AGE RELATED DIFFERENCES IN SOCIAL AND AFFECTIVE EVALUATION OF FACE STIMULI

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Introduction

Deciding whether other individuals are trustworthy or likeable belong to the most important decisions in social interactions. It is important for an individual to decide whether to approach or avoid another person. In recent years literature on trustworthy evaluation of face stimuli is growing with studies focussing on deficits in social evaluation (e.g. Adolphs et al., 1998; Baas et al., 2008; Todorov & Duchaine 2008) and on neurophysiological correlates of trustworthiness judgement (e.g. Winston et al., 2002). Little is known about the influence of age on social and affective evaluation of other individuals based on their facial appearance. Judgements could remain stable or change systematically with ageing for example as a function of life experience or age-related biological changes. Grühn and Scheibe (2008) compared ratings on the dimensions of valence and arousal of 504 Pictures from the International Affective Picture System (IAPS) between young and elderly subjects. Elderly subjects perceived for example negative pictures as more negative and more arousing than young subjects. In the present study we addressed the evaluation of face stimuli with regard to trustworthiness and affective reactions in young and old adults.

Methods

We obtained trustworthiness and affective ratings of face stimuli in two groups (see table 1). One group consisted of eighteen healthy elderly participants. Subjects were non-institutionalised and managed their own household. Another group consisted of 36 healthy young participants. Test stimuli were twelve pictures of neutral and unfamiliar male (N=6) and female (N=6) faces of young (N=6) and old (N=6) adults selected from the Productive Aging Laboratory Face database (Minear & Park, 2004). Pictures were presented in four different pseudo random sequences. Valence and arousal ratings were obtained via a Self-Assessment Manikin (SAM) (Lang, 1980). Its dimensions of valence (ranging from pleasant to aversive) and arousal (ranging from low to high intensity) have shown reliable relationships with other measures of emotional responses such as physiological and behavioural parameters (Greenwald, Cook, & Lang, 1988). Using the paper-pencil version of this instrument, participants rated the stimuli as to their emotional valence and arousal. We created a nine point paper and pencil rating scale to assess participants’ ratings of trustworthiness (ranging from very untrustworthy to very trustworthy).

Results

Repeated measures Analyses of Variance (ANOVA) were conducted for the valence, arousal and trustworthiness ratings of pictures. For each of the dependent variables the different pictures were used as within-participant factors and group was included as a between participant factor.

Trustworthiness ratings ANOVA showed a main effect of pictures (F(11,19) = 7.513; p < .001, η² = .813) along with an interaction between pictures and group (F(11,19) = 3.299; p < .011, η² = .656) and a main effect of group (F(1) = 12.474; p < .001, η² = .301).

Valence ratings ANOVA revealed a main effect of pictures (F(11,19) = 12.015; p < .001, η² = .874) along with an interaction between pictures and group (F(11,19) = 5.817; p < .001, η² = .771) and a main effect of group (F(1) = 6.758; p < .05, η² = .189).

Arousal ratings ANOVA indicated a main effect of pictures (F(11,19) = 2.601; p < .033, η² = .601) but no interaction between pictures and group (F(11,19) = 1.849; p > .115, η² = .517) or main effect of group (F(1) = 0.770; p > .380, η² = .026) was observed.

Conclusions

The results indicate an effect of age on ratings of face stimuli on the dimensions of trustworthiness and valence. The ratings of young and old adults differed on these dimensions. Analysis revealed a main effect of group but also an interaction between group and stimulus. There seems to be a general tendency of elderly subjects to rate the same face that is rated most trustworthy by older adults in our study. As a consequence, it seems important to consider the different preferences of different age groups when products are associated with certain persons in advertising campaigns.

Is this person trustworthy??

Table 1. Demographics

<table>
<thead>
<tr>
<th></th>
<th>Young subjects</th>
<th>Elderly subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td>Sex (m / f)</td>
<td>8/5</td>
<td>14/5</td>
</tr>
<tr>
<td>Age (in years)</td>
<td>23.7 (4.1)</td>
<td>74.3 (7.0)</td>
</tr>
<tr>
<td>Education (in years)</td>
<td>11.9 (1.3)</td>
<td>10.6 (2.0)</td>
</tr>
<tr>
<td>MMS</td>
<td>29.3 (0.8)</td>
<td>29.3 (0.8)</td>
</tr>
</tbody>
</table>

References


