

Personality Adjustment in Boys with Cleft Lips and Palates

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Despite the dearth of statistically-documented research to support the position, a number of writers have maintained that a cleft of lip and/or palate is associated with personality disturbances of various sorts and degrees. Likewise, it seems probable that many speech clinicians and plastic surgeons feel that the severity of the associated speech and cosmetic handicaps affects the personality adjustment of the child with a cleft.

Johnson and others (5, p. 60), for example, state that "...there is hardly anything more frustrating, in ways that matter deeply, than something that constantly interferes with our relationships with other people. And few things are more significant in this respect than impaired speech." They later contend (p. 355) that "...many children with cleft palate, especially if the lip is also involved, are self-conscious about their appearance. They are even more self-conscious about their speech impairments, and are often shy and tend to avoid talking." Palmer (10) has described overprotection of speech-impaired children as a "natural concomitant of the appearance of a handicap in the family unit." Kahn (6) has expressed belief that the child whose cleft palate has been surgically treated before age five will typically experience long-term emotional problems, while Kinnis (7) states that uncertainty, fear, and anxiety in the mother of the child with a cleft palate may affect her offspring's attitudes.

Tisza and others (15) have claimed that children with cleft palate characteristically show higher levels of postural tension, muscular rigidity, motor activity, self-sufficiency, and distortions on the Bender-Gestalt than physically normal children. By contrast Sidney and Matthews (13) found their group of children with cleft palates not differing from controls on the California Test of Personality, Thematic Apperception Test, Teacher's Rating Scale, and a sociometric questionnaire. Neither paper includes statistical analysis of data. Palmer and Adams (9) failed to find statistically significant differences in the projective test drawings of faces by children with cleft lips and/or palates and children without clefts. They

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conclude that children with clefts do not have more negative feelings toward their oral structures than do physically normal children.

Many speech pathologists and plastic surgeons presumably justify their search for and application of improved clinical techniques on the assumption that maladjustment in children with cleft palate is in part a function of the amount of facial disfigurement and/or speech disability present. It would be their contention that improvement in the articulation or physical attractiveness of these children will lead to improved personality adjustment. The absence of research on the relationship of personality to cleft palate facial disfigurement and speech handicap has made this assumption a highly tenuous one. The expense of such techniques in time and money, to both patient and clinician, points up the need for an evaluation of the relationship of maladjustment to facial disfigurement and speech impairment in children with cleft palates.

Problem

The purpose of the present study, therefore, was to evaluate the hypotheses that (a) boys with clefts of both lip and palate display more personality maladjustment than do other boys, and (b) personality maladjustment of boys with both cleft lip and palate is in part a function of the severity of their facial disfigurement and/or speech handicap.

Procedure

SUBJECTS. Subjects were 93 boys between eight and 14 years of age. For the purpose of the study they were divided into three groups: cleft group, handicapped group, and normal group. For administrative reasons, only boys were used in this study.

Cleft Group. The cleft group included 34 boys from eight to 14 years of age, all with clefts of both the lip and palate. Fourteen subjects had bilateral cleft lips and 20 had unilateral cleft lips. All had been surgically repaired. Fifteen subjects had palates which were surgically repaired; 11 had surgically repaired palates and pharyngeal flaps; and eight had obturators. All were patients at the University Hospital in Iowa City at the time they were tested.

Handicapped Group. The handicapped group was composed of 19 boys from eight to 14 years of age. All had histories of chronic physical handicap of at least two years duration, but were free from known neurological disorder, mental deficiency, bilateral hearing loss of greater than 30 db, and cleft lip and/or palate. Children whose disorders required extensive hospitalization (an average of three or more weeks per year since onset of the disorder) were eliminated. When seen, all were patients at the University Hospital's departments of pediatrics, orthopedics, or otolaryngology.

Normal Group. The normal group was comprised of 40 boys without known physical handicap, chosen randomly from the fourth and sixth grades of an elementary school in a small Iowa town, 20 from each grade.

TABLE 1. Means and standard deviations of scores on the Personal Adjustment Inventory scales, educational levels, IQs, ages, ratings of articulation defectiveness, and ratings of facial disfigurement for cleft palate, chronic physically handicapped, and normal control groups. None of the *F*s were significant at the .05 level.

