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Are Children's Faces Really More Appealing Than Those of Adults? Testing the Baby Schema Hypothesis Beyond Infancy

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Abstract

The present study examined adults' evaluations of likeability and attractiveness of children's faces from infancy to early childhood. We tested whether Lorenz's baby schema hypothesis (1943) is applicable not only to infant faces but also to faces of children at older ages. Adult participants were asked to evaluate children's faces from early infancy through to 6 years of age in terms of their likeability and attractiveness, and these judgments were compared to those of adult faces. It was revealed that adults judged faces of younger children as more likeable and attractive than faces of older children, which were in turn judged as more likeable and attractive than adult faces. However, after about four and a half years of age, the baby schema no longer affected adults' judgments of children's facial likeability and attractiveness. These findings suggest that the baby schema not only affect adults' judgments of infant faces but also young children's faces. This influence beyond infancy is likely due to the fact that facial cranial growth is gradual during early childhood and certain crucial infantile facial cues remain readily available during this period. Future studies need to identify these specific cues to better understand why adults generally show positive responses to infantile faces and how such positive responses influence the establishment and maintenance of social relationships between young children and adults.

Keywords

baby schema; Kindchenschema; cuteness; face processing; face likeability; face attractiveness; face age; infant face; child face; adult face

The face is particularly important for humans' adaptation to their unique environment because it carries a wealth of information that is crucial for successful social interactions (Lee, Anzures, Quinn, Pascalis, & Slater, in press). Such information includes not only face state information such as emotion and gaze, but also trait-like information such as race, age, gender, and esthetics. It is well established that humans use facial information such as age and attractiveness to make differential social responses. For example, Japanese adults tend to judge the facial ages of individuals faster than non-Japanese adults because those who are Japanese need the information to conduct themselves appropriately in front of individuals

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who are either older or younger than themselves (e.g., showing respect to someone older than oneself: Anzures, Ge, Wang, Itakura, & Lee, 2010). In addition, adults tend to prefer attractive faces and be more inclined to help strangers with more attractive faces than those who are less attractive (for reviews, see Langlois et al., 2000; Rhodes, 2006).

In order to survive, children, unlike many other mammals who are born precocious, have to rely on adults to care for them for an extended period of time. One adaptive mechanism is that they must evoke positive reactions from adults who may or may not be their direct kin. Also, like adults, children have a variety of levels of attractiveness. Thus, additional facial cues may be needed to evoke positive reactions from adults. Lorenz (1943) proposed the idea of Kindchenschema, or the baby schema, that characterizes an infant's face: a protruding forehead, a large head, a round face, big eyes, and a small nose or mouth. These features, when integrated, make a child's face appear cute, attractive, and lovable. Lorenz (1943) further suggested that these cues are part of an innate releasing mechanism that automatically evokes both humans and other animals to show liking and caring for the young, which in turn ensures the increased likelihood of their survival.

There exists some empirical evidence to support Lorenz's hypothesis with line drawings of faces (e.g., Sternglanz, Gray, & Murakami, 1977) and more naturalistic photographs of faces (Bressan, Bertamini, Nalli, & Zanutto, 2009; Chin, Wade, & French, 2006; Glocker et al., 2009; Sprengelmeyer et al., 2009). For example, it has been found that infants with rounder faces and bigger eyes were likely to be judged by adults as more attractive and more likely to be adopted (Chin et al., 2006; Hildebrandt & Fitzgerald, 1978). Recently, Glocker et al. (2009) systematically altered infant faces in terms of their width, and the ratios between the forehead length to the face width, the nose length to the head length, the nose width to the face length, and the mouth width to the face width. They obtained three types of infant faces: high baby schema faces, low baby schema faces, and the original faces. They found that the high baby schema faces appeared to be cuter than the original faces, which in turn were cuter than the low baby schema faces. Further, participants expressed more willingness to care for infants with high baby schema faces. In addition, Bressan, Bertamini, Nalli, and Zanutto (2009) morphed adult and infant faces together and found that the more adult information the resultant faces contained, the lower the attractiveness and adoptability ratings. At the same time, Sprengelmeyer et al. (2009) found that sensitivity to cuteness of morphed infant faces is moderated by the status of female reproductive hormones. They further found that it was easier for females to choose the cuter infant faces than for males (Lobmaier, Sprengelmeyer, Wiffen, & Perrett, 2010). Furthermore, adults' tendency to prefer infantile faces extends to infant faces from other races which they are not familiar with (Volk, 2009). These findings taken together strongly support Lorenz's hypothesis regarding infant faces.

