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The influence of intelligence on the endorsement of the intelligence–attractiveness halo

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ABSTRACT

While some theories emphasize the influence of the 'attractiveness halo' on perceptions of intelligence, empirical evidence suggests that perceptions of attractiveness themselves can be influenced by perceptions of other desired traits such as intelligence. In an educational context, the effect of impressions of intelligence on teachers' expectations of students gives them particular significance. Research on kin selection and cognitive biases highlight the possibility that intelligent people endorse the intelligence–attractiveness relationship more strongly than less intelligent people. We investigated how a perceiver's intelligence can influence the association between perceived intelligence and attractiveness of others. We asked 126 participants to rate 48 children's faces for perceived intelligence and attractiveness and then asked them to complete the International Cognitive Ability Resource (ICAR) intelligence test. Ratings by participants who scored higher on the intelligence test showed a stronger relationship between perceptions of intelligence and attractiveness than participants who scored lower on the intelligence test. This effect was significant even after controlling for differences in participants' scale use. These findings, while preliminary, illuminate an individual difference that influences perceptions of intelligence with potentially concerning implications regarding expectancy effects in educational settings.

1. Introduction

The widely studied halo effect suggests that certain traits function as a metaphorical halo, casting an overly positive light on other traits. Thorndike (1920) defined the halo effect as a tendency to form a general evaluation of someone as good or bad and to base future judgments of a person based on this general feeling. In a comprehensive analysis of the halo effect, Asch (1946) asserted that impression formation of individuals involves a holistic process of attempting to form an impression of the *entire* person, based on dynamic interactions of various traits, rather than isolated traits forming the impression of a *part* of a person. In turn, the halo effect can lead to *general* impression formation, centered on insufficient or *limited* information from isolated traits.

The halo effect has been studied extensively in the context of education because of the influence that general impressions may have on expectations of students (Rosenthal & Jacobson, 1968) and the consequences of expectancy effects on student performance (de Boer, Bosker, & van der Werf, 2010). This study further explores the halo effect by investigating the influence that an individual's intelligence may have on the degree to which they endorse the intelligence–attractiveness relationship in facial images of children. It is useful to recognize the various potential origins of the intelligence–attractiveness halo to understand the potential role of own intelligence as an individual difference related to the endorsement of the intelligence–attractiveness association.

2. Individual differences

The difference in an individual's inclination to rate a child's face that is perceived to be intelligent as attractive can be interpreted as either: being more susceptible to the attractiveness halo or having a stronger preference (reflected in higher ratings of attractiveness) for intelligent-looking faces. Many studies address the question of attractiveness in the context of theories of assortative mating and mate value (see Buss, 1985; Regan, 1998). Yet, a number of the findings can be interpreted more broadly in terms of preferences for similar others. We therefore briefly consider these findings with that broader interpretation in mind.

Indeed, it has been argued that, given sufficient time, people are more likely to rely on relevant information about personality or ability to form impressions of others, rather than attractiveness (Eagly, Ashmore, Makhijani, & Longo, 1991; Felson & Bohrnstedt, 1979). Further, previous research has found that non-physical factors (e.g., information about personality, previous academic achievement) can have a significant influence on perceptions of attractiveness (Kniffin & Wilson, 2004; Zhang, Kong, Zhong, & Kou, 2014). In an analysis of human mate preferences across 37 cultures, intelligence ranked among the top four desired characteristics in potential mates (Buss, 1989). Cross-cultural research has also found that the strength of the attractiveness effect on various

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trait impressions varies with the cultural valuation of those traits (Shaffer, Crepaz, & Sun, 2000; Wheeler & Kim, 1997), implying that some individuals or groups of individuals may value intelligence more and find it more attractive than others. Further, while previous research suggests people may estimate personality from faces with some accuracy (Penton-Voak, Pound, Little, & Perrett, 2006), Little, Burt, and Perrett (2006) found that *perceptions* of personality alone can influence attractiveness and that people who consider a particular personality preferable will have different perceptions of attractiveness based on that liking. Such differences in the *perception* of preferred traits influencing attractiveness may extend to the *perception* of intelligence, such that those who are more intelligent value intelligence more as a trait and thus perceive faces that look intelligent as more attractive.

The current study did not examine the direction of the perceived intelligence–attractiveness relationship or the influence of context (i.e., information about the perceived stimuli) on attributions, but focused on individual differences that may be associated with a stronger tendency to rate a child perceived as intelligent, also as more attractive. We review the theories of kin selection and anchoring effects that may explain the potential for individuals who score higher on an intelligence test to find faces of children perceived to be intelligent as more attractive than children perceived to be unintelligent.

3. Kinship

While assortative mating highlights the tendency for people to choose mates based on similarities, kin selection proposes that individuals will help others in a manner proportionate to genetic similarity (Hamilton, 1964). Indeed, DeBruine (2002) found that people are more altruistic toward self-resembling individuals, even when this resemblance is very subtle. Bressan and Martello (2002) found that similar-looking individuals are often considered more likely to be genetically related than dissimilar-looking people. They also found that belief in genetic relatedness (compared to actual genetic relatedness) was a stronger predictor of perceived similarity. While facial similarity is one mechanism of phenotype matching, belief in genetic relatedness may also stem from similarity on other heritable traits, like intelligence.

