Social Judgments of Facial Deformity

JOYCE M. TOBIASEN, PH.D.

The purpose of this study was to examine age- and gender-related personality and ability judgments associated with facial deformity. Four age groups (range = 8 to 16 years) were shown either photographically corrected versions of children with congenital facial clefts or uncorrected versions. Subjects' ratings of photographs of children with facial deformity were consistently negative. Neither age nor gender of subject were significantly related to judgments of facial deformity. Pictures of girls with facial deformities were judged more negatively than pictures of boys. The implications of these findings for future research were discussed.

Social acceptability of facial appearance is one of the major goals of the surgical and dental management of clefts of the lip and related craniofacial anomalies. The emphasis on social acceptability is based on the assumption that facial appearance is central to the development of normal peer relationships, healthy personal adjustment, and success in school and in career. The validity of the assumption has been strongly supported in dozens of studies of nondeformed faces that vary in degree of facial attractiveness (cf., Patzer, 1985). There have been few studies of peer reactions to facial deformity. The purpose of this investigation was to examine children's and adolescents' first impressions of photographs of children with facial deformities as a consequence of congenital clefts of the lip.

Early studies have focused on how individuals used facial attractiveness to form impressions of photographs of unacquainted age peers (cf., Dion 1973). This research showed that people have stereotypes about facial attractiveness such that, "What is beautiful is good" (Dion et al, 1972). That is, when people believe that individuals are physically beautiful, they also believe that they are good in social, personality, and intellectual spheres. Attractive individuals were rated more friendly, kind, intelligent, and desirable than their less attractive peers. Later work showed that treatment of people who vary in facial attractiveness was consistent with the stereotype (Langlois and Stephan, 1981). Finally, recent studies suggest that the social reaction to facial attractiveness may result in a self-fulfilling prophecy, such that individuals who are facially attractive learn through preferential treatment how to be more socially competent than individuals who are less attractive (Adams, 1977; Langlois and Stephan, 1981). Whether or not individuals hold stereotypes of facial deformity that influence social treatment and the development of social behavior is unknown. This study examined the nature of the social impressions associated with facial deformity.

There have been a few studies of social preferences and stereotypes related to facial clefts. Not surprisingly, people do differentiate others on the basis of facial deformity. Using drawings, Richardson (1970) compared the social preferences of children for other children who varied by type of physical disability: none, crutches and leg brace, wheel chair, arm amputation, repaired cleft of the lip, and obesity. Facial deformity and obesity were the least preferred of all physical disabilities. Glass, Starr, Stewart, and Hodge (1981) asked adult judges to rate the social acceptability of Identi-Kit models of drawings that varied in degree of cleft deformity (none, moderate, severe). Moderate and severe cleft deformities were rated as significantly less acceptable. Given that facial deformity is not preferred, do we also hold negative stereotypes about it?

Schneiderman and Harding (1984) asked grade school children to rate color slides of children with normal facial features and those with repaired unilateral and bilateral clefts of the lip. The photographs of the children with clefts were rated more negatively on several measures including: boring, stupid, sad, dirty, mean, and bad. These data suggest that children may hold a "What is facially disfigured or deformed is

Dr. Tobiasen is affiliated with the Department of Pediatrics at the University of Kansas College of Health Sciences and Hospital, Kansas City, Kansas.

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bad'' stereotype. However, the findings are ambiguous because the photographs varied on both degree of facial deformity and also overall facial appearance. Facial characteristics other than deformity, and including attractiveness, could account for the differences.

Characteristics of the raters may also influence judgments of facial appearance. Livesley and Bromley (1973) reported that references to physical appearance decrease as children become older. On the other hand, Richardson (1970) reported that adolescents and their parents preferred pictures of children with lip deformities even less than younger children.

