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STEREOTYPE DIRECTIONALITY AND ATTRACTIVENESS STEREOTYPING: IS BEAUTY GOOD OR IS UGLY BAD?

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Dion, Berscheid, and Walster (1972), in their seminal article, labeled the attribution of positive characteristics to attractive people the "beauty–is–good" stereotype. The stereotyping literature since then provides extensive evidence for the differential judgment and treatment of attractive versus unattractive people, but does not indicate whether it is an advantage to be attractive or a disadvantage to be unattractive. Two studies investigated the *direction* of attractiveness stereotyping by comparing judgments of positive and negative attributes for medium vs. low and medium vs. high attractive faces. Taken together, results for adults (Experiment 1) and children (Experiment 2) suggest that most often, unattractiveness is a disadvantage, consistent with negativity bias (e.g., Rozin & Royzman, 2001), but contrary to the "beauty–is–good" aphorism.

A recent naturalistic study of school children's conversations recorded 590 comments regarding people's appearance in 22 hours of observation (Newman, Gabriel, & Jones, 2001); the ova and

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sperm of professional models are now available for purchase on the Internet; and, in a recent survey of 107 plastic surgeons, respondents reported performing an average of 672 cosmetic and reconstructive surgeries in 2004 (American Academy of Facial Plastic and Reconstructive Surgery [AAFPRS], 2005). Physical appearance and beauty are unmistakably pervasive and powerful agents in the social world, and influence our conversation, reproductive decisions, and perceptions of ourselves and others.

Similar to the stigmatization effects associated with obesity (e.g., Crocker, Cornwell, & Major, 1993) and ethnic and racial group membership (e.g., Steele & Aronson, 1995), social perceptions based on attractiveness can lead to negative consequences. Economists have found that the independent influence of attractiveness gives more attractive instructors an advantage on undergraduate teaching evaluations (Hamermesh & Parker, 2005) and estimate that the earnings advantage for attractive versus unattractive people is 12% (Hamermesh & Biddle, 1994).

In their 1972 seminal article, Dion, Berscheid, and Walster showed that attractive people are preferred over, and believed to possess more positive traits and characteristics than, unattractive people. Dion et al. labeled these positive beliefs and attitudes about attractive people, the "beauty–is–good" stereotype. Accordingly, the majority of studies that followed Dion et al. describe the beauty–is–good stereotype as a set of beliefs and expectations that impart social advantage to attractive people (e.g., attractive people are friendlier than unattractive people). Since 1972, thousands of studies have provided evidence to support the ubiquitous existence and exercise of the beauty–is–good stereotype (see Eagly, Ashmore, Makhijani, & Longo, 1991; Langlois et al., 2000, for reviews). Adults, young children, and even infants prefer attractive to unattractive individuals. Furthermore, young children and infants agree with adults about who is and is not attractive (e.g., Dion, 1973; Langlois, Ritter, Roggman, & Vaughn, 1991; Langlois, Roggman, Casey, & Ritter, 1987).

Recent studies, reviews, and meta–analyses (see Eagly et al., 1991; Langlois et al., 2000) have clarified our understanding of attractiveness stereotyping and its consequences but have also revealed that we do not yet have an answer to the question: Is attractiveness "good," as implied by the beauty–is–good stereo-

type, or is unattractiveness "bad"? In other words, do people who are attractive receive evaluations that are significantly above medium attractive and unattractive people, or do people who are unattractive receive evaluations that are significantly below those of medium and high attractive people? Is attractiveness an advantage or is unattractiveness a disadvantage?

LIMITATIONS OF PREVIOUS RESEARCH

To answer the question: "Is attractiveness 'good' or is unattractiveness 'bad,' individuals of medium attractiveness must be included in research as a critical control to determine the *direction* of the beauty–is–good stereotype. Unlike Dion et al. (1972), who asked participants to make judgments of faces that had been rated as low, medium, or high in attractiveness, most investigations of the beauty–is–good stereotype operationalize the variable of facial attractiveness as either high or low using a median split of the sample of faces. Thus, most research, and meta–analyses of it, cannot address the question of stereotype directionality in attractiveness–based stereotypes. Furthermore, given that that most people are neither very attractive nor very unattractive, this work tells us little about how the majority of the population is perceived.