<i>Variable</i>	<i>Group</i>	<i>Mean</i>	<i>SD</i>	<i>N</i>	<i>F</i>
Personal Adjustment Inventory Scales					
Personal Inferiority	Cleft Palate	10.67	3.33	34	.71
	Physical Handicap	10.16	3.34	19	
	Control	11.45	4.68	40	
Social Maladjustment	Cleft Palate	12.82	4.22	34	1.17
	Physical Handicap	14.79	4.20	19	
	Control	13.35	4.65	40	
Family Maladjustment	Cleft Palate	8.56	3.68	34	.41
	Physical Handicap	9.16	3.39	19	
	Control	9.30	3.61	40	
Daydreaming	Cleft Palate	2.79	2.69	34	1.99
	Physical Handicap	1.63	1.39	19	
	Control	2.92	2.32	40	
Total Maladjustment	Cleft Palate	34.85	8.39	34	.50
	Physical Handicap	35.73	8.50	19	
	Control	37.02	10.22	40	
Education	Cleft Palate	5.24	1.31	34	1.08
	Physical Handicap	5.63	1.39	19	
	Control	5.00	1.00	40	
IQ	Cleft Palate	104.15	11.88	34	1.21
	Physical Handicap	98.53	23.09	19	
	Control	104.80	11.70	40	
Age	Cleft Palate	11.32	1.48	34	.53
	Physical Handicap	11.65	1.65	19	
Articulation Defectiveness	Cleft Palate	3.32	1.70	34	
Facial Disfigurement	Cleft Palate	5.00	1.61	33	

For further data on the age, educational level, and intelligence of the subjects, and results of analysis of variance, see Table 1. The three groups did not differ significantly on intelligence (Otis Quick-scoring Mental Ability Test, Form Beta) or educational level. Age data on the normal group were not available, but the fact that there were no significant differences in the mean educational levels of the three groups suggests that the mean ages of the three groups probably did not differ significantly.

TESTING. All subjects were administered the Rogers Personal Adjustment Inventory. Members of the cleft group were also rated for articulation defectiveness and facial disfigurement.

Personal Adjustment Inventory. The Rogers Personal Adjustment Inventory (11) was administered individually to members of the cleft and handicapped groups, and in a group setting, to the normal group. The Inventory consists of 43 items to which the subject responds with reports of

wishes, self-evaluations, likes, dislikes, and fantasies. From these responses, scores for five empirically-derived scales are obtained: Sense of Personal Inferiority, Social Maladjustment, Family Maladjustment, Daydreaming, and Total Maladjustment (the sum of the first four scores). Although the amount of validation material available on the test is far from copious (1, 2, 3, 4, 8, 11, 12, 14), the literature suggests that it is at least as adequate a self-report inventory as any other which has appeared to date for use with children.

Articulation Defectiveness Ratings. Each of the 34 members of the cleft group was rated for defectiveness of articulation by a speech pathologist who is actively engaged in clinical and research activities with children who have cleft palates. These ratings were made over a six-month period on samples of speech elicited by a set of five questions (for example, 'What do you like to do best in the afternoon after school?', and 'What are your favorite foods?') asked by the rater. Judgments were made on a seven-point scale ranging from *one* (least defective) to *seven* (most defective). Fourteen of the subjects returned to the hospital after the initial articulation disorder ratings were made and were rerated by the judge. As a measure of reliability, a Pearson r was calculated between the first and second speech ratings made on these 14 children. The obtained correlation was .77. The test-retest intervals varied from eight days to four months, 27 days; the median interval was one month, 11 days. The mean and standard deviation of the articulation defectiveness ratings are available in Table 1.

Facial Disfigurement Ratings. A single full-face (frontal) black and white photograph of the lower central facial area of all but one of the cleft palate subjects was obtained from the hospital photographic service. These photographs, portraying the lower section of the nose, the area between the nose and mouth, and both lips of each child, were mounted on 3" x 5" cards and presented to eight judges. All judges were members of the staff of the Department of Otolaryngology at the University Hospital, and all had had a considerable amount of contact with children with cleft lips and palates. The judges were asked to distribute the pictures according to a predetermined normal distribution using a nine-point scale. The scale values ranged from *one* (most attractive) to *nine* (least attractive). The judges were asked to rate, in a single judgment, the disfigurement present in the upper lip, the area between the upper lip and nose, and the lower half of the nose. The judges were specifically instructed to avoid making ratings on the basis of such irrelevant factors as crooked teeth, braces, chapped lips, saliva, hair, freckles, shadows and facial expression. The mean ratings of the judges for each picture were calculated and defined as the facial disfigurement ratings. The pictures with the highest (8.62) and lowest (2.00) ratings are reproduced in Figure 1. As a measure of the reliability of the ratings, the intraclass correlation technique described by Ebel (4, pp. 407-424) was calculated; the obtained coefficient was $r_i = .96$,