As for attractiveness, which generally refers to the appealing characteristics of a face's features and the spatial relationships among them (Chin et al., 2006), it has been shown to play a very important role in our everyday evaluations of and interactions with others (Rhodes, 2006). For infant faces, attractiveness refers to a special variation of general facial attractiveness such as a protruding forehead, a large head, a round face, big eyes, and a small nose or mouth, as described by Lorenz (1943). Research has shown that infant attractiveness has real world consequences for how adults interact with infants. For example, more attractive infants were likely to be judged by adults as healthier, more competitive, more pleasant, and more adoptable than less attractive infants (Karraker & Stern, 1990; Maier, Holmes, Slaymaker, & Reich, 1984; Ritter, Casey, & Langlois, 1991; Stephan & Langlois, 1984; Volk, & Quinsey, 2002). Similarly, adults looked longer at more attractive infants than less attractive infants (Hildebrandt & Fitzgerald, 1978; Powe, Hildebrandt, & Fitzgerald, 1982). In addition, adults not only tend to like attractive faces more but are also

more inclined to help strangers who have more attractive faces than those who have less attractive faces (for reviews, see Langlois, et al., 2000; Rhodes, 2006). An infant's likeability can also affect maternal behaviors and attitudes. For example, Langlois, Ritter, Casey, and Sawin (1995) observed maternal behaviors and attitudes when an infant was just born and subsequently three months later. They found that the more attractive the infant, the more sensitive, positive, humorous, and affectionate the mothers' behaviors were.

It should be noted that when Lorenz (1943) proposed his Kindchenschema hypothesis, he did not specifically limit it to the infancy period. Limited evidence exists to ascertain whether the baby schema continues to play a significant role in adults' likeability and attractiveness judgments of children's faces in general. One possibility is that the baby schema may only be effective during infancy because the innate releasing mechanisms may only evoke positive responses when the child is the most dependent and vulnerable. If this is the case, then one should expect a rapid drop off in adults' ratings of likeability and attractiveness of toddlers and preschoolers, which may explain why similar work has not been extended beyond infancy. The second possibility is that Lorenz's hypothesis (1943) may be applicable to older children's faces as well. Studies of cranial-facial growth have shown that infant facial structures undergo gradual rather than dramatic transformations in childhood (Enlow, 1982). It is thus possible that at least in early childhood, children's faces still conform to the baby schema and thus should also be perceived as more likeable and attractive than older faces, albeit to a less extent than infant faces.

The findings from two existing studies suggest that the second possibility may be true. Geldart, Maurer, and Henderson (1999) used adult faces to test whether the spatial height of facial features can influence people's judgments of attractiveness. They found that adults rated features at medium and low heights as more attractive than those at high heights because such feature locations tend to appear more infantile. Indeed, infants preferred to look at the adult faces with lower placements of facial features to those with higher placements. In contrast to this indirect finding, Volk, Lukjanczuk, and Quinsey (2007) used 12 children's photos at eight different age points from six months to six years. They found that adults preferred to adopt younger infants and rated them as cuter, which suggested that judgments on adoption preference and cuteness would change with respect to the age of the child. This finding provided the first direct evidence to suggest that Lorenz's hypothesis (1943) might be indeed applicable to children's faces beyond infancy. However, it should be noted that Volk et al. (2007) only used 12 children's photos. It is thus unclear whether the extension of the Kindchenschema hypothesis to faces beyond infancy is a robust phenomenon, or whether it is due to the specificity of the selected faces used in their study.

