



ELSEVIER

Contents lists available at ScienceDirect

# Journal of Experimental Child Psychology

journal homepage: [www.elsevier.com/locate/jecp](http://www.elsevier.com/locate/jecp)



## The relative importance of heads, bodies, and movement to person recognition across development



Rachel A. Robbins<sup>a,b,c,\*</sup>, Max Coltheart<sup>c</sup>

<sup>a</sup> School of Social Sciences and Psychology, University of Western Sydney, Penrith, NSW 2751, Australia

<sup>b</sup> MARCS Institute, University of Western Sydney, Penrith, NSW 2751, Australia

<sup>c</sup> Macquarie Centre for Cognitive Science, Macquarie University, Sydney, NSW 2109, Australia

### ARTICLE INFO

#### Article history:

Received 13 February 2013

Revised 13 April 2015

Available online 20 May 2015

#### Keywords:

Face perception

Body perception

Biological motion

Visual development

Familiar person recognition

Unfamiliar person recognition

### ABSTRACT

Children have been shown to be worse at face recognition than adults even into their early teens. However, there is debate about whether this is due to face-specific mechanisms or general perceptual and memory development. Here, we considered a slightly different option—that children use different cues to recognition. To test this, we showed 8-year-olds, 10-year-olds, and adults whole body, head only, and body only stimuli that were either moving or static. These were shown in two tasks, a match-to-sample task with unfamiliar people and a learning task, to test recognition of experimentally familiar people. On the match-to-sample task, children were worse overall, but the pattern of results was the same for each age group. Matching was best with all cues or head available, and there was no effect of movement. However, matching was generally slower with moving stimuli, and 8-year-olds, but not 10-year-olds, were slower than adults. In general, more cues were faster than heads or bodies alone, but 8-year-olds were surprisingly slow when still bodies were shown alone. On the learning task, again all age groups showed similar patterns, with better performance for all cues. Both 8- and 10-year-olds were more likely to say that they knew someone unfamiliar. Again, movement did not

\* Corresponding author at: School of Social Science and Psychology, University of Western Sydney, Locked Bag 1797, Penrith, NSW, 2751, Australia.

E-mail address: [dr.r.robbins@gmail.com](mailto:dr.r.robbins@gmail.com) (R.A. Robbins).

provide a clear advantage. Overall, this study suggests that any differences in face recognition between adults and children are not due to differences in cue use and that instead these results are consistent with general improvements in memory.

© 2015 Elsevier Inc. All rights reserved.

---

## Introduction

An ability to recognize other people is fundamental to our everyday lives because it allows us to tell our friends and family from strangers and to interact appropriately with workmates or schoolmates. When we interact with people in typical social environments, there are a variety of cues that we can use to recognize them, including face, hair, body shape, the way they move, and the way they speak. Some of these cues are more stable across time and so make better cues to recognition; for example, face and body shape may change less than hairstyle. The most studied visual cue to person recognition is the face. Children's face recognition has been found to be worse than that of adults (e.g., [De Heering, Rossion, & Maurer, 2012](#); [Mondloch, Le Grand, & Maurer, 2002](#)); however, there is an ongoing debate as to whether this is because of something specific to face recognition or whether it instead relates to more general development of memory and perception (e.g., [Crookes & McKone, 2009](#)). Here, we tested another alternative—that children may preferentially focus on different identity cues from those commonly used by adults. Specifically, we tested whether children aged 8 and 10 years are more likely to use body shape or movement cues compared with face cues. This information could also prove to be important to applied areas such as eyewitness identification because children might need to be shown different stimuli or asked questions with a different focus. To our knowledge, relative cue use in children versus adults has never been studied, so below we review the literature relevant to development of face recognition, body recognition, and motion recognition separately as well as a small amount of evidence on the relative use of body and face cues in adults.

Extensive work has tracked the development of face recognition. Despite evidence that infants can tell apart similar strangers from as early as 12 h after birth ([Turati, Bulf, & Simion, 2008](#)), children continue to perform worse than adults on some face recognition tasks even into their early teens (e.g., [De Heering et al., 2012](#)). Children are worse at telling apart faces that differ only in features (e.g., eyes) and are also worse at telling apart faces that differ only in spacing between features ([Mondloch et al., 2002](#)). However, at least by 8 years of age, this immaturity in spacing differentiation seems to be due to general perceptual processes rather than face-specific ones ([Mondloch, Maurer, & Ahola, 2006](#); [Robbins, Shergill, Maurer, & Lewis, 2011](#)). It has also been suggested that some of children's problems with face recognition tasks are due to the continuing development of explicit memory (see [Crookes & McKone, 2009](#), and associated review). Another contribution to worse performance could be that children focus on different cues to recognition compared with those used by adults. For example, it has been shown that children are more likely to be distracted by irrelevant information such as hats (e.g., [Diamond & Carey, 1977](#); [Freire & Lee, 2001](#)). The above results showing worse face recognition in children than adults come from experimental tests of faces presented in isolation, but in real life people have bodies and those bodies move. Both body shape and movement may aid recognition, and the use of these cues could explain why children manage to recognize people quite well in real-life settings despite some confusion.

A small amount of work has examined children's understanding of body shape and movement. Earlier research suggested that at 9 months of age, infants prefer normally proportioned bodies to stretched versions, but only in the upright orientation ([Zieber et al., 2010](#)) and can detect the difference between plausibly and implausibly posed body pictures if the bodies are three-dimensional ([Heron & Slaughter, 2009](#)) or moving ([Christie & Slaughter, 2010](#); see [Slaughter, Heron-Delaney, & Christie, 2012](#), for a review). However, [Zieber, Kangas, Hock, and Bhatt \(2015\)](#) recently showed that 3.5-month-old infants prefer normal bodies to distorted bodies (arms moved) and can discriminate

Download English Version:

<https://daneshyari.com/en/article/917935>

Download Persian Version:

<https://daneshyari.com/article/917935>

[Daneshyari.com](https://daneshyari.com)