

Impaired reporting of social awkwardness in autism spectrum condition in the presence of
implicit eye movement recognition effects

Nicola Jean Gregory¹, Sarah Wellaway¹, Jastine Antolin¹, Pollyanna Sapsford¹, Helen
Bolderston¹ and Simon Baron-Cohen²

¹ Department of Psychology, Faculty of Science and Technology,
Bournemouth University, UK

² Autism Research Centre, Department of Psychiatry, University of Cambridge, Cambridge,
UK

Social cognition deficits are a core feature of autism spectrum condition (ASC) and research has shown atypical social attention in ASC, such as reduced fixations towards faces. However, a direct relationship between social attention and social cognition in ASC has yet to be established. To address this, we developed a new audio-visual test of social awkwardness detection from previous studies (Stone & Baron-Cohen, 1999; Heavy et al., 2000) to assess links between understanding social awkwardness and eye movements in adults with and without ASC. Sixteen scenes were filmed depicting female Caucasian actors engaged in everyday situations. In half the scenes one actor said or did something socially awkward. Eye movements and detection accuracy of the awkward event were compared between a group of Caucasian adults with high functioning ASC and a matched group of typically developed (TD) controls. ASC participants were less accurate at detecting awkward events than the TD group, but accuracy was not correlated to dwell time to any area (heads, bodies, background). There were no differences in dwell time to the different interest areas between TD and ASC groups. Surprisingly, both groups showed a reduction in dwell time to heads during awkward scenes compared to control scenes. These findings demonstrate that individuals with ASC have difficulty explicitly identifying social awkwardness. In contrast, avoidance of faces in both TD and ASC groups during awkward situations suggests a possible implicit, behavioural marker of social awkwardness recognition in the ASC group, operating below the level of conscious awareness.