To replicate and extend the findings by Volk et al. (2007), we conducted the present study. Instead of using the same children's faces over a wide age range, we used a large sample of different children's faces at different ages (N=148 in total). We presented Chinese adults with faces of Chinese children ranging from 0.08 to 6.42 years of age, in addition to faces of young adults (N=40). Chinese participants were asked to rate each face's likeability (i.e., how much do you like the face?) and attractiveness (i.e., how attractive is the face?). We used the "likeability" and "attractiveness" measures because they had been used in previous studies to test Lorenz's hypothesis. Furthermore, we did not use the "cuteness" measure that was also used in previous studies because the term "cute" in China had different connotations for individuals from different age groups. In contrast, the words "like" and "attractive" can be applied to all age groups. We tested the following two hypotheses: (a) the likeability and attractiveness of the differently aged faces would decrease dramatically with increased age, or (b) the two measures would decrease gradually with increased age as suggested by Volk et al. (2007). As a control, we also asked participants to estimate the ages of all the faces to ensure that participants had a reasonably accurate perception of the ages of

the face stimuli. Otherwise, any lack of age difference in participants' likeability and attractiveness judgments of children's faces could be attributed to their lack of perceptual differentiation between differently aged faces.

Finally, the typicality of faces has been found to be strongly associated with facial attractiveness (Peskin & Newell, 2004). In the face processing literature, typicality refers to the degree to which adult observers judge a face to be similar to the perceptual mean of a population of faces that they encounter in their daily interactions. Because most adults (college students in particular) usually interact with other adults on a daily basis, this perceptual mean mainly represents typical adult faces. Existing research has also shown that a face closer to the face perceptual mean tends to be rated as more attractive. Thus, the more typical a face is rated as, the more attractive the face is perceived to be. However, many other facial characteristics contribute to the judgment of facial attractiveness but do not contribute to judgments of facial typicality (for reviews, see Langlois et al., 2000; Rhodes, 2006). Infantile features are such characteristics because they are in fact not typical when compared with the typical features of adult faces. Thus, we also asked participants to judge the typicality of the faces to ensure that our results were not confounded by the typicality of the faces we chose to present. More importantly, we wanted to rule out the effect of typicality to establish a clear relation between facial age and facial likeability in adults' judgments of children's faces.

Method

Participants

The participants were 60 right-handed students ($M = 21.33$ years, $SD = 1.79$ years, age range = 18 – 28 years; 30 females) from a southwestern university in P.R. China. They were recruited from a subject database that had been built through a general participant recruitment announcement on the college website. The pre-screened subject pool only contained right-handed individuals. Participants were paid 15 yuan (RMB) for their participation.

Materials

One hundred and forty-eight images of children's faces were used in this study (range: 0.08 to 6.42 years; for age distributions of the faces, see below). In addition, as a control group, we included a group that consisted of forty adult faces ($18 \leq \text{age} \leq 34$; mean age: 22.98 years, $SD = 4.53$ years). The face images were selected from a database of 265 images. All of the images were digitized and cropped with the use of Adobe Photoshop (see Platek et al., 2004, for the same image processing method). The final product of each face stimulus consisted of a colored face without ears, centered on a black background (Figure 1). Also, all face images were matched for resolution, and presented in a consistent size. Thirty-six additional college students (18 females) evaluated the emotionality of the faces on a 9-point Likert scale (i.e. how negative or positive does the face appear to be in terms of emotion?) to ensure that all face images contained neutral expressions. As a result, only 188 face images (including both child and adult faces) were selected for the present study. Only images that received rating scores within 2 standard deviations of the mean "neutral rating" (i.e., 5) were selected as stimuli.