Finally, the gender of the rater and ratee may influence judgments of facial appearance. Findings from the literature pertaining to physical attractiveness suggest that peers judge attractive girls as more socially desirable than their less attractive peers, but that attractiveness may be a liability for young males (Styczynski and Langlois, 1977). Richardson (1970) reported that dislike by boys of facial deformity increased after sixth to seventh grade, but girls consistently ranked the picture of the facially deformed child lower than most other types of disabilities. These findings suggest that girls with facial deformities, regardless of age, may be downgraded relative to nondeformed peers. Young boys with facial deformities may be downgraded less than older boys by peers.

In this study, three questions were examined. First, do children judge photographs of children with facial deformities more negatively than photographs of children without facial deformities? Overall facial configuration was held constant and facial deformity was varied. This was done by showing pictures of the same individuals with and without cleft deformities. Cleft deformities were corrected using artistic and photographic techniques. Subjects were shown either the corrected or the uncorrected version of a photograph. Second, does the age of the rater influence reactions to facial deformity? Four age groups were studied: 8 to 9 year olds, 11 to 12 year olds, 13 to 14 year olds, and 15 to 16 year olds. Third, does the gender of the rater or the ratee influence judgments of facial deformity?

METHOD

Subjects

The subjects were 317 predominantly white children, 159 girls and 148 boys enrolled in one of three public schools all located in the same suburb of metropolitan Kansas City. The children ranged from 8 to 16 years of age and were taken from the following four grade levels: third grade (31 girls and 26 boys); sixth grade (36 girls and 38 boys); eighth grade (57 girls and 49 boys), and tenth grade (37 girls and 43 boys). The average age for each grade level from third to tenth were: 8 years 10 months (3rd grade), 11 years 7 months (sixth grade), 13 years 4 months (eighth grade), and 15 years 7 months (tenth grade). The socioeconomic level was predominantly middle class according to school district records. All third- and sixth-grade classes were from the same elementary school. Unequal numbers of children in the different grades represent the numbers available in each grade at a given school. Eighth graders attended a junior high school, and the tenth graders attended a senior high school.

Preparation of Stimulus Materials

Color pictures were taken of the faces of white pediatric patients with complete clefts of the lip and palate. The clefts were either unilateral or bilateral and usually extended beyond the upper lip and into the nose. Most patients had obvious scars of the lip and nasal areas. The scarred areas tended to appear ''smudged,'' ''tightened,'' puckered, and hiked up in relation to the nonscarred areas. Most patients also had marked nasal asymmetries or other cleft related deformities. Six pictures depicted males, three aged 9 through 12 years and three aged 13 through 16 years. Five pictures depicted females, three aged 9 through 12 years and two aged 13 through 16 years.

The facial deformities were removed using photographic and artistic correction. Four plastic surgery resident physicians (who were otherwise unfamiliar with the patients) were subsequently shown the corrected pictures and 11 other pictures of children with mild-to-moderately severe congenital facial clefts and asked to identify all children with clefts of the lip. Children in the corrected group were not identified by the residents as children with clefts of the lip. Residents described the corrected pictures as representative of healthy, relatively attractive children. Therefore, the artist's corrections were apparently successful in disguising the children's congenital facial anomalies. All the children in the pictures had pleasant expressions. None wore eyeglasses. To minimize bias among subjects due to clothing differences, photographs were cut slightly above the shoulders.

The 11 corrected and 11 uncorrected pictures were converted to color slides. Eleven photographs of children without congenital facial clefts were also used. Two sets of 22 photographic slides each were created. Each set had the same 11 pictures of children without clefts. Five of

these pictures were of boys (three aged 9 through 12 years; two aged 13 through 16 years), and six of these pictures were of girls (three aged 9 through 12 years, and three aged 13 through 16 years). The remaining 11 pictures in each set contained either the corrected or the uncorrected versions of the pictures of the children with facial clefts. The photographs were equally divided between sets with respect to sex and age.