Among the few studies (e.g., Hassebrauck, 1988; Mashman, 1978) that investigated more than two levels of attractiveness, there is great divergence in the stimuli, ratings, and scales used to examine attributions based on target attractiveness, and in the methods used to collect ratings from perceivers of different ages. Hence, there is inconsistency in results. For example, previous research has focused on judgments of full body photos and attitude similarity of opposite–sex targets (Mashman, 1978), effects of race, physical attractiveness, and dialect (DeMeis & Turner, 1978), perceptions of women's first names and physical attractiveness (Hassebrauck, 1988), and judgments of arousal and dating/marriage desirability for full length photos and images of individual body parts (e.g., eyes, chest) of opposite–sex targets (Istvan, Griffitt, & Weidner, 1983). Furthermore, most of the studies that included medium attractive faces as stimuli fail to report mean ratings (Hassebrauck, 1988; Istvan, Griffitt, & Weidner,

1983; Stroebe, Insko, Thompson, & Layton, 1971) and are limited to investigations of judgments in the *social* domain. Taken together, these limitations necessitate research to address the question of the *direction* of stereotypes based on attractiveness: Is beauty good or is ugliness bad?

VARIABILITY IN STEREOTYPE DIRECTIONALITY

It is possible that beauty is good, that unattractiveness is bad, or that both are true. Attractiveness may be an advantage in some domains (e.g., social) but not in others (e.g., intellectual). Therefore, although much of the previous research on the beauty–is–good stereotype has centered on judgments of sociability, we examined judgments for the domains of intelligence, sociability, and altruism, because more recent findings suggest that social competence is best characterized as a multidimensional construct (Cavell, 1990; Schneider, Ackerman, & Kanfer, 1996) consisting of two discrete but related sub domains: sociability and prosocial competence (e.g., Masten 1995). Sociability is reflected by a tendency towards gregariousness or disposition to associate with others (e.g., being *friendly*), whereas prosocial competence reflects an orientation towards cooperation and helping others (e.g., being *cooperative*). Studies of peer relationships in children support these two sub domains of social competence, as well as intelligence, as essential and unique predictors of peer acceptance (e.g., Newcomb, Bukowski, & Pattee, 1993); therefore, we examined them as separate domains of judgment.

The direction of the beauty–is–good stereotype may not only vary by domain of judgment, but may also vary by perceiver age. A number of studies of attractiveness stereotyping have been conducted with children, but it is difficult to determine whether age–related differences exist in attractiveness stereotypes because methodological differences prevent the direct comparison of adults' and children's judgments. Most studies of children's attractiveness–based stereotypes have been limited to the use of forced choice preference tasks or sociometric nominations. Thus, the extant research on children's perceptions of facial attractiveness cannot be compared easily or directly to studies of adults' attractiveness–based stereotypes that employ different methods

(e.g., rating scales). Previous research investigating attractiveness–based stereotypes also has focused primarily on children's perceptions of their peers and adults' perceptions of children. Thus research on children's perceptions of adults is necessary in order to test for age–related differences in perceptions of attractiveness. Research is also needed to examine school-aged children because although research has been conducted with young and preschool-aged children (see Dion, 1973; Dion & Berscheid, 1974; Langlois & Downs, 1979; Styczynski & Langlois, 1977) and adults (e.g., Berscheid, Dion, Walster, & Walster, 1971), few studies have been directed toward the elementary school years (for exceptions see Langlois & Stephan, 1977; Langlois & Styczynski, 1979).

Because the attractiveness literature does not provide sufficient information regarding children's versus adults' perceptions of adults of varying attractiveness and because stereotype directionality may vary by domain of judgment and perceiver age, we examined both children's and adults' judgments in the present study. We also measured adults' and children's attractiveness–based stereotypes for female faces only because to date most of the research on face perception and attractiveness stereotypes has been conducted with female faces.

