A Comparison of Children with Cleft Palate and Their Siblings on Projective Test Personality Factors*

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Children with cleft palate and cleft lip and palate experience special conditions in their interpersonal relationships because of the existence of the cleft. Among the most important of these conditions are special problems of care and feeding during infancy, the traumas of surgery early in life, and the reactions of parents and others to them as handicapped individuals. They also may have physical handicaps of facial disfigurement, hearing loss, and defective speech. Any one of these conditions could be expected to have a measurable deleterious effect upon the psychological development of the child. Because children with cleft palate undergo experiences that are common to most of them but are uncommon for most other children it seems tenable to hypothesize that cleft palate children should have psychological characteristics that differentiate them from noncleft palate children.

McDonald (*8*) and Tisza & Gumpertz (*17*) discuss in detail the profound reactions of parents to the birth of the cleft palate child and conclude that these reactions are translated into attitudes and behavior toward the child that influence his personality and adjustment. Case histories have been presented by Alpert (*1*) and Tisza (*16*) to illustrate personality differences in cleft palate children. Hackbush (*5*) in a review of the use of projective techniques concludes that although there is probably no such entity as a cleft palate personality the Rorschach patterns of cleft palate subjects are similar to the patterns of cerebral palsied and emotionally deprived subjects. This conclusion, however, is not supported in the article by data or the citation of research.

Research into personality differences using various measures including projective techniques has yielded a number of results that do not support the hypothesis of personality differences or major maladjustment. The figure drawings of cleft palate children have been compared with their siblings by Ruess (*10*) and with a matched control group by Palmer & Adams (*9*) without differences being found. Sidney & Mathews (*14*), us-

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ing a sociometric questionnaire, the California Personality Test, the Thematic Apperception Test, a teachers rating scale and the Vineland Social Maturity Scale did not find consistent significant differences between the cleft palate children and a matched control group. English (*3*) compared cleft palate and lip and palate children with a matched control group using a sentence completion test, the Rosenweig P-F Test, and parent and teacher questionnaires. He found no consistent differences between the cleft palate and the control groups. Watson (*18*) found no differences between cleft lip and palate boys, another handicapped group and a nonhandicapped control group on the Rogers Personal Adjustment Inventory. He also found no relationship between articulation defectiveness and adjustment or facial disfigurement and adjustment. Birch (*2*) found not one cleft palate child among the 600 children reported to be the most severely maladjusted in a large city public school system.

There have been several studies in which personality differences have been found. Tisza, et al., submitted protocols of the dramatic play of cleft children to psychoanalytically oriented child psychiatrists and to pediatric nurses. The judges found the fantasies of these children to be of unusual depth and intensity with a marked preoccupation with oral fantasies both aggressive and incorporative. In a comparison of cleft palate children with children referred to a child guidance clinic, Gluck & McWilliams (*49*) reported that cleft palate children were more frequently shy and enuretic and less frequently reported to be aggressive, to have poor attention and poor school achievement. Smith & McWilliams (*15*) found cleft palate children to be less creative on both verbal and nonverbal tasks than a matched control group.

While the results of previous studies, using projective and other assessment techniques to test for personality differences in cleft palate children, were not encouraging, the present study was undertaken for several reasons. The authors had available to them a larger pool of cleft children than was available to authors of previous studies. The N's were sufficiently large that the cleft lip and palate group and the cleft palate only group could be analyzed separately. Since there is evidence that cleft lip and palate and cleft palate have different etiologies and since cleft lip and palate involves facial scarring and cleft palate does not, analyzing the test results separately for the two groups might elicit differences that could be masked by combining them. A control group of siblings was available which permitted comparing the children with clefts with children closely matched for experiential variables.

