Eye-tracking investigation of facial processing in discriminating gender: Developmental differences between young children and adults

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Gender discrimination of faces by young children is considered to be less accurate, compared with that of adults, because of attention to the inappropriate cue of hairstyle. For example, 5-year-old children often classify a male with long hair as a female (Sugimura, 2006a). However, differences between young children and adults regarding information used in gender discrimination are unclear. In this study, by measuring eye movements, we investigated differences in information processing of young children and adults when categorizing the gender of natural faces with a variety of hairstyles.

Studies on gender discrimination of faces, which examined facial processing in adults, have focused on which specific features (e.g., eyes, nose, mouth) contribute to discriminating gender (e.g., Brown & Perrett, 1993; Bruce et al., 1993; Burton, Bruce, & Dench, 1993; Roberts & Bruce, 1988; Yamaguchi, Hirukawa, & Kanazawa, 1995). For example, Brown and Perrett (1993) investigated the contribution of different facial parts by means of a discrimination task using composite faces with a facial part replaced by that of the opposite gender (e.g., a male nose replacing the nose on a female face). Results showed that the eyebrows, eyes, and jaw played the most important roles in deciding gender. Yamaguchi et al. (1995), using a task similar to that used in Brown and Perrett (1993), showed