NEGATIVITY BIAS AND THE "BEAUTY–IS–GOOD" STEREOTYPE?

Although the stereotyping literature does not address the question of stereotype directionality, classic and more recent research in the social psychological and neuroimaging literatures supports the existence of a negativity bias (e.g., Baumeister, Finkenauer, & Vohs, 2001; Kanouse & Hansen, 1971; Rozin & Royzman, 2001; Skowronski & Carlston, 1989), that may guide our perceptions of and expectations for medium attractive people relative to unattractive and attractive people. Although there is some variation in the way that negativity bias is defined, most agree that negativity bias is a processing asymmetry that occurs when negatively valenced stimuli elicit stronger reactions than comparatively positively valenced stimuli (e.g., Crawford & Cacioppo, 2002).

Recent research has provided numerous examples of the existence of negativity bias for both physiological and behavioral

measures across a variety of research paradigms. Negativity bias has been found for neural activation to a range of stimuli during evaluative categorization (Ito, Larsen, Smith, & Cacioppo, 1998), arousal measures predicted from valence ratings for positive and negative words (Ito, Cacioppo, & Lang, 1998; Lang, Bradley, & Cuthbert, 1997; Ito, Larsen et al., 1998), functional magnetic resonance imaging (fMRI) measures in response to facial expressions (e.g., Iidaka et al., 2001; Morris et al., 1996; Thomas, Drevets, Whalen et al., 2001; Whalen, 1998; Whalen et al., 1998), identification of facial expression in schematic drawings (Oehman, Lundqvist, & Esteves, 2001), learning of correlations between affective and spatial information (Crawford & Cacioppo, 2002), attention and response to food labels (Rozin, Markwith, & Ross, 1990), speed and accuracy of detection and categorization of subliminally presented words (Dijksterhuis & Aarts, 2003), and even infant learning and use of televised emotional reactions to guide interactions with novel objects (Mumme & Fernald, 2003).

Does negativity bias apply to social judgments based on facial attractiveness? If so, then we may perceive unattractive faces as significantly different from both medium and high attractive faces. Previous research (e.g., Skowronski & Carlston, 1989; Kanouse & Hansen, 1971) has supported the existence of negativity bias in person perception. Such a bias may encompass a propensity for adults and children to differentiate between people who are unattractive and medium attractive, but not medium attractive and high attractive people, in judgments of personality traits and behaviors. A bias towards negative information in the perception of faces (e.g., Oehman, Lundqvist, & Esteves, 2001) may mean that greater attention and processing resources are allocated to unattractiveness. Therefore, disadvantage associated with unattractiveness may be the primary manifestation of attractiveness–based stereotypes. Thus, we hypothesized that if negativity bias applies to the perception of facial attractiveness, we should find a significant disadvantage for unattractiveness rather than a significant advantage for attractiveness. To test this hypothesis, we compared adults' judgments (Experiment 1) of faces of low, medium, and high attractiveness to provide a more definitive answer to the question "Is beauty good," as has been suggested by most attractiveness stereotyping literature, or is unattractiveness "bad," as might be predicted by a

negativity bias for facial attractiveness. We conducted Experiment 2 with school–aged children as a replication of Experiment 1 to further test our predictions for negativity bias in stereotype directionality.

EXPERIMENT 1

METHOD

Participants. Participants were 331 introductory psychology students (183 female, 148 male) who received partial class credit in return for their participation. Most participants were Caucasian (50.8 % Caucasian, 23.9 % Asian/Pacific Islander, 10.6 % Hispanic, 4.8 % African American, 4.8 % other or mixed racial background, 5.1% unknown). We excluded the data of 46 participants from the analyses for the following reasons: incomplete data or multiple responses provided for a single item (14), experimenter error (5), and participation on September 11, 2001[1] (27). Complete data were analyzed for 285 participants (153 female, 132 male).

