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## Brief Report

# Adults with siblings like children's faces more than those without



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## ABSTRACT

Humans cross-culturally find infant faces both cute and highly likeable. Their so-called “baby schema” features have clear adaptive value by likely serving as an innate releasing mechanism that elicits caretaking behaviors from adults. However, we do not know whether experience with young children during social development might act to further facilitate this. Here we investigated the potential impact of having siblings on adult likeability judgments of children's faces. In this study, 73 adult men and women (40 with siblings and 33 without) were shown 148 different face pictures of young children (1 month to 6.5 years) and judged them for likeability. Results showed that both groups found faces of infants (<7 months) as equally likeable. However, for faces more than 7 months of age, whereas the no-sibling group showed a reduced liking for faces with increasing age, the sibling group found faces of all ages as equally likeable. Furthermore, for adults with siblings, the closer in age they were to their siblings, the stronger their likeability was for young children's faces. Our results are the first to show that having siblings can extend the influence of baby schema to children as well as infants.

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## Introduction

Among all of the social stimuli we encounter in our environment, some have special privileged status in that they particularly engage the attention of other conspecifics due to their adaptive significance (Taylor, 1991; Öhman & Mineka, 2001). The faces of young children are an example of this. Lorenz (1943) first proposed the concept of Kindchenschema (or baby schema), a set of specific visual features common to babies that adults find attractive and elicit strong protective responses. These features include a large head, a round face, big eyes, a small nose and mouth, and a high prominent forehead, which act as an innate releasing mechanism to evoke positive emotional reactions and caretaking behaviors (Glocker et al., 2009; Lobmaier, Sprengelmeyer, Wiffen, & Perrett, 2010; Lorenz, 1943; Luo, Li, & Lee, 2011), thereby aiding a young child's survival (Parsons, Young, Murray, Stein, & Kringlebach, 2010).

Many studies have established the positive effects of facial baby schema, with infants displaying these features rated to be cuter, healthier, friendlier, and more attractive and adoptable (Chin, Wade, & French, 2006; Karraker & Stern, 1990; Ritter, Casey, & Langlois, 1991). Few studies have worked on child faces with these effects. Recent evidence suggests that this baby schema effect can extend beyond infant faces to those of children up to 4.5 years of age (Luo et al., 2011). After 4.5 years, however, we treat faces of children similarly to those of adults, suggesting that by the middle preschool years baby schema features eliciting innate responses may have become less prominent due to facio-cranial growth (Luo et al., 2011). In the current study, we also focused on the effects of baby schema as well as its extending to child faces.

Moreover, to date no research has investigated whether early social experience plays any role in the extent to which we find young children's faces likeable and, therefore, display protective and caretaking responses toward them. Our face processing ability is generally known to be highly susceptible to the influence of early experience (Lee, Quinn, Pascalis, & Slater, 2013; Pascalis, de Haan, & Nelson, 2002). In addition, a study examining experiential effects on perceptions of resemblance showed that actively caring for one's infant (via infant massage) increases paternal perceptions of parent–infant resemblance when compared with a control group (Volk, Darrell-Cheng, & Marini, 2010). More relevant to the current article, several studies have found that the experience of being raised together with a sibling would influence face recognition expertise (Macchi Cassia, 2011; Macchi Cassia, Kuefner, Picozzi, & Vescovo, 2009). For example, new mothers who had siblings showed expert recognition for infant faces, whereas those without siblings did not. These findings suggest that experience gained with sibling faces as children resulted in long-lasting effects that could be revived during adulthood (Macchi Cassia et al., 2009). In addition, evidence suggests that being raised together with a sibling during childhood has other advantages in terms of improved social cognition (McAlister & Peterson, 2013) and maturity (Hasnain & Adlakha, 2012). On the other hand, parents' judgments of their own children are influenced by birth order. For example, parents significantly underestimated their youngest children's heights, whereas their estimates of their elder siblings were generally accurate (Kaufman et al., 2014). The number of siblings also has an influence on measures such as IQ, educational attainment, status of current job, and current earnings (Heer, 1985). Recent studies have further revealed a number of sibling effects such as the influence of birth order on gender identity (VanderLaan, Blanchard, Wood, & Zucker, 2014), the influence of sibling age and age difference on social understanding (Taumoepeau & Reese, 2014), and the influence of sibling influence on status attainment (Zhang, 2014).

Given the importance of sibling experience outlined above, our hypothesis here was that experience with a sibling may influence how the baby schema was manifested and, therefore, that adults raised together with a sibling not only would show the typical baby schema effect but also would extend the effect to child faces. More specifically, we hypothesized that those with siblings may like baby faces the same as those without, but for young children's faces they may show higher likeability regardless of the normal gradual decrease with face age.

To test this hypothesis we gave adults with and without siblings a large number of face pictures of different-aged infants and young children and asked them to judge their likeability. To test this hypothesis further, we examined the effects of the age difference between the adults and their

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