Procedure

The participants were seen individually and took part in four sessions in one visit. In the first "likeability rating" session, the images of each age group were shown individually on a 17-inch computer screen, about 50 cm away from the participants. The face stimuli from all age groups were randomly presented on a computer screen controlled by an E-prime program.

For each trial, a crosshair was presented for 1000 ms, followed by the face image which was ended by participants' key pressing. Participants had to judge whether they liked or disliked the face on a 7-point Likert scale, ranging from (1) dislike the face very much, to (4) not sure, and to (7) like the face very much. Participants had to enter their response on a numeric pad and once they did so, the trial was terminated. Overall, each session consisted of 188 trials and to avoid fatigue, each session was divided into three blocks with an approximately one-minute break between two blocks.

In the next three sessions that immediately followed the first session, the same three blocks were run but instead of likeability, participants were asked to judge the faces on the following additional dimensions in the order described below: (a) The attractiveness of the faces (How attractive is this face?), ranging from (1) very unattractive, (4) not sure, and to (7) very attractive; (b) The typicality of the faces (Does this face look like a typical child's face?), ranging from (1) very typical, to (4) not sure, and to (7) very atypical; and (c) The perceived age of the faces: Participants estimated each face's age in years and months. To familiarize participants with the rating procedures, 5 practice trials were given at the beginning of each rating session with additional faces not used in the actual experiment.

Results

Preliminary analyses revealed that male and female participants did not show any differences in their ratings of likeability, attractiveness, typicality, or perceived age. Thus, the data for both participant sexes were combined for the subsequent analyses. The data were then analyzed using the Subject Item Protocol whereby each face image was considered as one data point. This was achieved by first calculating the mean rating of each face image in each age group based on the ratings of this face by all participants on a particular measure (e.g., likeability). We then assigned the mean value to each face for each measure. Thus, each face image received a score of likeability, attractiveness, typicality, and perceived age, respectively.

The scatter plots of the scores of each child face in relation to their actual face age are shown in Figure 2. Using Pearson correlation analysis with children's face images, we found that actual age, perceived age, and typicality were significantly negatively correlated, and attractiveness was positively correlated with likeability. This suggests that the more attractive, younger, and less typical a child's face appears to be, the more likeable the face is (Table 1). As expected, face attractiveness was significantly correlated with typicality (less typical faces were rated as more attractive). Similar to likeability, attractiveness was significantly negatively related to the perceived and actual age of the face: The younger the face, the more attractive it was judged by adults. Typicality was significantly positively related to perceived and actual age: The older the face, the more typical the face was rated, suggesting that adult participants might be using a face norm closer to their own age to make their typicality judgments. These results confirm the existing findings in the literature.

To explore the relation between the child's age and adults' ratings of both likeability and attractiveness of children's faces, we performed a regression analysis with faces' actual age as the predicted variable, typicality entered as a predictor in the first block, followed by the likeability and attractiveness ratings as predictors in the second block. The model, after partialling out the effect of typicality, was still significant, $\Delta F(3,185) = 32.15, p < .001, \Delta R^2 = 0.34$, indicating that the likeability and attractiveness ratings together accounted for 34% of the variance of the actual face age. Inspection of the final regression model revealed that the likeability rating and the attractiveness rating respectively accounted for 8% and 15% of the variance in the face age above and beyond the common contributions of all predictors in the equation.