Procedure

Subjects were shown the pictures in groups during a regularly scheduled classroom period. Subjects were shown either one set or the other. The slides were projected onto a screen at the front of the classroom. The children were told that "sometimes we get ideas about what others are like from just looking at them," and that the investigator was interested in learning about the "impressions children get of other children from pictures." Children were told that they would see pictures of children who varied widely in how they looked. Children were encouraged to express how they honestly felt. They were asked not to put their names on their papers. Finally, children were instructed to keep their responses private and to work alone.

After the initial instructions were given, the children were given a booklet of 22 rating sheets to be used on each picture. Each sheet had the following five questions: (1) How friendly do you think this person is?, (2) How popular do you think this person is?, (3) How smart in school do you think this person is?, (4) How good looking do you think this person is?, (5) Would you choose this person as a friend? A nine point scale was given under each item with "1" as "not at all likely," and "8 to 9" as "extremely" or "100 percent likely."

After the booklet and scales were explained to the children and their questions were answered, slides of the pictures were individually projected onto a screen in the front of the classroom. One practice picture was presented. The children were instructed to rate the picture and to put their pencils down when they were finished and to wait quietly until their classmates were done. When all the children had finished, the investigator asked the class if anyone had questions about the procedure. Presentation of the experimental pictures followed the same format. Ten third-graders had difficulty comprehending the task and reading the materials and were excluded from the study. The teachers of these children indicated that the children had reading difficulties. Complete data were collected from 307 children.

When all 22 pictures had been displayed and rated, the children were asked if they had questions. Several children had questions about the pictures of children with clefts. The birth defect was explained to the children. They were also told that the investigator was interested in learning about how children reacted to other children who had scars on their faces. The presentation, rating of pictures, and debriefing required approximately 30 to 45 minutes for each of the 14 classrooms that participated in the study. Seven classes saw picture set 1 and seven saw picture set 2.

RESULTS

A mixed between-and-within-groups analysis of variance (Keppel, 1973) was conducted on each dependent measure with the following between-group variables: age of subject and gender of subject. The within-group variables were type of picture (corrected versus uncorrected), age of face (young, 9 to 12 years old, 13 to 16 years old), and gender of face. Significant main effects and interactions are summarized in Table 1.

It can be seen from Table 1 that all the main effects for facial deformity are statistically significant ($p<0.001$). There are no statistically significant interactions between facial deformity and age of subject, gender of subject, and age of face. That is, as subjects became older, they did not modify their judgments of facial deformity. Nor did gender of subject interact with judgments of facial deformity. Facial deformity does interact with gender of face.

There are several statistically significant main effects and interactions for age of subject, gender of subject, age of face, and gender of face. These findings are interesting in their own right, but are not relevant to the question of how facial deformity influences social judgments of children and adolescents. Therefore, statistical effects that are independent of facial deformity are not discussed.

Deformed faces are rated as significantly less friendly, less popular, less likely choices as friends, less smart, and less good-looking than nondeformed faces, regardless of subject's age or gender. Children with facial stigmata are consistently attributed less positive personality and behavioral characteristics. The means for uncorrected and correct pictures are given in Table 2.

It can be seen from Table 2 that, for girls especially, the differences between the means of the uncorrected and corrected photographs represent increases from below the midpoint, either to the midpoints, or above on the 9-point

TABLE 1 Summary of Significant Main Effects and Interactions by Facial Deformity, Age of Subject, Sex of Subject, Age of Face, and Sex of Face

Variables	*F Values for Effects*				
	Friendliness	*Popularity*	*Friendship Choice*	*Smartness*	*Looks*
Between Subjects					
Age (A)	6.88‡	3.97†	NS	NS	4.32†
Sex (B)	NS	NS	NS	NS	NS
Within Subjects					
Facial Deformity(C)	128.33‡	207.53‡	131.84‡	125.00‡	293.66‡
Sex of Face (E)	9.03†	297.39‡	40.26‡	NS	360.69‡
A x Age of Face (D)	10.10‡	14.41‡	9.89‡	21.05‡	17.82‡
A x E	10.47‡	NS	2.66*	8.42‡	NS
B x D	33.48‡	14.99‡	59.39‡	22.18‡	24.33‡
B x E	5.66*	11.52‡	45.34‡	NS	35.18‡
C x E	46.27‡	4.45*	8.67†	NS	14.32‡
D x E	87.77‡	5.60†	81.87‡	62.24‡	31.88‡
A x B x E	2.77*	NS	4.39†	NS	4.18†
A x D x E	6.09‡	7.39‡	3.56*	3.23*	4.98†
A x D x E	14.62‡	3.88*	40.00‡	NS	23.21‡

