Behavior and Achievement of Cleft Palate Children

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Although previous research has attempted to identify unique personality characteristics of children with cleft lip and/or palate, results have been inconsistent. The evidence from most studies utilizing structured personality tests and objectively scored projective techniques supports the contention that children with cleft lip and/or palate do not display significant emotional maladjustment (*1, 2, 3, 11, 14, 15, 16, 21, 23*). However, there is some evidence, based on studies using a variety of behavioral observations, projective techniques and clinical impressions, that cleft children do demonstrate certain unique characteristics including increased bodily tension (*20*), extrapunitive needs (*5*), adjustment difficulties (*7*), and reduced creativity (*17*).

One possible explanation for the conflicting conclusions based on projective techniques and clinical impressions is the variance resulting from different examiners' interpretations. This allows advocates of different personality theories to "discover" characteristics consistent with their own theories. An additional factor which may contribute to the conflicting evidence is the failure of many investigators to use control groups to provide normative data from which to draw conclusions regarding possible personality deviations.

Although data from standard personality tests and objectively scored projective techniques yields mainly nonsignificant results, these results are tempered by the methodological problems inherent in personality research efforts. One criticism of many personality tests is that they may not be sensitive to behavior characteristics exhibited by individuals in day-to-day situations.

Does the general failure to document a "cleft-palate personality" (*4*) mean that further efforts to investigate psychological and behavioral variables of cleft palate individuals are doomed to failure? While previous research efforts fail to demonstrate significant psychopathology within cleft groups, few empirical studies have attempted to describe more "normal" behavioral variants of cleft children. Most previous personality investigations of cleft children have utilized instruments which were originally designed to discriminate "normal" from "abnormal" personality characteristics. While it has been documented that cleft children, as a group, do not display significant psychopathology, this does not

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preclude the possibility that there may be commonly identifiable behavioral or emotional characteristics occurring in cleft children.

A somewhat recent trend in the cleft literature is the utilization of questionnaires and behavioral checklists focusing on variants of "normal" behavior in an attempt to describe, if not differentiate, the behavior of cleft children. Parental reports of the behavior of their cleft children frequently include the descriptions of "shy" (*6*), "nervous" (*10*), and having a preference for solitary activities (*18*). Spriesterbach's (*18*) comprehensive investigation of psychosocial influences of cleft palate supports the picture of the cleft child as less confident, less aggressive, and less independent than his non-cleft peers.

The characteristics cited in these studies are variants which may influence behavior and achievement in the classroom. However, there has been a dearth of information regarding the classroom behavior and educational achievement of cleft children (*22*). The child with a cleft lip and palate frequently manifests facial disfigurement and speech difficulties. These characteristics may influence teacher perceptions and peer responses which may have an effect on the cleft child's classroom functioning. It would, therefore, seem reasonable to hypothesize that the presence of these conditions may influence school behavior and achievement.

Purpose

The purpose of this investigation was to study the relationship between the cleft palate condition and the child's school behavior and achievement. The research questions were: (A) When cleft palate children are compared to noncleft children of similar sex, age, intelligence, and socioeconomic status, will the cleft palate child be rated by teachers as displaying different behaviors? (B) When cleft palate and noncleft children with similar matched characteristics are compared, will the cleft palate children achieve at a different level?

Procedure

SUBJECTS. The subjects were 88 boys and girls between 9 and 14 years of age. The cleft group included 44 children in grades four through eight who were enrolled in the Cleft Palate Research Project at the University of Iowa Hospitals. The cleft sample included 25 boys and 19 girls. Of the 44 cleft children, 29 had clefts of the palate only, and 15 had clefts of the lip and palate. Since children with clefts of the lip only typically require less frequent habilitative services, only those children with clefts of the lip and palate or isolated palatal clefts are included in this investigation. The cleft population is usually considered to be heterogeneous with respect to speech defectiveness, hearing sensitivity, and facial disfigurement. The sample of cleft children in this study is best described as more homogeneous than the general cleft population. Most of the 44 cleft children were rated as having either normal speech or mild speech problems and hearing sensitivity was usually within normal limits. The facial disfigurement ratings were more variable. However, subsequent correlational studies indicated that facial disfigurement was not significantly related to any of the behavioral ratings or achievement test scores.