Stimuli. Stimuli consisted of color photographs of the faces of college–aged, Caucasian, female adults selected in three stages from an existing photo database. First, at least 40 adults (20 female, 20 male) rated faces in the database for attractiveness using a 5–point Likert scale (1 = *very unattractive*, 5 = *very attractive*), with high interrater reliability (alphas = .95 or greater). Second, based on these attractiveness ratings, we selected stimulus faces by choosing six photos representing the highest mean attractiveness ratings and six photos representing the lowest mean attractiveness ratings from an initial pool of 1,634 college–aged, Caucasian, adult female faces. The six high and six low attractive faces were matched in pairs on the basis of age, hair color, hair length, eye color, and facial expression to control for all factors except facial attractiveness.

Third, we calculated the mean facial attractiveness rating for the six high and six low attractive females to yield a single mean facial attractiveness rating for the entire stimulus set. We then selected facial images from the initial pool of 1,634 photographs with at-

1. Data from adults who participated in this study on September 11 differed from the data obtained from participants who did not participate on September 11 as indicated by a significant interaction effect for a between subjects September 11 participation variable and the facial attractiveness variable, and were thus excluded from all analyses.

tractiveness ratings closest to this mean for use as medium attractive stimuli. These facial images were examined for similarities in hair color, hair length, eye color, and facial expression to be matched with the high–low attractive face pairs. The final set of stimulus faces, therefore, consisted of a total of six matched sets of three (low, medium, and high attractive) stimulus faces.

Next, we scanned, digitized, and adjusted the photos to enhance and standardize image quality for contrast, brightness, and coloration using Adobe Photoshop. The adjusted and equalized digital versions of the stimuli were converted to color slides for presentation to the study participants. To ensure that the faces were still perceived as low, medium, and high in attractiveness following image processing, an independent sample of 61 undergraduate students (31 female, 30 male) of varying racial backgrounds rated the stimuli for facial attractiveness on a 5–point Likert scale with high interrater reliability, $\alpha = .93$. The mean ratings for the low attractive faces ranged from 1.26 to 1.97 (M = 1.50), the mean ratings for the medium attractive faces ranged from 2.20 to 2.62 (M = 2.39), and the ratings for the high attractive faces ranged from 2.89 to 3.85 (M = 3.41). Examination of standard scores and frequency data for attractiveness ratings of the stimuli confirmed that our stimuli were representative of three distinct levels of a range of attractiveness: Mean ratings of the low (z = –1.80), medium (z = –.137), and high attractive faces (z = 1.94) ranked in the 8th, 45th, and 91st percentiles, respectively, of the distribution of facial attractiveness ratings for the original 1,634 facial image pool from which they were drawn. Paired samples t–tests confirmed that significant differences existed among the ratings for each level of attractiveness (all $p < .005$).

Judgment Task. Participants rated the stimulus faces for positive and negative attributes/behaviors representing three domains of judgment: sociability, altruism, and intelligence. Attribute/behavior ratings included three positive and three negative items for each domain of judgment: Sociability (*popular/unpopular, friendly/unfriendly, makes friends easily/has trouble making friends)*; Altruism (*helpful/unhelpful, cooperative/uncooperative, kind/cruel)*; Intelligence (*smart/stupid, fast learner/slow learner, gets good grades/gets bad grades)*. The presentation of faces and attributes was counterbalanced across participants.

Procedure. We tested participants in groups of up to 17. Participants viewed color slides of the faces one at a time. While doing so, participants completed the judgment task and provided a subjective rating for one attribute/behavior for each of the 18 faces. Participants saw each stimulus face for four seconds, during which they recorded their response on a 5–point Likert scale (1 = *not at all*, 5 = *extremely*). We imposed this time limit to encourage quick evaluative judgments similar to those made in everyday social perception. We presented stimuli in one of 28 random orders with the stipulation that no more than two faces of the same level of attractiveness were presented in succession. We paired attribute/behavior ratings with the faces in a randomized fashion, without replacement, so that each face was paired with only one of the 18 attribute/behavior ratings for each participant.

