INFANTS' EMOTION RECOGNITION IN BIOLOGICAL MOTIONS

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Detection and recognition of multi-modal emotion is important for social development and attention allocation in infants. Studies have shown infants are capable to match visual-audio emotion in faces and video-taped whole body movements. However, it is unknown if this ability also applies to biological motion, which requires higher level holistic processing to detect the configuration. Although ERP responses in 8-month-old infants differed when fearful and happy point-walkers were presented, no study was available to confirm infants' behavioural discriminability in biological walkers. Current study fills in this research gap by assessing 8- to 10-month infants' capacity to pair consistent audio emotions to biological point-walkers.

Audio stimuli included female-recorded (1) laughter and (2) cry, (3) happy and (4) sad speeches cut from an audiobook. Laughter and cry lasted for 4s, and speeches were of 7s each. In each trial, one type of audio stimulus was paired with one happy point-light walker displayed side-by-side with another sad point-light walker (adopted from the Biomotion Lab). Each infant watched each condition twice (total 8 trials) while Tobii eye tracker recorded their gazes. Any looking preference toward congruent pairs was an indicator of bimodal emotion recognition.

Interestingly, infants looked significantly longer toward happy biological point-walkers regardless of the audio emotion, demonstrating their capacity to discriminate emotions contained in biological motion. It also implies that the audio-visual emotion carried in our stimuli may be too complicated for the developing brains, or that our chosen audio stimuli did not match with the action of walking. This is the first behavioural evidence that infants can detect emotion from biological motion, and future studies are called to identify the mechanisms to account for infants' preference toward happy walkers.