Preterm infants have social cognition deficits which improve in childhood

By Dr. Jessica Edwards

Researchers at the University of Edinburgh have investigated social attentional preference and its relationship with neurodevelopment in preterm infants. Bethan Dean and colleagues recruited 81 preterm and 66 term infants to their study and performed eye tracking at age 7-9 months, reassessing a subset at age 5 years. While their eye movements were tracked, the infants were presented with three free-viewing social tasks which involved viewing images of increasing complexity. Dean *et al*. recorded the time spent by the infants looking at the socially informative areas (e.g. faces) in the images and then calculated social attentional preference scores. Cognitive performance was also measured at age 5 years, using the Mullen Scales of Early Learning.

The researchers found that preterm infants had lower social attentional preference scores at 7-9 months old compared to term-born infants. However, this score increased to reach an equivalent level with term-born infants at 5 years old. By contrast, the score for term-born infants remained stable across the two time points. Socioeconomic deprivation was also associated with lower social preference scores at 7-9 months old, and contributed additively to the effects of low gestational age.

Although the preterm infants in this cohort caught up with term-born infants in terms of social attentional preference, they had poorer cognitive performance at 5 years old, which was driven by language deficits. However, cognitive performance at age 5 years was not associated with social attentional preference in infancy or at age 5 years.

Dean *et al*. recommend that further studies are now needed to investigate whether atypical infant social cognition affects cognitive development giving rise to later cognitive impairments in preterm children. They also highlight the importance of considering socioeconomic disadvantage in studies of cognitive development in preterm children.

Referring to:

Dean, B., Ginnell, L., Ledsham, V., Tsanas, A., Telford, E., Sparrow, S., Fletcher-Watson, S. & Boardman, J.P. (2020), Eye-tracking for longitudinal assessment of social cognition in children born preterm. J. Child Psychol. Psychiatr. doi: 10.1111/jcpp.13304.

Glossary:

Eye tracking: A device measures eye position to determine a person's point of gaze, i.e. where they are looking. Gaze directed at visual stimuli can serve as an indicator of attention to and preference for those stimuli.

Social attentional preference: A preferential direction of vision to social content that is apparent in infants from shortly after birth. Social attentional preference is used as a measure of social cognition.