FIGURE 1. The above two photographs received the highest (left) and lowest (right) ratings of facial disfigurement.

indicating very high interjudge agreement. The mean and standard deviation of the facial disfigurement ratings are presented in Table 1.

STATISTICAL ANALYSIS. Both between-group and within-group analyses were made.

Intergroup Comparisons. The significance of the differences among the three groups for each of the five Personal Adjustment Inventory scales was evaluated by analysis of variance. For scales with significant F s at the .05 level, it was decided that t tests would be used to evaluate differences between each of the three possible pairs of group means. Bartlett tests for homogeneity of variance were run for each scale. Only the variances on the Daydreaming scale were significantly heterogeneous at the 0.5 level. Therefore, it appears that the F test for the difference between group means on this scale is spuriously high.

Intragroup Calculation. The correlations between each of the five Personal Adjustment Inventory scales and the three variables of age, articulation defectiveness ratings, and facial disfigurement ratings were computed. The ratings of articulation disorder and facial disfigurement were correlated with age, $-.42$ and $-.16$, respectively. In order to eliminate the effect of age on the inventory scale-rating correlations, partial correlations of (a) articulation defectiveness ratings and (b) facial disfigurement ratings with the five adjustment scales, with variance associated with age partialled out, were also computed.

As a second intragroup analysis, the means of the five subjects with the highest misarticulation ratings and the means of the five subjects with the lowest misarticulation ratings were obtained on each of the five adjustment scales; t tests were run between each of the five pairs of group means. This procedure was replicated with the five highest and five lowest subjects on the facial disfigurement ratings and t tests were run between each of these five pairs of group means.

Results

BETWEEN-GROUP COMPARISONS. The means and standard deviations of all the criterion measures are presented in Table 1. No significant differences between the means of the three groups on any of the five adjustment scales were found.

WITHIN-GROUP COMPARISONS. The obtained correlations between the ratings for articulation defectiveness and facial disfigurement and each personality test measure are reported in Table 2.

Articulation defectiveness ratings. None of the zero-order or partial correlations between the articulation defectiveness ratings and any of the five adjustment scales were significant at the .05 level. The means for the five Personal Adjustment scales for the subjects with the high and low articulation defectiveness ratings, and the t values of the test of significance of the differences between the means, are presented in Table 3. None of the differences were significant at the .05 level.

Facial disfigurement ratings. No zero-order or partial correlation between the disfigurement ratings and any of the five adjustment scales was significant at the .05 level, though the correlations between Social Maladjustment and disfigurement ratings approached significance ($p = .06$ for zero-order r and .08 for partial r). The means on the five adjustment scales for the subjects with the high and low facial disfigurement ratings, and the t values of the tests of significance of the differences between the means are presented in Table 3. No difference was significant at the .05 level.

Discussion

The results of this study do not support the hypothesis that boys between eight and 14 with cleft lips and palates display poorer adjustment in our culture than do physically normal boys or boys with other chronic physical handicaps of various sorts. This paper and that presented by Palmer and Adams (9) suggest that the presumptions of maladjustment as a concomitant of cleft palate, made by previous authors, are of questionable

TABLE 2. Zero-order and partial (age) correlation coefficients between the five Personal Adjustment Inventory scales and ratings of articulation defectiveness and ratings of facial disfigurement. None of the r s were significant at the .05 level.

<i>Inventory scale</i>	<i>Articulation Defectiveness (N = 34)</i>		<i>Facial Disfigurement (N = 33)</i>	
	<i>r</i>	<i>r_{partial}</i>	<i>r</i>	<i>r_{partial}</i>
Personal Inferiority . . . . .	.18	.21	.08	.08
Social Maladjustment . . . . .	.11	.06	.33	.32
Family Maladjustment . . . . .	.09	.02	-.01	-.03
Daydreaming . . . . .	.25	.21	-.03	-.05
Total Maladjustment . . . . .	.25	.20	.18	.16

TABLE 3. Comparisons of scores on the five Personal Adjustment Inventory scales for the high and low articulation defectiveness groups and for the high and low facial disfigurement groups ($N = 5$ for each of the four groups). None of the t s were significant at the .05 level.