The control sample consisted of 44 public school children in grades 4 through 8 who came from a randomly selected pool of 152 students.

EXPERIMENTAL MATCHING PROCEDURE. Each cleft child was individually matched with a control subject on the basis of sex, age, grade, socioeconomic status, and intelligence. The criterion for the age match was specified to be no greater than six months between birthdates. The index for matching on socioeconomic status was the Hollingshead Two-Factor Index of Social Position (*8*).

The intelligence tests utilized in the matching procedures consisted of the Wechsler Intelligence Scale for Children for the cleft sample and the Lorge-Thorndike Test for the control sample. Since there were no significant differences between the verbal and nonverbal portions of either test for either sample, the combined single intelligence quotient was used for matching purposes. While two different intelligence tests were employed, there is evidence of adequate correlation between the two tests in estimating intellectual functioning (*13*).

INSTRUMENTS. The instrument for the teachers' ratings of behavior was the Behavior Problem Checklist developed by Quay and Peterson (*12*). The Behavior Problem Checklist is a factor analytically derived rating scale of behavior problems frequently occurring in children and adolescents. It consists of 36 behavioral descriptions which are checked as either descriptive or nondescriptive of the child. In factor analytic studies utilizing large numbers of normal children, various identified populations of "symptomatic" children, and a variety of raters, the checklist has consistently yielded similar and independent factors. The Behavior Problem Checklist has established norms for large numbers of public school children (*19*) and adequate interteacher and intrateacher reliability (*12*). This instrument consists of two independent factorial dimensions: (A) Conduct Disorder, which implies externalizing behavior or the excessive expression of impulses, and (B) Personality Disorder, which implies internalizing behavior or the excessive inhibition of impulses.

The instrument employed to obtain achievement data was the Iowa Tests of Basic Skills (ITBS). This is a standardized objective test. The composite grade equivalent score was utilized as the index of achievement.

TABLE 1. Characteristics of the cleft and control groups

variable	*cleft group*	*control group*
Number	44	44
Sex		
males	25	25
females	19	19
Age (mean yr.)	12.37	12.54
Grade (mean yr.)	6.14	6.14
Socioeconomic status (mean level)	3.83	3.83
IQ (mean)	104.0	103.8
(S.D.)	13.5	14.2

The child's current classroom teacher was asked to complete the Behavior Problem Checklist and record the ITBS composite grade equivalent obtained during the school year in which the investigation took place. When the child had more than one teacher, the homeroom teacher or the teacher who had the child the greatest portion of the classroom time was selected. Complete data from all criterion measures were obtained on each of the 88 children. The means and standard deviations of the Personality Disorder, Conduct Disorder, and achievement test scores are presented in Table 2.

Statistical Analysis

There were no significant differences between the cleft lip and palate and the cleft palate only children on the criterion measures; therefore, these children were pooled for the statistical analysis.

The design employed in each of the three statistical analyses was a Linquist Type I (AxB) analysis of variance (*9*). The first analysis evaluated differences in the personality disorder scores. The second analysis evaluated differences in the conduct disorder scores, and the third analysis evaluated differences in the achievement test scores. The main effects in each analysis were disability x sex. The disability factor refers to the presence or absence of the cleft condition. Tables 3, 4 and 5 present the results of the three statistical analyses.

Results

PERSONALITY DISORDER. The cleft boys and girls were rated by teachers as displaying significantly higher scores on the Personality Disorder (internalizing behavior) than their noncleft peers (Table 3). The Personality Disorder dimension of the Behavior Problem Checklist reflects the excessive inhibition of impulses. The Personality Disorder scores for the control sample were similar to

TABLE 2. Means and Standard Deviations of the Personality Disorder, Conduct Disorder, and Achievement Test Scores*

variable	*cleft group*		*control group*	
	mean	(*S.D.*)	*mean*	(*S.D.*)
Personality disorder				
males	6.36	(4.40)	3.20	(2.69)
females	5.89	(4.08)	3.37	(2.27)
total	6.16	(4.23)	3.27	(2.49)
Conduct disorder				
males	4.48	(5.03)	7.52	(5.77)
females	2.37	(4.06)	2.95	(3.85)
total	3.57	(4.70)	5.55	(5.48)
Achievement test				
males	5.26	(1.87)	6.72	(2.03)
females	6.56	(1.83)	7.15	(1.87)
total	5.82	(1.95)	6.90	(1.96)

* Higher scores on the first two tests indicate a greater number of problem disorders, and lower scores indicate fewer problem behaviors.