*p <0.05; †p <0.01 ‡p <0.001

scales. This means that the facial corrections result in a rating change from the unacceptable to the acceptable range of the scale. The findings for males are less dramatic but nonetheless consistent.

There is a statistically significant two-way interaction between type of picture and gender of face such that there is a greater disparity between judgments of female faces with and without deformities than of male faces for friendliness, popularity, friendship choice, and appearance ratings—but not for smartness. The differences between the deformed and nondeformed pictures for girls is about two times the amount for boys. For example, the difference for boys is 0.53 for friendship choice and 0.98 for girls. These findings suggest that facial deformity detracts significantly from ratings of both girls' and boys' faces, but to a significantly greater degree for girls' faces.

DISCUSSION

These results among children and adolescents aged 8 through 16 years suggest that facial deformity is a social cue that has consistent negative evaluative connotations. Children and adolescents, males and females aged 8 through 16 years, rated individuals with facial deformities as less popular, friendly, smart, and a less likely choice as a friend. Increased age did not significantly influence the negative evaluative connotations of facial deformity.

Facial deformity did interact with gender of ratee, with female faces receiving more extreme negative ratings than male faces. However, facial deformity was devalued whether the ratee was male or female. This finding is consistent with the physical attractiveness literature that suggests that while appearance is important for both males and females, it may be a more significant social cue for females than for males (Styczynski and Langlois, 1977). As with facial attractiveness, facial deformity may be a central cue for social stereotyping (e.g., "facial deformity is ugly and ugly is bad"). Whether or not facial deformity influences social treatment and the development of social behavior are questions

TABLE 2 Mean Ratings on Measures for Uncorrected and Corrected Pictures by Gender of Face*

Gender of face	*Mean Ratings*									
	Friendliness		*Popularity*		*Friendship Choice*		*Smartness*		*Looks*	
	U	*C*	*U*	*C*	*U*	*C*	*U*	*C*	*U*	*C*
Girls	4.85	5.69	4.39	5.38	4.06	4.91	4.71	5.24	3.49	4.69
Boys	5.02	5.20	3.48	4.18	3.79	4.32	4.74	5.34	2.51	3.21

*U = uncorrected picture; C = corrected picture

for future study. The cleft lip and palate research literature suggests that children who have a facial cleft anomaly do experience marked social and academic difficulties (see McWilliams, 1982 and Tobiasen, 1984 for reviews) and that the severity of the cleft and the degree of deformity are related to the social reaction to the birth defect (Richman, 1978). However, interpretation of these findings obtained in clinical settings is difficult because of other uncontrolled factors, such as hearing and speech problems, that may influence the social development of children with facial clefts.

There are many limitations to this exploratory study. Only children aged 8 to 16 were included as subjects. The stimulus materials were limited, especially with regard to how the attractiveness of facial features other than deformity may have interacted to influence reactions to the pictures. There were only five dependent measures, and they were of the forced choice variety. It would be interesting to ask subjects of different ages to describe and respond freely to the photographic subjects and to obtain qualitative assessments of the pictures.

The most significant finding in this study, i.e., that negative evaluative connotations are associated with facial deformity across age and gender groups, suggests that appearance variables other than attractiveness may have widespread effects on social development. These findings point to another important research area in child health psychology: the social developmental effects of an atypical appearance as a result of either a congenital or acquired defect.

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