Prior to testing, an experimenter presented each face for approximately one second to expose the participants to the range of stimuli as a means of producing relative equivalence for stimulus range anchors of facial attractiveness (Volkmann, 1951). To diminish potential rater bias, each participant rated all of the faces and ratings were aggregated across raters (Hoyt, 2000).

RESULTS AND DISCUSSION

We reversed–scored the ratings for negative attributes and calculated mean ratings for each participant. Next we conducted a doubly multivariate repeated–measures analysis of variance (ANOVA) to determine the effects of facial attractiveness and attribute valence (positive, negative) on adults' judgments of sociability, altruism, and intelligence. Doubly multivariate ANOVA is similar to standard MANOVA except that this analysis tests for a general multivariate effect when dependent measures are correlated both within (e.g., *sociability* ratings to all faces) *and* between (e.g., participant's ratings of *sociability, altruism,* and *intelligence*) repeated dependent measures.

Facial attractiveness and attribute valence were the within–participants variables and participant sex was the between–participants variable. There was no effect for participant sex so we collapsed the data across this variable. Results showed a signifi-

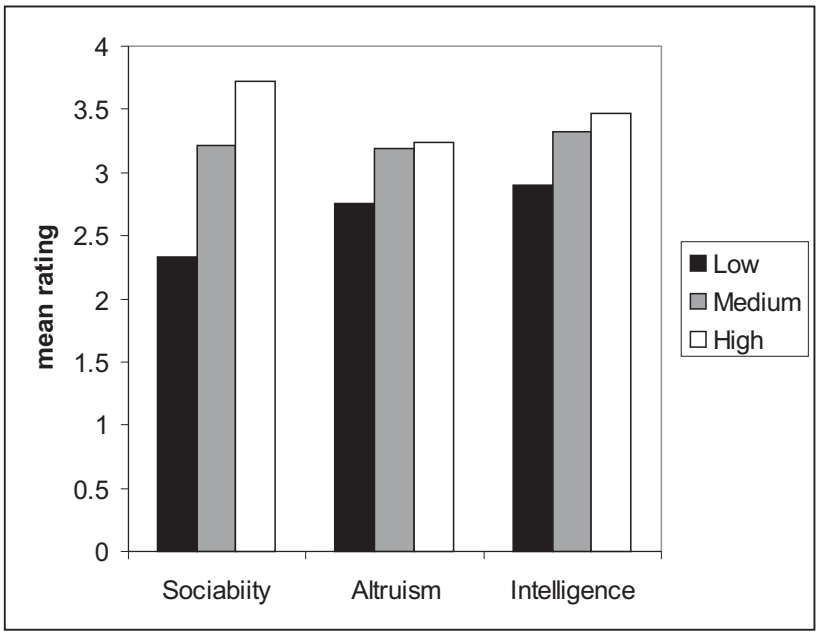

FIGURE 1. Adults' mean ratings for low, medium, and high attractive faces.

cant effect for facial attractiveness, Wilks' lambda = .34, F (6, 279) = 90.35, $p < .001$. The multivariate effect size was quite strong (η^2 = .66). There was no facial attractiveness × valence interaction so we collapsed ratings across attribute valence in follow–up tests to compare mean ratings to low, medium, and high attractive faces. Bonferroni corrected contrasts indicated that unattractive faces were rated as significantly less sociable, less altruistic, and less intelligent than medium attractive faces which in turn were rated only as less sociable than attractive faces (all univariate effects, $p <$ .001, see Figure 1). Therefore, these results support the unattractiveness is bad manifestation of attractiveness stereotypes more strongly than the beauty is good manifestation.

