Psychiatric Evaluation of Youth with Cleft Lip-palate Matched with a Control Group

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Ten subjects were randomly selected from each of four pools of patients (male CPO, male CLP, female CPO and CLP) age six to 18 years regularly followed by a cleft palate clinic. Forty controls from a family practice clinic were matched for age, sex, and socioeconomic status. Congenital second anomalies were present in 13 cleft children, five of whom were male CPO. Significant hearing loss was found in 11 cleft children and speech articulation problems in about 50 per cent of the sample. Both cleft and control groups were interviewed by a child psychiatrist, and mothers completed a behavior rating check list. There were no significant differences in the number of subjects from both groups having psychiatric diagnoses or conflicts. Mother’s ratings indicated that cleft group had significantly more subjects with excessive dependency problems while control group had significantly more subjects having problems with resenting correction, talking negatively about self, and projecting blame to others. Significantly more male CPO and female CLP patients had psychiatric diagnoses, particularly mental retardation and developmental deviations, when compared to male CLP and female CPO groups. Cleft children with articulation problems were more likely to have psychiatric diagnoses and conflicts.

Introduction

The cleft lip and cleft palate condition may have psychological effects on the child and his family. Some of these effects are immediate and short-term, and other effects may develop long after birth. Many studies have indicated that cleft lip-palate children have significantly lower intelligence scores when compared with normal control children (Estes and Morris, 1970; Goodstein, 1961; Ruess, 1965). Verbal subtest scores were significantly lower than performance subtest scores in the Goodstein study (1961). Smith and McWilliams (1968), after administering the I.T.P.A. to cleft lip-palate children, found a general language depression particularly in vocal expression, gestural output, and visual memory.

In one particular study (Lamb et al., 1973) cleft conditions were grouped according to type of cleft and sex of the subject, i.e. male cleft secondary palate only (MCPO), male cleft lip and/or primary palate with or without secondary palate involvement (MCLP), female cleft secondary palate only (FCPO), female cleft lip and/or primary palate with or without secondary palate involvement (FCLP). The MCPO and FCLP groups had a lower occurrence in the general population than the other two groups and a higher incidence of major malformations. Mean WISC verbal scores of the MCLP and FCPO groups were significantly higher than the FCLP and MCPO groups. However, the mean WISC full-scale scores of the palate only groups did not differ significantly from the lip-palate groups which was in contrast to Goodstein’s (1961) finding of significantly lower WISC scores in the palate only group. Lamb et al., (1973) concluded that the MCPO and FCLP groups were language deficient in view of the significantly lower verbal I.Q.’s as compared to performance I.Q.’s.

Few studies have focused on the behavioral and emotional problems of cleft lip-palate children and youth. In the Schweckendiek and Danzer study (1970) parents and teachers completed questionnaires on 200 children with cleft conditions. Approximately 20 per cent of the children with cleft conditions manifested behavior disorders or difficulties ad-
justing at school or in the family. Gluck et al. (1965) compared cleft children with child guidance clinic children and found shyness and enuresis to be more frequent in the cleft children. Starr (1977) studied teenage cleft subjects and found no differences when compared to a matched control group for items of self-esteem, inhibition, and social ability using standardized behavior checklists and scales. He also found cleft teenagers to score significantly lower in aggression, somatization and sleep disorders.

Cleft palate research done by child psychiatrists has been limited. Tisza et al. have done several studies on cleft palate children and their mothers (1958, 1962, 1973). They reported on a longitudinal psychiatric evaluation of three boys with cleft lip and palate and noted similarities in their development and psychological characteristics, in particular over-control of impulses and overidentification with mothers (1973). In the 1958 study, Tisza commented on denial mechanisms used by mothers and children and the apparent self-sufficiency of the children (1958).

Since there has been a lack of cleft palate research regarding specific psychiatric-emotional disorders, as determined by a child psychiatrist, it seemed that a study emphasizing this particular aspect would be fruitful. Comparisons of subgroups of cleft subjects according to sex and type of cleft (Lamb et al., 1973) might be helpful in defining which types of cleft conditions are a higher risk for developing psychiatric disorders. Aside from the importance of global psychiatric evaluation, it seemed that a study of specific behaviors and emotions identified by the parents as problems might further differentiate cleft subjects from non-cleft subjects.

Purpose

The purpose of this study was to determine if there were differences in the psychiatric status and emotional adjustment between four subgroups of cleft palate-lip youth and to compare the psychiatric status and behavioral problems of all the cleft subjects with a matched non-cleft control group.

Procedure

Subjects for the project were selected from a population of 114 youth under active treatment at the University of Missouri Medical Center Cleft Palate Clinic. This clinic periodically evaluated the physical status, speech, development, social and educational needs of the children. After clinic visits, recommendations were made regarding the need for further surgery, speech therapy, dental and ortho-dontal care, pediatric followup, or parental counseling.