While the above analyses used the face age as a continuous variable, to better test the possibility of a rapid drop off in adults' ratings of likeability and attractiveness of toddlers and preschoolers, we divided the children's faces into four groups. They were divided into four groups according to whether their actual ages fell into one of the four quartiles of the entire age range of the faces. Thus, approximately equal numbers of face images were included in each of the following four face age groups: (a) Face Age Group 1 (.08 to .57 years) included 36 faces aged less than 0.58 years ($0.08 \leq \text{age} < 0.58$), (b) Face Age Group 2 (.58 to 2.15 years) included 37 faces aged more than 0.58 years but less than 2.16 years ($0.58 \leq \text{age} < 2.16$), (c) Face Age Group 3 (2.16 to 4.66 years) included 40 faces aged more than 2.16 years but less than 4.67 years ($2.16 \leq \text{age} < 4.67$), and (d) Face Age Group 4 (4.67 to 6.42 years) included 35 faces aged more than 4.67 years but under 6.42 years ($4.67 \leq \text{age} < 6.42$) (see Table 2 for the means and standard deviations of each Face Age Group). In addition, as a control group, we included a Face Age Group 5 (young adults) that consisted of 40 adult faces ($18 \leq \text{age} < 34$; mean age: 22.98 years).

Table 2 shows the means and standard deviations of the likeability, attractiveness, typicality, perceived age, and actual age scores for each face age group. To examine whether face age affected the likeability of the faces in all of the five face age groups, we performed a covariate analysis on likeability with attractiveness and typicality as covariates, and face age group and face sex as between-subject factors. The reason we performed a covariate analysis was to establish the unique relationship between face age and likeability after partialling out the contributions of face attractiveness and typicality to face likeability (a test of equality of variance revealed homogeneity of variances among the face age groups in terms of likeability). We found a significant effect of attractiveness, $F(1,176) = 297.28$, $MSE = 20.95$, $p < .001$, $\eta^2 = 0.63$, but not for typicality, suggesting that likeability ratings were significantly related to the attractiveness ratings. After partialling out the effects of attractiveness and typicality, the age group effect was still significant, $F(4,178) = 7.36$, $MSE = 1.57$, $p < .001$, $\eta^2 = 0.14$, however the sex of face effect was not. We used Student-Newman-Keuls post hoc analyses and found that face age groups formed two clusters from the lowest mean ratings to the highest mean ratings of likeability: (a) Face Age Groups 4 (4.67 to 6.42 years, $M = 3.34$, $SD = 0.34$) and 5 (young adults, $M = 3.48$, $SD = 0.64$) in Cluster 1, and (b) Face Age Groups 5 (young adults, $M = 3.48$, $SD = 0.64$) and 3 (2.16 to 4.66 years, $M = 3.60$, $SD = 0.49$) in Cluster 2, (c) Face Age Groups 3 (2.16 to 4.66 years, $M = 3.60$, $SD = 0.49$) and 2 (.58 to 2.15 years, $M = 3.75$, $SD = 0.44$) in Cluster 3, and (d) Face Age Groups 2 (.58 to 2.15 years, $M = 3.75$, $SD = 0.44$) and 1 (.08 to .57 years, $M = 3.87$, $SD = 0.47$) in Cluster 4.

We also performed a covariate analysis on attractiveness with likeability and typicality as covariates with face age group and face sex as between-subject factors (a test of equality of variance revealed homogeneity of variances among the face age groups in terms of attractiveness). We found the effects of typicality, $F(1,176) = 39.36$, $MSE = 2.59$, $p < .001$, $\eta^2 = 0.18$, and likeability, $F(1,176) = 297.28$, $MSE = 19.52$, $p < .001$, $\eta^2 = 0.63$, to be significant. However, after partialling out the effects of the covariates, the face age group effect was still significant, $F(4,178) = 19.55$, $MSE = 4.67$, $p < .001$, $\eta^2 = 0.31$. We again used Student-Newman-Keuls post hoc analyses and found that face age groups formed two clusters from the lowest mean ratings to the mean highest ratings of attractiveness: (a) Face Age Group 5 (young adults, $M = 3.56$, $SD = 0.54$) in Cluster 1, (b) Face Age Group 4 (4.67 to 6.42 years, $M = 3.81$, $SD = 0.40$) in Cluster 2, and (c) Face Age Groups 3 (2.16 to 4.66 years, $M = 4.18$, $SD = 0.49$), 1 (.08 to .57 years, $M = 4.33$, $SD = 0.46$) and 2 (.58 to 2.15 years, $M = 4.35$, $SD = 0.52$) in Cluster 3.