EXPERIMENT 2

The results of Experiment 1 showed that when adults judge faces of high, medium and low attractiveness, it is more often the case that unattractiveness is bad than that beauty is good. For judgments of

altruism and intelligence, adults gave significantly lower ratings to low versus both medium and high attractive female faces, which did not differ from one another. We conducted Experiment 2 with the goal of replicating Experiment 1 with school-age children to determine the degree of similarity between child and adult judgments of low, medium, and high attractive faces and as a further test of negativity bias in social judgments based on facial attractiveness. We tested 7–9–year–old children because by age 7, children evidence spontaneous use of trait terms in their descriptions of others, have an adult–like understanding of personality traits as enduring psychological characteristics (Bartsch & Wellman, 1989; Lively & Bromley, 1973; Ruble, Newman, Rholes, & Altshuler, 1988), see trait terms as an appropriate means by which to categorize others, and hold corresponding expectations about their behavior (Hayman & Gelman, 1999). We also selected 7–9–year–olds because, like adults, they are able to employ Likert type rating scales which may provide a more sensitive and consistent measure of stereotyped evaluations than other attribution and variability measures (Biernat, 1996).

METHOD

Participants. One hundred twenty seven-to-nine–year–old children (63 female, 57 male) participated, including 35 seven–year–olds, 36 eight–year–olds, and 49 nine–year–olds. Children were recruited in several steps. First, all birth announcements published in the local newspaper were entered into a database. An age–appropriate list of children was generated from the database. Second, parents with age–eligible children were sent a letter describing the study followed by a telephone call to schedule an appointment. Only those children whose parents agreed to have their child participate on a volunteer basis were tested, and all children received a small gift to thank them for participation.

The children were predominantly Caucasian (84.1% Caucasian, 11.7% Hispanic, 2.5% African American, and 1.7% of other or mixed racial background) and had highly educated parents (41.6% with graduate degrees, 38.3% with bachelors' or associates' degrees, 19.1% with some college, and 1.0% with high school

diplomas only). We excluded the data from five children for the following reasons: clinical diagnosis of Autism (which affects face perception and social judgment (1), failed practice (1), off–task (1), refusal to participate (1), and clinical diagnosis of developmental encephalopathy (1). As a result, data were analyzed for a total of 115 children (60 female, 55 male).

Stimuli and Materials. Stimuli were the same faces used in Experiment 1, but we presented them in a notebook as 15 × 15 cm color photographs to simplify the procedure for the young participants. Also to simplify the procedure, we used a 5–point Likert scale depicted on a 90×90 cm pictorial scale in place of the 5–point Likert scale used with adults in Experiment 1. The scale contained the following anchor labels: 1 = *not at all*, 2 = *a little bit*, 3 = *in the middle*, 4 = *very*, 5 = *very, very*, coupled with boxes of increasing size (see Langlois & Stephan, 1977).

Procedure. We tested the children individually and they viewed the faces one at a time, and provided ratings for the same attributes used in Experiment 1, with two exceptions. Instead of responding to the items *cooperative/uncooperative*, we asked children to respond to *cooperates/does not cooperate* because pilot testing indicated that they could comprehend these labels for the attributes. Prior to testing, to ensure that the children understood the task, the experimenter engaged each child in practice in using the 5–point Likert scale with pictorial aids.

An experimenter showed the scale to the child and explained that they would be playing a game in which the child would answer some questions using the scale. As a means of familiarizing participants with how to use the scale in the task, the experimenter asked the child to answer the following questions: (1) "What is your very favorite food (sample answer = ice cream)?" and "How much do you like ice cream?" (2) "What is your *least* favorite food (sample answer = spinach)?" and "How much do you like spinach?" and (3) "What is a food that you think is not really bad and not really good, it's just "OK" (sample answer = chicken) and "How much do you like chicken?" For children who did not display correct use of both ends and the middle portion of the scale, the experimenter asked two additional questions: (1) "How tall is your mother/father?" and (2) "How tall are you?" Children

expressed their judgment by pointing to the scale label or box that best represented their answer to each question.