Procedure

The records of the Lancaster Cleft Palate Clinic were searched for all active cases of cleft lip and palate and cleft palate only who lived within a 150 mile radius, were between the ages of 7–0 and 14–0, lived with their mother or mother and father, and who had in the home a noncleft sibling

TABLE 1. Characteristics of the research population.

group	*N*	*age in months*		*sex*		*residence*		*socioeconomic class*				
		M	*SD*	*M*	*F*	*rural*	*urban*	*1*	*2*	*3*	*4*	*5*
cleft lip and palate	34	130.41	28.79	27	7	22	12	4	2	4	15	9
sibling of lip & palate	34	122.38	24.60	25	9							
cleft palate only	32	122.25	25.98	19	13	17	15	1	1	2	17	11
sibling of palate only	32	119.50	20.34	21	11							

of either sex also within the 7–0 to the 14–0 year age range. In families where there was more than one sibling within the age range, a decision as to which one would be used as the control was arbitrarily made prior to the collection of the data. These decisions were made in order to obtain groups that were as well matched as possible for sex and age.

From a population of 78 lip and palate and palate only children, 12 were eliminated prior to testing for the following reasons: refusal of parents to cooperate, 5; nonwhite, 3; cleft palate child who was almost blind, 1; child with a cleft who had suffered a major traumatic head injury, 2. Sixty-six children with clefts and 66 sibling controls finally participated in the study. Data relative to cleft type, age, sex, type of residence, and socioeconomic class (6) are presented in Table I.

The experimental child and his control were tested on the same day. The authors, both experienced in examining cleft palate children, conducted the psychological evaluations. The two examiners alternately tested the experimental child of the pair so that each examiner tested equal numbers of experimental and control *S*s. The test battery included intellectual measures[1] as well as the Thematic Apperception Test, Rorschach, Kahn Test of Symbol Arrangement, and a Draw A Person Test.

The protocols for each of the projective techniques were scored for those variables that could be scored either objectively or semi-objectively. Objective scoring is defined as scoring in which no judgement is required i.e., the number of responses, times a body part is mentioned, etc. Semi-objective scoring is defined as scoring in which scoring judgements can be made according to well defined criteria. The decision to include only objective or semi-objective scores was predicated on the belief that if such scores did not demonstrate differences, then scores subjectively determined either would not show differences or that the differences would be spurious.

The results were analyzed by means of tests of significance of difference between cleft lip and palate children and their siblings and beween cleft

[1] A paper relating the results of the intellectual measures which included the WISC, Quick Test, and the Reading Section of the Wide Range Achievement Test is in preparation.

palate only children and their siblings. For interval data t tests for correlated means were used. For ordinal data either chi square or the Kolmogorov-Smirnov test was used.

Draw A Person. The *S*s were asked to draw a picture of a person, a picture of a person of the opposite sex and a picture of themselves. After completion of the drawings each subject was asked to select the picture he liked best and the picture he liked least. A total of 67 items were tested for significance of difference for each cleft group and their siblings. These items included best and least liked drawings, heights of figures, placement of figures on the paper, the inclusion of various body parts, the presence of transparencies, erasures, and shading. There was one significant difference at the .05 level—the proportion of head to body size on the self drawing was larger than for the siblings. It approached significance for the lip and palate group and was significant for the palate only group. This must be considered a chance difference since there were fewer than expected significant differences.

Kahn Test of Symbol Arrangement. The Kahn Test of Symbol Arrangement (KTSA) is a projective technique that employs 15 plastic objects and a felt strip with 15 boxes numbered 1–15. The objects include dogs, stars, hearts, a cross, and a circle. The subject is asked to do various things with the objects such as arrange them however he wishes, according to how he likes them; to associate meaning to the objects; sort the objects into categories of love, hate, good, bad, living, dead, small, large.

The KTSA purports to measure such attributes as autism, level of cognitive ability, rigidity, organizational capacity, emotional stability, communicative ability, range of interests, intellectual control, aspirational level, capacity for self appraisal, positive and negative emotions. The scoring for these variables is either objective, counting the frequency of a specific behavior, or semi-objective, scoring judgements based upon well defined criteria. The percentage of agreement between two experienced scorers on the semi-objective scoring was 89.9.

More than three hundred tests for significance of difference between lip and palate children and their siblings and palate only children and their siblings were computed. Only two significant differences, one at the .05 level and one at the 0.1 level of significance were found. Since a larger number of significant differences may be expected to occur by chance and since those differences that were significant had no meaningful relationship to significant differences obtained on other measures, no meaning can be attached to the differences obtained.