TABLE 3. Analysis of variance for Personality Disorder ratings (Behavior Problem Checklist).

source of variation	*df*	*mean square*	*F*
Between subjects	43	12.96	
Sex (B)	1	.48	.03
Error	42	13.26	
Within subjects	44	15.01	
Disability (A)	1	183.28	16.20**
A × B	1	2.17	.19
Error	42	11.31	

** $p < .01$.

TABLE 4. Analysis of variance for Conduct Disorder ratings (Behavior Problem Checklist).

source of variation	*df*	*mean square*	*F*
Between subjects	43	29.82	
Sex (B)	1	241.16	9.72**
Error	42	24.79	
Within subjects	44	23.76	
Disability (A)	1	86.01	3.89
A × B	1	32.69	1.48
Error	42	22.07	

** $p < .01$.

TABLE 5. Analysis of variance for Achievement test scores (composite grade equivalent of Iowa Tests of Basic Skills)

source of variation	*df*	*mean square*	*F*
Between subjects	43	6.96	
Sex (B)	1	16.24	2.41
Error	42	6.73	
Within subjects	44	1.24	
Disability (A)	1	25.86	44.23**
A × B	1	4.18	7.14*
Error	42	.58	

* $p < .05$.
** $p < .01$.

norms for public school children (*19*), while the cleft group deviated significantly from the control group and published norms.

CONDUCT DISORDER. Cleft children were not significantly different from their noncleft peers on the Conduct Disorder dimension (externalizing behavior) (Table 4). The Conduct Disorder dimension of the Behavior Problem Checklist reflects the excessive lack of inhibition of impulses. Boys, both cleft and noncleft,

were rated by teachers as displaying more Conduct Disorders than girls. This finding is consistent with most other studies utilizing the Behavior Problem Checklist which find that boys are typically rated by teachers as displaying more Conduct Disorders than girls (*12, 19*).

ACHIEVEMENT. The cleft boys and girls received significantly lower composite achievement scores than their noncleft peers (Table 5). While this difference is primarily attributable to the low achievement scores of cleft boys, the cleft girls achievement was also significantly below that of noncleft girls. The cleft boys obtained a mean achievement score greater than one year below the mean of noncleft boys, while the cleft girls obtained a mean achievement score approximately one-half year below the mean of the noncleft girls.

Discussion

The findings of significantly greater inhibition of impulses and lower educational achievement for cleft lip and palate/palate only children may be indicative of a less confident and less competitive youngster. This description is consistent with results of previous investigations which have utilized behavioral ratings and questionnaires.

While this investigation supports the contention that cleft palate children display greater inhibition of impulses than noncleft children, this does not necessarily indicate that these children are emotionally maladjusted. The cleft palate child may have learned to avoid situations which give rise to negative responses by others. Peer teasing and the lack of a positive social response from others may be decreased by avoiding behaviors which call attention to oneself. This possible explanation remains to be documented by evidence that cleft palate children do in fact receive significantly more negative social responses from others.

While the inhibition of impulses may be considered a successful adaptive response in that it may decrease negative social responses from others, this mode of behavior may be less successful in some situations. For example, in the classroom environment, which may require a degree of independence and competitiveness for successful achievement, this inhibited child may meet with less success than his peers.

The results of this investigation suggest the need to evaluate further the effects of social-behavioral influences on the cleft child. Through further identification and understanding of these influences and of the cleft child's response to them, we may become capable of providing more complete habilitative services.

Summary

Forty-four cleft lip and palate/palate only children were individually matched with forty-four normal school children on the basis of sex, age, grade, intelligence and socioeconomic status. All children received behavioral ratings by classroom teachers, and achievement test scores were obtained. The cleft children were rated by teachers as displaying significantly greater inhibition of impulse (internalizing behavior). Cleft children also were significantly lower on overall

basic skills achievement test scores. It was suggested that cleft children may be responding to the social-behavioral environment which may include negative social responses from others.

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