Following practice, the child viewed the stimulus faces as the experimenter presented each face for approximately one second to expose them to the range of stimuli. Next the child viewed each face one at a time and provided a rating for the attribute/behavior items by responding to the following question: "How _____ do you think this person is?" (e.g., How *friendly* do you think this person is?") or "How much do you think this person _____?" (e.g., How much do you think this person *has trouble making friends*?) using the scale. Children were encouraged to respond as quickly as possible, in order to approximate the limited stimulus evaluation time allowed to adult participants in Experiment 1. As in Experiment 1, we presented all item–face pairs in one of 28 random orders. The steps taken to avoid potential rater bias in Experiment 2 were identical to those in Experiment 1.

Upon completion of the study, each child also participated in a post–experimental session in which the experimenter asked the child what characteristics they thought were more important than physical appearance and to talk about something that they were "really good at." This post–experimental session was designed to diminish any emphasis the study measures may have placed upon physical appearance, emphasize the importance of inner qualities, and leave each participant feeling good about their participation in the study.

RESULTS AND DISCUSSION

As in Experiment 1, we reversed–scored the ratings for negative attributes and calculated mean ratings for each participant. Next we conducted a doubly multivariate repeated–measures analysis of variance (ANOVA) to determine the effects of facial attractiveness and attribute valence (positive, negative) on children's judgments of sociability, altruism, and intelligence. A preliminary multivariate repeated measured ANOVA showed no effect for participant sex so we collapsed the data across this variable. The results for children tested in Experiment 2 were identical to those of adults in Experiment 1. Results indicated a significant effect for facial attractiveness,

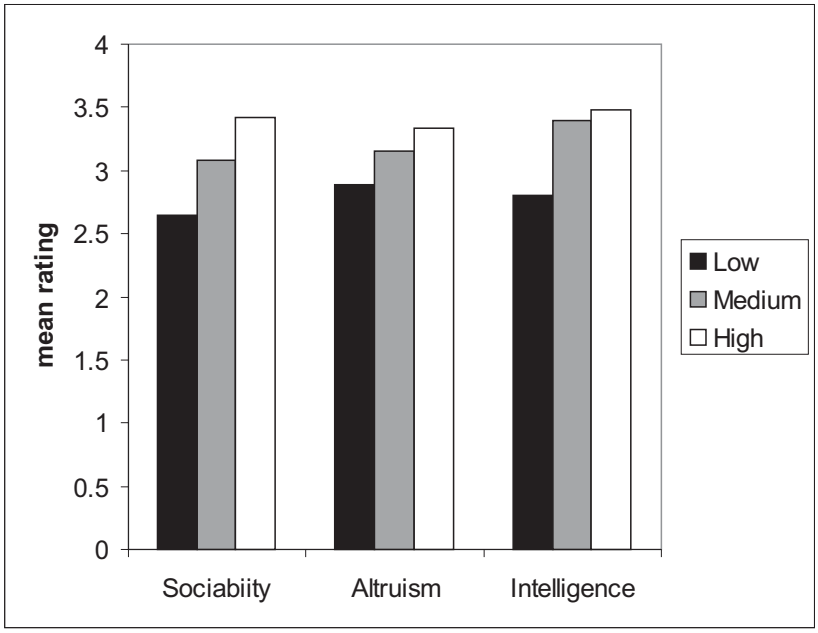

FIGURE 2. Children's mean ratings for low, medium, and high attractive faces.

Wilks' lambda = .47, $F(6, 109) = 20.12$, $p < .001$, $\eta^2 = .53$). There was no facial attractiveness × attribute valence interaction. Therefore, we collapsed across attribute valence in all follow–up tests. Bonferroni corrected contrasts indicated that children evaluated unattractive faces as significantly less sociable, less altruistic, and less intelligent relative to medium attractive faces. In turn, children evaluated medium attractive faces only as less sociable than attractive faces (all univariate effects, $p < .001$, see Figure 2). As in Experiment 1, these results support the unattractiveness is bad proposal more strongly than the beauty is good proposal.

GENERAL DISCUSSION

The purpose of this research was to determine the directionality of attractiveness stereotypes and specifically whether facial attractiveness is advantageous as prescribed by the "beauty–is–good" aphorism. In general, for both children and adults, the answer is

straightforward: Unattractive women are at a disadvantage relative to either medium or attractive women. It is more often the case that unattractiveness is "bad" than that beauty is "good."

