

<b>Institution: City University London</b>
<b>Unit of Assessment: 4 Psychology, Psychiatry and Neuroscience</b>
<b>Title of case study: Improving eyewitness testimony in adults with Autism Spectrum Disorder</b>
<p><b>1. Summary of the impact</b></p> <p>Memory research in Autism Spectrum Disorder (ASD) undertaken at City University London over the past two decades shows that individuals with ASD experience great difficulty in spontaneously recalling past events without retrieval support. This work has been extended recently to show that a widely-used forensic interviewing technique (the Cognitive Interview) is not effective in improving the eyewitness accounts of adults with ASD. The key impact from this research has arisen from continuing knowledge transfer to Police forces and the Ministry of Justice with the aim of amending good practice guidelines for interviewing eyewitnesses with ASD. This is being achieved through a series of workshops and training activities, which to date have reached around 5000 police officers who are working on the ground.</p>
<p><b>2. Underpinning research</b></p> <p>Autism Spectrum Disorder (ASD) is known to affect about 1% of the population across all ages and abilities. A long strand of experimental research from 1997 to date at the City University London Autism Research Group has shown a particular pattern of memory strengths and difficulties in adults with ASD. In particular, while people with ASD are often able to recall isolated <i>items</i> of information, they tend to experience great difficulty in spontaneously recalling the <i>how, when, where and from whom</i> they learned these details. They also show difficulties in recalling past <i>events</i> (e.g., Bowler <i>et al.</i> 2000; Maras &amp; Bowler 2010). By contrast, when given certain retrieval cues, individuals with ASD often remember as much as, if not more than, typically developing comparison individuals (Bowler <i>et al.</i> 2004). The work has led to several theoretical and applied developments in relation to memory and autism. The most important applied development arising from the work was the formalisation by Bowler <i>et al.</i> (1997; 2004) of the <i>Task Support Hypothesis</i> (TSH), which states that the memory difficulties in ASD can be compensated by providing specific retrieval support in the form of physical clues to past events (Bowler <i>et al.</i> 2004; Gaigg <i>et al.</i> 2008). In the experimental context, people with ASD perform better on tasks such as recognition where, for example, after studying a list of words they are presented with a sequence of studied and non-studied words and asked whether they had encountered each one in the study phase. By contrast, they show poorer performance when required simply to recollect the studied words without support at test. Experimental work has also shown that support in the form of simple verbal instructions does not work in facilitating recall (Smith, Gardiner &amp; Bowler, 2007). The work leading to all these developments was carried out at City by Dermot Bowler (1990 to present; Professor), John Gardiner (1971 to 2001; Professor), Sarah Grice (1996 to 1999; Graduate Research Assistant), Brenda Smith (PhD student, University of Sussex, 2001 to 2006) and Dr Sebastian Gaigg (2001 to present; Graduate Research Assistant/Postdoctoral Fellow/Lecturer).</p> <p>Autism Research Group translational research by Katie Maras (PhD student, 2008 to 2011, now at Royal Holloway, University of London) examined the use of the <i>Cognitive Interview</i> (CI) (a widely-used technique to enhance eyewitness memory) with adults with ASD. One of the key components of the CI procedure involves asking participants to take time to imagine all of the contextual details that surrounded the criminal event before recalling what happened, in an attempt to cue them to retrieve greater event detail. The TSH, based on the empirical work described above, led to the prediction that non-physical cues such as those inherent in the CI might not be effective in ASD. This prediction was supported by our recent work which shows that simple verbal instructions to remember context are ineffective in facilitating eyewitness recall by people with ASD. This finding is of practical importance: although the CI has been shown to be effective with many clinical populations including those with intellectual disability, it is harmful for individuals with ASD. In fact, the mental context reinstatement procedure used in the CI reduces accuracy of recall in this group relative to a control group.</p>

### 3. References to the research

Bowler D.M., Matthews N.J. & Gardiner J.M. (1997) Asperger's syndrome and memory: Similarity to autism but not amnesia. *Neuropsychologia*, 35, 65-70 [10.1016/S0028-3932\(96\)00054-1](https://doi.org/10.1016/S0028-3932(96)00054-1)

Bowler D.M., Gardiner J.M. & Grice S. (2000). Episodic memory and remembering in high-functioning adults with autism. *Journal of Autism and Developmental Disorders*, 30, 295-304 [10.1023/A:1005575216176](https://doi.org/10.1023/A:1005575216176)

