability. *Journal of the American Medical Association, 291*, 16, 2007–2012.

Truth, lies and videotape

How good are police officers at spotting liars? **TOM STAFFORD** *reports.*

POLICE officers can tell if you are lying after all. Previous investigations had led psychologists to conclude that police officers aren't any better at detecting lies than the average student: in experiments the ability of both groups to tell truth from falsehood hovered around the 50/50 mark – no better than mere chance. But the old research used recordings of students or actors who had been asked to tell the truth or lie to camera. In this new research, psychologist Samantha Mann and colleagues from the University of Portsmouth have used, for the first time, video footage of real suspects in real police interviews telling real lies and real truths.

SHOUT (REPORTDIGITAL.CO.UK)

Ninety-nine Kent County police officers were shown clips of suspects being interviewed for crimes including murder, arson, theft and attempted rape. Half the clips involved the suspect lying, and half involved the suspect telling the truth. The officers were asked to rate each clip as 'truth' or 'lie'. With this new test the accuracy of police officers in detecting lies was close to 70 per cent, significantly above chance. Officers who were more experienced in interviewing suspects were better at detecting lies and spotting the truth.

Investigation of how exactly the officers detected lies shows that those officers who paid attention to stereotypical signs of lying – such as averting of gaze or fidgeting – were worse at spotting lies. It is exactly these signs that are taught as the signs of deceit in police instruction manuals. In previous research by the team at Portsmouth, officers told to pay special attention to these signals actually got worse at spotting lies.

Mann, S., Vrij, A. & Bull, R. (2004). Detecting true lies: Police officers' ability to detect suspects' lies. *Journal of Applied Psychology, 89*(1), 137–149.

Here's a sample from the Society's free Research Digest service, by the editor **CHRISTIAN JARRETT**. *To join, send a message to subscribe-rd@lists.bps.org.uk.*

MINORITY INFLUENCE

Is trial by jury as fair as it's meant to be? Not according to Richard Dawkins who wrote 'trial by jury must be one of the most conspicuously bad good ideas anyone ever had'; in his experience 'juries are massively swayed by one or two vocal individuals' (from his book *A Devil's Chaplain*. Weidenfeld & Nicolson, 2003). Yohsuke Ohtsubo (Nara University, Japan) and colleagues investigated this issue in relation to the two possible decision rules – unanimity vs. majority – that govern American civil juries responsible for awarding compensation or issuing fines.

Two hundred and eighty-two undergrads read a case description concerning a hospital accused of malpractice. The students indicated privately how much money they thought the hospital should be fined, before being arranged into 47 groups of six, such that each group contained two students who had suggested either particularly harsh, or lenient sentencing for the hospital. Each of these groups, or 'mock juries', then deliberated for 20 minutes before agreeing on how much the hospital should be fined. Half the groups decided according to the unanimity rule (every member had to agree), half according to the majority rule (at least four members had to agree).

The researchers found that group members with extreme preferences had significantly more influence when their group was operating according to the unanimity rule. By contrast, the majority rule appeared to allow such extreme preferences to be ignored by the rest of the group. 'Such systematic effects of group decision rules on group decisions have rarely been reported' the authors said.

Ohtsubo, Y., Miller, C.E., Hayashi, N. & Masuchi, A. (2004). Effects of group decision rules on decisions involving continuous alternatives: The unanimity rule and extreme decisions in mock civil juries. *Journal of Experimental Social Psychology, 40*, 320–331.

Weblinks: *www.sciencedirect.com/science/journal/00221031*
Related articles from a special issue of *The Psychologist* (free access): *tinyurl.com/2l7qt*; *tinyurl.com/ysn9o*.

Syllabus advice: Relevant to modules covering the role of the jury in decision making (see criminal psychology; OCR and Edexcel) and to social psychology modules dealing with factors that affect the influence of a minority on majority views (AQA spec A; AQA spec B; SQA exam boards).