Thematic Apperception Test. Five cards of the Thematic Apperception Test (TAT) were presented one at a time to each child with a standard instruction to make up a story telling what is happening in the picture, how the people feel, what they are thinking, what led up to the story, and how the story turns out. The cards used were Card #1 (boy

with violin), Card ♂2 (farm scene), Card ♂5 (woman looking in a room), Card ♂8 (operating scene), Card ♂16 (blank card). The stories were tape-recorded, and typescripts were made. Scoring, using the system devised by Sells & Cox (11) with the addition of an analysis of interactions between the story characters, was accomplished from the transcripts. The interaction analysis measured whether the action came from the hero or was directed toward the hero and whether the interaction was positive or negative in quality. All stories were scored anonymously by each of two trained college graduates. The agreement between scorers was 94 percent. Scoring disagreements were resolved in conference.

The results were analyzed for differences between children with lip and palate and their siblings and palate only and their siblings on over 45 variables devised by Sells & Cox and 36 interactive variables. Examples of the variables tested that seemed most likely to elicit differences were: morbid mood quality, confusion, escape, egocentrism, fantasy, fear, projection, antagonism, affection, rejection, unhappiness, illness, injury, and death.

There were three significant differences at the .02 level, all of them differences between the palate only group and their siblings. The palate only children significantly more often projected themselves into the story. This kind of response suggests an excessive tendency to refer events to the self. They significantly more often perceived characters as neglectful, rejecting, or hateful and they told more negative stories in the sense that the story was either negative throughout or ended on a negative or unpleasant tone.

RORSCHACH. The ten Rorschach inkblots were presented to each of the subjects with standard instructions. On the first card the subject was asked, "Anything else?" after he indicated that he was through with the card. No inquiry was done. The protocols were electrically tape recorded and typescripts made from the recordings. The protocols were scored in random order and anonymously by one of two college seniors who had been trained by the authors in scoring. The first through the seventeenth protocols were scored by both students. These were used to determine inter-judge agreement. The scorers had a 93 percent agreement on all items in the first seventeen protocols.

The Rorschachs were scored for a total of 158 categories. The various categories and a brief description of the interpretative significance of these categories is presented below.

The *number of responses* per card and the total number of responses were obtained. These yield a measure of the child's overall productivity. The greater the number of responses the more productive the child.

Content refers to the categorization of the things perceived and named. *Primary content* was categorized into the various kinds of human and animal responses (whole, detail, imaginary), anatomy, and "other" re-

sponses (nonanimate objects). Primary content was scored once per response. *Secondary content* was scored for each elaboration or specification of a primary response. It included specific details such as mention of head or face, face parts, mouth and mouth parts, specific anatomy, specific animals, specific nonanimal objects such as fire, food, weapons. Both primary and secondary content tap motives, interest, and areas of concern. Presumably if the cleft palate children differed in their motives, interests, and areas of concern there should be differences in content. It might be expected, for example, that there would be differences in emphasis upon head, face, face parts, mouth and mouth parts.

Movement was scored if a quality of motion or tension was ascribed to the object. Movement was analyzed for active-passive and receptive-aggressive-expressive qualities. Movement responses relate to a person's "... self concept, his tension and conflicts surrounding the acceptance of his self, his fantasies, and impulses (7)".

Color, both chromatic and achromatic, were scored when there was a mention of color as an aspect of the response. Color responses relate to the quality and nature of a person's emotional responses to the environment.

Elaborations were scored when the person made additional comments indicating such qualities as death, decay, pleasantness. Elaborations tap the person's overt attitudes and feelings toward the environment.

Style was scored in respect to statements that were not responses but were reactions to the test. This included, for example, statements indicating inability, hesitation, or self-reference. Style is indicative of a person's manner of coping with a situation in relationship to other people.

The results were analyzed by comparing lip and palate children with their siblings and palate only children with their siblings. Of the 316 tests of significance, 3 were significant at the .05 level. Since by chance at least 16 differences would be expected at the .05 level, no real meaning can be attached to the 3 items that were significant. However, for the record, the lip and palate children had more geography and color responses than their siblings and the palate only children had fewer household responses than their siblings.