Bowler D.M., Gardiner J.M. & Berthollier N. (2004). Source Memory in Adolescents and Adults with Asperger's Syndrome. *Journal of Autism and Developmental Disorders*, 34, 533-542 [10.1007/s10803-004-2548-7](https://doi.org/10.1007/s10803-004-2548-7)

Boucher J. & Bowler D.M. (eds.) (2008) *Memory in Autism: Theory and Evidence*. Cambridge: Cambridge University Press <http://www.cambridge.org/ar/academic/subjects/psychology/health-and-clinical-psychology/memory-autism-theory-and-evidence>

Gaigg S.B., Bowler D.M. & Gardiner J.M. (2008) Free recall in autism spectrum disorder: the role of relational and item-specific encoding. *Neuropsychologia*, 46, 986-992 [10.1016/j.neuropsychologia.2007.11.011](https://doi.org/10.1016/j.neuropsychologia.2007.11.011)

Maras K. & Bowler D.M. (2010). The Cognitive Interview for Eyewitnesses with Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders*, 40, 1350-1360 [10.1007/s10803-010-0997-8](https://doi.org/10.1007/s10803-010-0997-8)

Maras K.L. & Bowler D.M. (2013, forthcoming). Eyewitness testimony in autism spectrum disorder: A review. *Journal of Autism and Developmental Disorders* [10.1007/s10803-012-1502-3](https://doi.org/10.1007/s10803-012-1502-3)

Smith B.J., Gardiner J.M. & Bowler D.M. (2007). Deficits in free recall persist in Asperger's syndrome despite training in the use of list-appropriate learning strategies. *Journal of Autism and Developmental Disorders*, 37, 445-454 [10.1007/s10803-006-0180-4](https://doi.org/10.1007/s10803-006-0180-4)

The articles listed have been published in journals considered to be in the top 10% in the Psychology field and underwent rigorous peer review.

The work has been funded by grants including:

Wellcome Trust: To Dermot Bowler and John Gardiner

Consciousness, recollection and executive control in high functioning individuals with autistic spectrum disorder. £30,359 awarded in July 1996, supplemented by £26,390 in January 1998. Research ended July 1999.

Wellcome Trust: To Dermot Bowler and John Gardiner

Episodic memory and remembering in Asperger's syndrome. £117,000 awarded in December 2000. Research project ran from October 2000 to July 2004.

Medical Research Council: To Dermot Bowler and John Gardiner

Integration of complex spatial and temporal elements of episodic memory in adults with Asperger's syndrome. £177,000 awarded in February 2005. Research ran from October 2005 to September 2008.

### 4. Details of the impact

Our early experimental laboratory work on memory in ASD (e.g., Bowler *et al.* 1997, 2004) directly informed and led to the development of our work on how the memory difficulties experienced by people with the disorder transpire in more applied eyewitness scenarios and how effective current police interviewing techniques are for them. The most important finding from this work is that one of the most widely-accepted and currently used police interviewing techniques is inappropriate for

witnesses with ASD: not only is it ineffective in increasing the amount of correct details that they recall, it also reduces the overall accuracy of their reports. These findings were disseminated via academic outlets (e.g., publications, conferences etc.) and to non-academic audiences including police and intermediary conferences.

As a result of these dissemination activities the findings are now incorporated in police training courses run by Susan Mulcahy, a police trainer based at the University of Liverpool. She estimates that, to date, the training has been provided to some 20 lawyers and around 5,000 police officers across six police forces, as well as more than 3,000 delegates (national and international) representing the Criminal Justice System, autism charities and related academic fields. Separate research by Susan Mulcahy (in preparation) indicates that police transfer the information learnt during these training sessions to their workplace and that this improves their subsequent job performance.

The work has been disseminated through the following mechanisms:

**Workshop:** Training intermediaries on memory and interviewing vulnerable witnesses organised with The City Law School at City University London in March 2010. This workshop was attended by over 120 people. The role of intermediaries was created as part of a range of special measures in The Youth Justice and Criminal Evidence Act for cases involving vulnerable and intimidated witnesses giving evidence in court. The Witness Intermediary Scheme (WIS) was established by the Ministry of Justice's Better Trials Unit to implement the intermediary special measure. Since September 2008 the WIS, with Registered Intermediaries operating within it, has been available in all 43 police forces and Crown Prosecution Service areas in England and Wales.