<i>Inventory Scale</i>	<i>Articulation Defectiveness</i>					<i>Facial Disfigurement</i>				
	<i>High</i>		<i>Low</i>			<i>High</i>		<i>Low</i>		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>
Personal Inferiority	11.4	3.0	9.6	2.0	1.04	10.6	9.6	10.2	4.1	.06
Social Maladjustment	14.4	5.6	11.6	4.3	.84	11.6	3.7	9.0	1.4	1.28
Family Maladjustment	9.4	5.2	8.2	2.6	.40	7.0	3.4	9.4	2.7	1.12
Daydreaming	4.8	3.6	2.0	2.6	1.22	2.1	1.6	2.6	2.5	.26
Total Maladjustment	40.0	9.4	31.4	7.6	1.42	31.4	4.5	31.2	6.2	.03

validity. Specifically, the claim of exaggerated self-consciousness made by Johnson seems to conflict with the absence of significant differences on the Personal Inferiority scale while Palmer's (10) hypothesis that speech impairment leads to overprotection is not supported by the data on the Family Maladjustment scale. Nor was there evidence of any more 'long term emotional problems' suggested by Kahn (6), or psychopathological attitudes (7) in boys with cleft palates than in physically normal or chronically physically handicapped children as here defined. All members of the cleft group were current hospital patients and, therefore, perhaps more severely afflicted as a group by speech and cosmetic imperfections than a random sample of boys of this age with clefts might have been. This fact seems to emphasize the questionability of earlier assumptions that cleft lip and palate tend to impair the adjustment of boys of this age. However, it is also conceivable that the present group of children with clefts might have been a better adjusted group than a randomly selected sample of boys with clefts might have been since their parents were presumably interested and well-informed enough to see that their care was continued.

The present findings also cast great doubt on the assumption that maladjustment in cleft palate children is related to the amount of facial disfigurement and/or speech handicap present. These findings suggest that the justification for costly cosmetic surgery or speech therapy may have to come from demonstrated relationships of speech handicap and facial disfigurement to variables other than maladjustment.

Naturally, any conclusions based on the results of the present study must be limited to the population from which the samples were drawn. The results did not support the hypothesis that certain types of maladjustment are related to the presence of cleft lip and palate, the severity of facial disfigurement, or the degree of misarticulation associated with cleft palate in boys of our culture between eight and 14 years of age. However, one might suppose that significant relationships between personality and as-

pects of this anomaly might be present in other populations. For example, it might be hypothesized that cleft palate leads to personality disturbances only after the advent of puberty and the concomitant increase in the importance of kissing and attracting members of the opposite sex. Or, on the other hand, one might guess that the presence of cleft palate speech and cosmetic handicaps is more damaging to the adjustment of girls than to that of boys. Or, one might hypothesize that maladjustment is more severe among very young children with clefts who have only recently begun management. These suggestions, of course, are no more than hypotheses for future study, but do seem to merit further research. It is also possible that the presence of cleft palate and the handicaps associated with it are, indeed, related to personality disturbances in eight- to fourteen-year-old boys, but, if this is the case, these disorders are not reflected by the Personal Adjustment Inventory. At present, one must conclude that there is no statistically documented evidence favoring the often stated contention that cleft palate or the degree of speech and cosmetic handicaps associated with it are causes of any sort of personality maladjustment in any population.

Summary

No significant differences were found in the Rogers Personal Adjustment Inventory scores of three groups of boys with (a) both cleft lip and palate, (b) other chronic physical handicaps, and (c) no known chronic physical handicaps. Likewise, no significant relationships were obtained for the boys with clefts between any of the five personality scales and ratings of misarticulation or facial disfigurement either before or after age had been partialled out. The findings cast doubt on the often-stated contention that the presence of cleft lip and palate, the degree of concomitant facial disfigurement, or the amount of associated misarticulation is related to personality disturbance in boys between eight and 14 years of age.

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