Discussion

Table 2 summarizes the results of this study. For all the techniques but one the frequency of significant results was less than would be expected by chance. The exception was the number of differences between the cleft palate only group and their siblings on the TAT. In this instance there were approximately two more significant differences at the .05 level than would be expected by chance. The overall negative results by themselves cannot be interpreted to mean that there are no personality differences between cleft palate children and their siblings. As with most negative results, there are several possible interpretations of the data.

TABLE 2. Summary of tests of significance between cleft palate children and their siblings.

technique	*no. of statistical tests run for each group*	*number of significant differences*			
		*lip & palate N = 34**		*palate only N = 32*	
		P = <.05	*P = <.01*	*P = <.05*	*P = <.01*
DAP	67	0	0	1	0
KTSA	161	2	0	1	1
TAT	71	0	0	5	0
Rorschach	155	2	0	1	0

* For the TAT and Rorschach N = 33 because one cleft palate child's protocols were unscorable due to unintelligibility.

It may be that projective techniques are not sufficiently sensitive to personality differences to elicit subtle personality differences if they do exist in the cleft palate population. The literature on the validity of projective techniques is massive and contradictory. However, there are studies in which different populations have yielded significantly different projective test responses. To cite a single example, Seward, Morrison & Fest (*12*) compared colitis and ulcer patients using the Rorschach and TAT. They obtained 5 significant differences at the .01 level and 4 at the .05 level out of a total of 20 tests of significance on the Rorschach. On the TAT their number of significant differences, while not as frequent as with the Rorschach, was well beyond chance expectancy.

It is possible that the presence of a cleft palate child in a family influences the behavior of the family toward all the children in the family so that the children are different from those in noncleft palate families but are not different from each other. There are several arguments against this possibility. First it suggests that having a cleft palate child in the family has such a powerful influence on parents that it overrides the many other factors which cause parents to behave somewhat differently toward each of their children. Secondly, it assumes that the effects on the siblings will be of the same nature as the effects on the cleft palate child. Other studies of personality differences between cleft palate children and nonsibling control groups have also failed to demonstrate personality differences.

It is possible that lumping the test responses of children from a wide age range (7–14 years) masked differences that exist at different age levels. In other words if cleft palate children had been compared with noncleft palate children within an age range of one or two years, differences might have resulted. This appears to be the most cogent argument against ascribing meaning to the negative results obtained in the study. Children's responses to projective techniques alter greatly with age. Com-

bining ages could have masked differences between the groups. However, if there are major enduring personality differences between cleft palate children and their siblings and if projective techniques are sufficiently sensitive, some of the differences should have emerged even across the age levels encompassed in the study.

It is possible that, whereas an item by item analysis did not result in differences, an analysis of configurations of scores would have resulted in differences. The research was specifically designed to analyze items rather than configurations because it was believed that configuration scores usually require more subjective judgement with a consequent reduction in reliability. Also, it was assumed that if item scores were not different, then configuration scores, which must somehow be derived from a combination of items, would not be different either. Setting aside these methodological concerns, there is some evidence against the possibility that configuration scores from these data might have yielded differences. Some of the differences tested were configuration scores in that two or more items were compared with each other. For instance on the DAP the heights of the first figure and self picture were compared. The KTSA yields a symbol pattern score, and the composites of these were startingly similar for all groups. Finally, the authors with 20 years of combined experience with projective techniques, were unable to detect any trends in response patterns that differentiated one group from another. Had clinical trends been detected, then post hoc tests of configuration scores would have been calculated.

Over half of the cleft palate Ss began treatment at the Clinic before the age of one, 67 percent before the age of two and 94 percent before the age of six and one-half. Therefore, the majority of the subjects had all or almost all of their treatment at the same clinic facility. Both the child and the parents were familiar with the staff, had had an opportunity to establish enduring relationships of confidence and ease, and had received early habilitation. It is possible that these long-term relationships among patients, families, and staff fostered an emotional security that favorably affected the children's personal adjustment, and that the early habilitation significantly reduced the psychological and social consequences of cleft palate. Unfortunately, there were insufficient patients available with a different early treatment history to test the effects of consistency and continuity in treatment.