We performed the same covariate analyses as above but used the perceived age as the predicted variable and obtained nearly identical results, which were not reported here to avoid redundancy.

Discussion

The present study tested Lorenz's baby schema hypothesis (1943) with faces of infants, toddlers, and preschoolers as well as those of adults as controls. Overall, several major findings were obtained.

First, consistent with the findings of Volk et al. (2007), we found that Lorenz's baby schema (1943) extends beyond infant faces. Young adults rated younger children's faces as more likable and attractive than older children's faces. This result was not due to the fact that the adult participants could not differentiate the ages of younger and older children's faces because they likely had limited experience with children. In fact, the adults' age estimates were surprisingly accurate and consistent with the actual ages of the child faces used in the present study ($r = 0.98$). Thus, our results along with those of Volk et al. (2007) significantly extended the previous findings that adults generally show strong positive responses to line drawings of infant faces (Alley, 1981, 1983; Brooks & Hochberg, 1960; Hueckstedt, 1965; McKelvie, 1993; Sternglanz et al., 1977) or real infant faces (Bressan et al., 2009; Chin et al., 2006; Glocker et al., 2009; Hildebrandt & Fitzgerald, 1978, 1979; Sprengelmeyer et al., 2009).

Second, unlike previous findings, the effect of the baby schema seems to cease when children reach about four and a half years old. This is evidenced by the fact that adults' likeability and attractiveness ratings of adult faces (Face Age Group 5, young adults) were similar to those of children's faces (Face Age Group 4, 4.67 to 6.42 years). This finding is worth noting because children's cranial facial structure continues to undergo gradual growth well into adolescence when they finally begin to change dramatically and develop adult facial features and structure (Enlow, 1982). The present finding suggests that the baby schema may rely more on certain infantile features than others. As of yet, systematic studies have not been performed to identify these crucial features, so it seems necessary that specifically designed studies with systematic measures be conducted to address this important question. Such studies could use the paradigm employed by Glocker et al. (2009) that manipulated the facial configurations of infant faces so they would deviate systematically from the typical infantile facial structures.

Third, we also found that child age affected adults' ratings of both likeability and attractiveness of children's faces. In fact, the likeability and attractiveness ratings were highly correlated ($r = 0.82$). Their common contribution to the face age effect was 34% of the variance in the face age measure, as shown by the regression analysis with the face age as the predicted variable and the two measures as the predictors. Nevertheless, the two measures were not identical. The ANCOVAs showed that after partialling out the effect of the attractiveness ratings, children's face age still had a significant unique correlation with the likeability ratings, accounting for 14% of the variance in the latter measure. Similarly, after partialling out the effect of the likeability ratings, children's face age still had a significant unique correlation with the attractiveness ratings, accounting for 31% of the variance in the latter measure. Thus, the results demonstrate that adults' attractiveness and likeability judgments of children's faces may rely on the same infantile facial cues as well as certain unique facial cues that may not be specific to the baby schema. This suggestion was supported by the significant typicality effect in the ANCOVA with attractiveness as the dependent variable, and the lack of the effect in the ANCOVA with likeability as the dependent variable. Extensive studies on face attractiveness have shown that typicality of a

face is significantly related to its attractiveness, as individuals from infants to adults tend to view average faces to be most attractive (Rhodes, 2006). Thus, while common facial cues affect facial attractiveness and likeability judgments, they may also be determined by unique facial features, which should be identified by future studies. The identification of such cues will undoubtedly help elucidate the inter-relations among facial age, likeability, and attractiveness. In turn, these cues will lead to a better understanding of the nature of the baby schema and its role in the formation of social bonds between adults and children.