**Registered Intermediary Conference** (Ryton-on-Dunsmore, Coventry, UK). Oral presentation in October 2010, "Memory and vulnerable witnesses", attended by 120 people at the annual national conference for registered intermediaries.

**Workshop at Serious Organised Crime Agency (SOCA)** special measures professional training and development seminar, "*Too Much, Too Young: Increasing access to justice for children and young adult witnesses*" 1<sup>st</sup> and 2<sup>nd</sup> November 2012. This was attended by intermediaries working with people with autism in the criminal justice system, police officers and police trainers. The training involved disseminating findings from the research and how they might be interpreted on the ground.

**One day conference** on Autism and the Criminal Justice System organised and held at City University London June 2012, to disseminate the research findings to end-users. This event had eight guest speakers including the Director of Research of the National Autistic Society, the Co-Director of Triangle, which works in partnership with children and young people, clinical psychologists, barristers, intermediaries and academics. It was attended by almost 150 individuals from a range of backgrounds including interview advisors and senior police officers from forces around the UK. Surveys of end-users including policy-makers, police officers and criminal justice system officials will reveal the long-term impact of the research.

The conference led to funding being sought from and subsequently awarded by the British Psychological Society to establish an '**Autism and the Criminal Justice System network**'. This network organised a further conference held on 16<sup>th</sup> May 2013 which addressed the same audience, with the aim of developing research-based guidelines for professionals who come into contact with individuals with autism in the criminal justice system. A third conference took place at Greater Manchester Police Headquarters in September 2013. Two policy-maker workshops are also being held, where senior officials from the police, the Home Office and the major autism charities will be invited to discuss the development of further evidence-based guidance including future revisions of the "Achieving Best Evidence" guidance (currently Home Office, 2011).

A **Toolkit for Advocates** has also been developed (*Planning to question someone with an autism disorder including Asperger syndrome*) and made available via the Advocate's Gateway. This is a

website which gives free access to practical, evidence-based guidance on vulnerable witnesses and defendants. It is hosted by the Advocacy Training Council (ATC) (established by the Council of the Inns of Court) and managed by the ATC's Vulnerable Witness Management Committee. The Gateway was developed in 2012 with initial support provided by the Nuffield Foundation and City University London. It offers 12 toolkits, developed in response to a recommendation of the ATC report "*Raising the Bar: the handling of vulnerable witnesses, victims and defendants in court*" (2011). These provide advocates with general good practice guidance when preparing for trial in cases involving a witness or defendant with communication needs. Our involvement in the consultation that led to the development of the toolkit was a direct result of our findings on questioning witnesses on the autism spectrum. Our review paper (Maras & Bowler, 2013, forthcoming in the *Journal of Autism and Development Disorders*) provides an overview of our research and serves as a major bibliographic source for advocates.

The beneficial impact of this work is on those working within the criminal justice system. Through the dissemination activities and the network described above, this work has a wide reach including police, intermediaries, advocates, trainers and policy-makers. Their enhanced understanding of the difficulties faced by people with autism when they are interviewed within the criminal justice system, whether as a victim, witness or suspect, makes significant improvements to the accuracy of the information gained.

#### **5. Sources to corroborate the impact**

- One-day conference at City (June 2012) [www.city.ac.uk/events/2012/june/autism-and-the-criminal-justice-system-from-eyewitness-testimony,-victimisation-to-offending](http://www.city.ac.uk/events/2012/june/autism-and-the-criminal-justice-system-from-eyewitness-testimony,-victimisation-to-offending).
- Advocates' Gateway Toolkit for advocates questioning someone with an ASD: [www.theadvocatesgateway.org/images/toolkits/3AUTISM211013.pdf](http://www.theadvocatesgateway.org/images/toolkits/3AUTISM211013.pdf).
- Information available from the BPS-funded policy-makers meeting, "Autism and the Criminal Justice System network" (16<sup>th</sup> May 2013).
- BPS-sponsored website for evidence-based knowledge for Criminal Justice System professionals, "Autism and the Criminal Justice System Network": [www.autismandcjs.org.uk](http://www.autismandcjs.org.uk).
- Information available from SOCA training event for police and intermediaries (November 2012).
- Reference to our work in training programmes developed for police involved in formal interviewing and lawyer programmes – PowerPoint slides available on request.