The results of this study are not conclusive. At best they are suggestive. They confirm the negative results of other attempts to discover personality differences in cleft palate children by means of projective or other assessment techniques and they throw additional doubt upon the proposition that there are major personality and adjustment differences in cleft palate children. The results also are consonant with research on other forms of physical disability (13) which has not supported the commonly

held assumptions that specific forms of somatic disorders commonly are associated with specific types of personality and that a disability is necessarily a sufficient cause for psychological maladjustment. Research into the personality aspects of cleft palate needs to be directed to the possible reasons for these absences of identifiable psychological correlates.

Summary

Sixty-six cleft palate only (N = 32) and lip and palate (N = 34) children between the ages of seven and fourteen were compared with an equal number of siblings within the same age range on responses to projective techniques. The number of significant differences obtained between the two cleft palate groups and their siblings were fewer than expected by chance. Possible meanings and implications of the lack of differences are discussed.

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References

1. Alpert, A. Notes on the effect of a birth defect on the pre-genital psycho-sexual development of a boy. *Am. J. Orthopsychiatry, 24:* 186–191, 1959.
2. Birch, J. Personality characteristics of individuals with cleft palate: Research needs. *Cleft Palate Bulletin, 2:* 2, 1952.
3. English, R. S. Cleft palate children compared with noncleft palate children: A personality study. (Ed.D. dissertation, University of Oregon) Ann Arbor, Michigan: University Microfilms, 1961. (Unpublished).
4. Gluck, M., McWilliams, Betty Jane, *et. al.* Comparison of clinical characteristics of children with cleft palates and children in a child guidance clinic. *Perceptual and Motor Skills, 21,* 806, 1965.
5. Hackbush, Florentine. Psychological studies of cleft palate patients. *Cleft Palate Bulletin, 1951, 1:* 4.
6. Hollingshead, A. B. Two factor index of social position. New Haven, Conn.: Privately printed, 1957.
7. Klopfer, B. and Davidson, H. *The Rorschach Technique: An introductory manual.* New York: Harcourt, 1962.
8. McDonald, E. Counseling of parents with children with cleft lip and cleft palate. Speech presented at seminar at H. K. Cooper Institute for Research, Education and Rehabilitation of the Lancaster Cleft Palate Clinic, Lancaster, Pa. October, 1963.
9. Palmer, J. M. and Adams, M. R. The oral image of children with cleft lip and palate. *Cleft Palate Bulletin, 12:* 1962.
10. Ruess, A. L. A comparative study of cleft palate children and their siblings. *Journal of Clinical Psychology, 21:* 354–360, No. 4, October, 1965.
11. Sells, S. B. and Cox, S. H. Normative studies of childrens' performance on the Thematic Apperception Test. IV Standarized scoring & development of measurement scales. Final Report: Contract #PH86-64-103 with the National Center for Health Statistics. USPHS, 1966.
12. Seward, G. H., Morrison, L. M. and Fest, B. Personality structure in a common form of colitis. *Psychological Monographs—General and Applied, 65:* No. 1, 1951.
13. Shontz, F. Physical disability and personality: Theory and recent research. *Psychol. Aspects of Dis. Vol. 17, No. 2,* 51–69, 1970.
14. Sidney, R. A. and Mathews, J. An evaluation of the social adjustment of a group

of cleft palate children. Abstract of paper presented to the American Association for Cleft Palate Rehabilitation, May, 1956.
15. SMITH, R. M. and MCWILLIAMS, B. J. Creative thinking abilities of cleft palate children. *Cleft Palate Journal, 3:* 275–283, 1966.
16. TISZA, V. B., SELVERSTONE, B., *et al.* Psychiatric observations of children with cleft palate. *Am. J. of Orthopsychiatry, 26:* 1958.
17. TISZA, V. B. and GUMPERTZ, E. The parent's reaction to the birth and early care of children with cleft palate. *Pediatrics, July, 1962.*
18. WATSON, C. G. Personality adjustment in boys with cleft lips and palates. *Cleft Palate Journal, 1964: 1,* 130–138.