It might be considered surprising that similarity would be attractive if it is a cue to kinship, since people are generally averse to sexual relations with kin. A closer examination of the similarity-attraction effect reveals that similarity does not necessarily imply sexual attraction, but rather the liking of another person (Park, Schaller, & Van Vugt, 2008). Thus, people who score higher on intelligence tests may find perceived intelligence more attractive because of a similarity in intelligence (a potential cue to kinship that has been shown to influence ratings of likability or attractiveness; Byrne, London, & Reeves, 1968; Byrne, 1961).

4. Anchoring effect

The anchoring effect describes the tendency to make decisions that are biased toward the initial judgment (Tversky & Kahneman, 1974). Essentially, the anchoring effect suggests that individuals get stuck on initial attributions when no other information is available (i.e., when rating perceived intelligence from just a face). While some may reason that more intelligent people should be less susceptible to cognitive biases like anchoring effects, a thorough review by Stanovich and West (2008) found that various cognitive biases (including anchoring effects) are unrelated to cognitive ability. A targeted attempt to investigate individual differences influencing performance on anchoring tasks, namely personality and intelligence, also failed to replicate any benefits of cognitive ability on the susceptibility to anchoring effects (Furnham, Boo, & McClelland, 2012).

Conversely, Kahneman and Frederick (2002) argued that while high intelligence respondents have the resources to assist in overcoming easy or typical mistaken intuitions, when problems become more difficult, the correlation between intelligence and cognitive bias "is likely to reverse because the more intelligent respondents are more likely to agree on a plausible error than to respond randomly" (p. 14). Thus, the improved ability to make logical connections and rationalize may actually prove counterproductive to overcoming cognitive biases. Taylor (1923) concurs generally that "intelligence is not always a protection against rationalization. Indeed intelligence is what makes rationalization possible" (p. 415). Thus, people who score higher on intelligence tests may be no less or even slightly more susceptible to cognitive biases such as the perceived intelligence–attractiveness halo.

5. Research question

Various theories may account for a strong relationship between perceptions of intelligence and attractiveness. Our research sought to

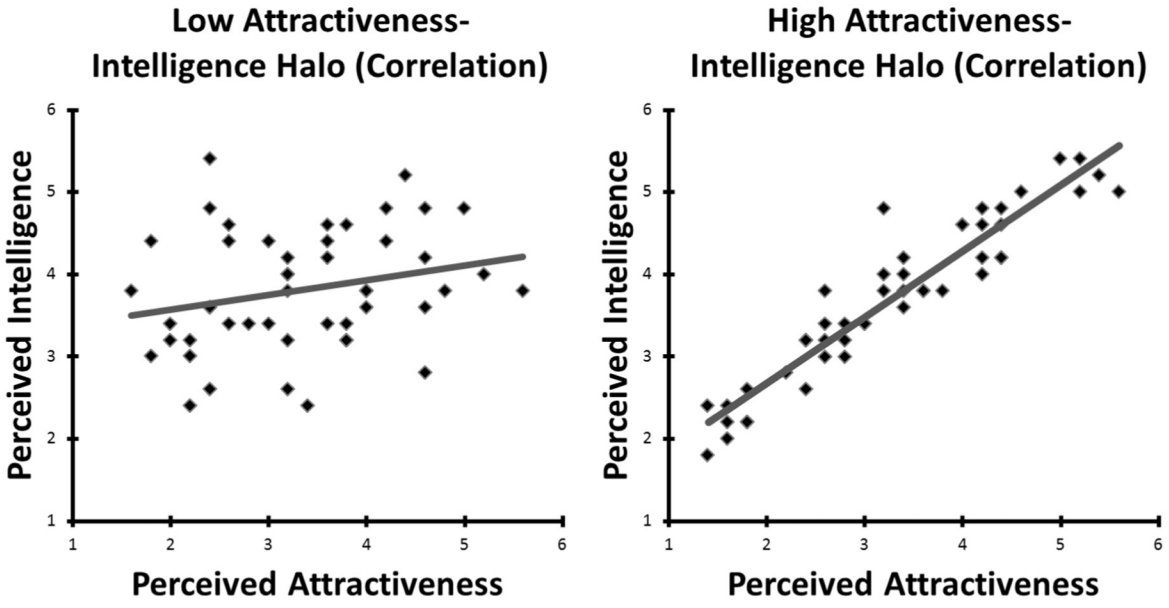

Fig. 1. Variation in strength of the individual halo across individuals. Scatter plots visualizing the association of perceived intelligence and attractiveness ratings for an average of the five individuals with lowest attractiveness–intelligence halo (left, $r(48) = .25$) and the five highest (right, $r(48) = .94$) on the halo metric.