We did find some variability in stereotype directionality depending upon domain of judgment. Unattractiveness–is–bad was evident primarily in judgments of altruism (e.g., deciding whether someone is *helpful*) and intelligence (e.g., deciding whether someone is *smart).* Judgments of sociability (e.g., deciding whether someone is *friendly*) showed a bi–directional pattern supporting both unattractiveness–is–bad and beauty–is–good manifestations of stereotyping. It is possible that we found beauty is good *and* unattractiveness is bad for perceptions of sociability because attractiveness is more diagnostic or salient in judgments of social attributes (e.g., being popular) and therefore elicited more extreme evaluations (e.g., Taylor & Fiske, 1978).

Nevertheless, adults (Experiment 1) and children (Experiment 2) showed notable similarity in patterns of stereotype manifestations. Both adults' and children's ratings of low versus medium, and medium versus high attractive females evidenced the disadvantage of unattractiveness as the principal and most consistent expression of stereotyped judgments based on facial attractiveness.

Experiments 1 and 2 provide general support for our theoretical prediction regarding negativity bias in social judgments based on attractiveness. A processing asymmetry in which negative information is more potent than positive information accounts for the recurring finding that adults and children differentiated unattractive people from both medium and attractive individuals. Even though adult ratings of facial attractiveness confirmed that *both* the low and high attractive female faces were significantly different in facial attractiveness from the medium attractive faces, judgments often differed for *only* the low versus medium attractive faces.

If unattractive faces provoke stronger reactions than attractive faces, and in turn generate an "unattractiveness is bad" manifestation of stereotyping based on facial attractiveness, then a number of possible explanations for this sensitivity to negative valence in unattractive faces require investigation. It is possible that: (a) unattractive faces, like expressions of anger and fear, elicit differential physiological arousal and neural activation that

is of greater magnitude than that elicited by more attractive faces; (b) unattractive faces elicit the same physiological and neurophysiological responses (e.g., activation in the amygdala) as expressions of negative emotion due to overgeneralization of affect (e.g., Zebrowitz, 1997) or anomalous face overgeneralization (Zebrowitz, Fellous, Mignault, & Andreoletti, 2003); and/or (c) unattractive faces generate strong physiological and cognitive responses because they take longer to categorize or recognize as faces than more attractive faces.

Why should low attractive faces be more difficult to categorize than medium or high attractive faces? According to cognitive averaging theory, attractive faces are closer to the population average in configuration and are thus perceived as more familiar, typical, and "face–like" than faces that deviate (e.g., unattractive faces) from the average configuration of a population of faces (see Langlois & Roggman, 1990; Langlois, Roggman, & Musselman, 1994; Rubenstein, Kalakanis, & Langlois, 1999; Rubenstein, Langlois, & Roggman, 2002). Indeed, faces that are rated as more typical are categorized as faces more quickly than those rated as less typical by both children and adults (Johnston & Ellis, 1995) and attractiveness facilitates the sex classification of faces by children and adults (Hoss, Ramsey, Griffin, & Langlois, 2005). Thus, unattractive faces that are perceived as less "face–like," less familiar, and less typical may function like other ambiguous stimuli and elicit greater neural activation in certain brain structures than more attractive faces. In fact, recent neuroimaging research indicates greater brain activation in the human amygdala to ambiguous stimuli, and greater activation associated with social anxiety, suggesting that social stimuli that are more difficult to categorize may be perceived in a negative or threatening manner because of their ambiguity (see Amaral & Corbett, 2002; Thomas, Drevets, Whalen et al. 2001). Future research should test this possibility with attractive and unattractive faces.

Further, future research that examines negativity bias and stereotype directionality in adults' and children's perceptions of male and ethnically diverse faces is essential. We included only the faces of Caucasian women in this study; thus, future research that examines perceptions of other types of low, medium, and high attractive faces can provide important elaboration of our findings and further specification of stereotype directionality.

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