Finally, we found that face sex did not play a significant role in adults' judgments of children's face likeability and attractiveness. This result is consistent with most of the existing research that has also failed to find a significant face-sex effect. Such findings are in fact consistent with the evolutionary theories put forth by Lorenz (1943) and Eibl-Eibesfeldt (1989). If the innate release mechanisms for liking infantile faces indeed exist, they should be insensitive to whether an infantile face belongs to a boy or girl because the survival of both sexes is equally important. Another explanation for the lack of a strong face-sex effect relates to the fact that under six years of age, children's faces are yet to take on strong sexually dimorphic features.

In summary, the present study examined adults' evaluations of likeability and attractiveness of children's faces from infancy to early childhood. We tested whether Lorenz's baby schema hypothesis (1943) was applicable not only to infant faces but also to faces of children at older ages. It revealed that face age continued to influence adults' likeability and attractiveness judgments of children's faces beyond infancy, although the influences decreased gradually with increased age. Further, after about four and a half years of age, the baby schema seemed to have lost its impact on adults' judgments of facial likeability and attractiveness judgments for children. These findings suggest that the baby schema influences adults' appeals of not only infants' faces but also children's faces; this influence beyond infancy is likely due to the fact that facial cranial growth is gradual during early childhood and certain crucial infantile facial cues remain readily available during this period. Future studies need to identify these cues in order to better understand why adults generally show positive responses to infantile faces and how such positive responses influence the establishment and maintenance of social relationships between children and adults.

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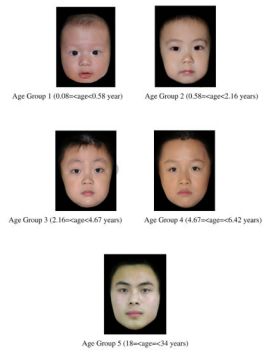


Figure 1.
Examples of child and adult faces in different age groups.

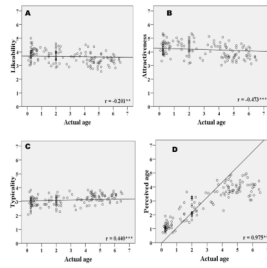


Figure 2.
The scatter plots of likeability (A), attractiveness (B), typicality (C), and perceived age (D) with children's actual age.

Table 1

Pearson coefficient of correlation between facial measures (*r*)

	Actual age	Likeability	Attractiveness	Typicality	Perceived age
Actual age	—	.006	.000	.000	.000
Likeability	−0.201**	—	.000	.000	.009
Attractiveness	−0.473***	0.817***	—	.000	.000
Typicality	0.440***	−0.417***	−0.617***	—	.000
Perceived age	0.975***	−0.190**	−0.462***	0.402***	—

Note. The bottom triangular area of the table refers to Pearson coefficient (*r*) of correlation between the five variables, while the top triangular area refers to the corresponding significance levels (*p*), the same as below.

p < .001.

**
p < .01.

Table 2

Descriptive statistics of each measure of each face age group: Mean (SD)

Likeability	Attractiveness	Typicality	Perceived age	Actual age
FAG1 3.87(0.47)	4.33(0.46)	2.95(0.38)	1.12(0.24)	0.30(0.09)
FAG2 3.75(0.44)	4.35(0.52)	3.02(0.33)	2.12(0.74)	1.57(0.53)
FAG3 3.60(0.49)	4.18(0.59)	3.18(0.39)	3.53(0.74)	3.75(0.84)
FAG4 3.34(0.34)	3.81(0.40)	3.34(0.26)	3.97(0.47)	5.55(0.52)
FAG5 3.48(0.64)	3.56(0.54)	3.46(0.32)	26.33(2.48)	22.98(4.59)

Note. FAG1-5 refer to Face Age Groups 1 to 5, respectively: (a) Face Age Group 1 (.08 to .57 years), (b) Face Age Group 2 (.58 to 2.15 years), (c) Face Age Group 3 (2.16 to 4.66 years), (d) Face Age Group 4 (4.67 to 6.42 years), and (e) Face Age Group 5 (young adults: 18=<age=<34).