Children and youths between six years and eighteen years of age were included in the study. Children younger than six years were excluded because of the difficulty of conducting a semistructured interview with the younger age group. This age limitation eliminated 41 subjects. The remaining 73 subjects were categorized according to sex and type of cleft. Three subjects with cleft lip only were eliminated since the size of the group was too small to make comparisons. However, in the study by Lamb et al. (1973), children with cleft lip only were included in the CLP group.

The sample from which subjects were eventually selected had 70 available individuals divided as follows: MCPO 14, MCLP 21, FCPPO 21, FCLP 14. Ten subjects were randomly selected from each of the four pools. Parents of all subjects selected agreed to participate.

Lip and palate repair for all subjects in the study had been done prior to age five. Many subjects required second and third operations to improve palate functioning as well as appearance. All youths had some palate involvement which interfered with proper speech and presented a long-term problem. About 60 per cent had articulation problems or difficulty with velopharyngeal closure. Most of these children were receiving speech therapy at the time of interview. A few cleft subjects had histories of conductive hearing losses which were followed closely and treated by an ENT specialist. At the time of interview, five subjects had bilateral conductive hearing losses greater than 20 decibels; five subjects had unilateral hearing losses greater than 20 decibels; one subject had combined bilateral conductive and sensory hearing loss greater than 20 decibels. Similar to the speech and hearing problems, dental problems had been evaluated and treated by appropriate specialists.

A control group was selected from a sample of clients registered at the Family Practice Clinic of the University of Missouri Medical Center. The purpose of this clinic was to give
primary medical care to families who signed up during open registration periods. Preventive medical care was emphasized and most clients were in good physical health. Children with chronic diseases or handicaps were excluded from the control group. No control group subject had either a chronic or an acute illness when interviewed. Most of the children rarely came to the clinic except for periodic medical checks and minor illnesses.

Matching was done so that the same numbers of males and females were found in the control and cleft groups. Subjects of approximately the same ages were found in both groups. The mean ages for the cleft group were 12.39 years for boys and 11.01 years for girls. These ages matched closely with the control group mean of 12.29 years for boys and 10.95 years for girls. Families were matched according to the occupational and economic status of the parents so that there were no significant differences between the control group and cleft group.

EXAMINATION PROCEDURE: Cleft subjects and control subjects were interviewed by one of the investigators, a child psychiatrist. Psychiatric interviews with cleft subjects were done at the time of the clinic visit because the patients lived in distant locations of the state. In addition, family cooperation was maximal when the cleft subject's family was approached at the time of the routine check by all other disciplines. Interviews with control subjects were conducted in the home setting because the individuals selected were not actively under medical treatment nor were they expected to attend a clinic at a particular time. The refusal rate would have been high had the families involved been asked to travel to the clinic for the research interview. Since all the control subject families lived within a one-hour drive from the hospital, the investigator decided to travel to these homes for the interviews. The difference in the interview settings was an imposed limitation which could have affected the results.

The investigators were aware of which subjects had clefts and which did not. This was unavoidable since cleft lip repair and speech deficits were obvious to the interviewer. Such awareness was a limitation in the study because of the possibility of experimenter bias.

The psychiatric interview was semi-structured in order to elicit data about specific relationships between the subject and family members and peers as well as to inquire about certain behaviors and emotional responses. The interview, which usually took 40 minutes to complete, was done without the parents being present. An interview format used in a previous study of diabetic youth was followed (Simonds, 1976). Interrater reliability of this semi-structured interview has just been determined on a group of 25 consecutive psychiatric out-patients in the same age range as the subjects. Two psychiatrists who observed the same initial interview with clients independently rated them for psychiatric diagnoses, interpersonal conflicts, and non-interpersonal conflicts. The percent of agreement for the presence or absence of a psychiatric diagnosis was 84 per cent, for the presence or absence of interpersonal conflicts 100 per cent, and for the presence or absence of non-interpersonal conflicts 96 per cent. These were highly significant rates of agreement.

While the child or adolescent was being interviewed, the subject’s mother completed a behavioral-emotional symptom check list of 120 items. She was instructed to rate each item as no problem, a slight problem, a moderate problem or a severe problem on the basis of her evaluation of the youngster’s behavior during the preceding year.

After completing the psychiatric interview and reviewing the mother’s ratings for the subjects, one of the investigators summarized his impressions by listing psychiatric diagnoses, interpersonal conflicts, and non-interpersonal conflicts. Psychiatric diagnoses were made according to criteria set forth in the Group for the Advancement of Psychiatry publication “Psychopathological Disorders in Childhood: Theoretical Considerations and a Proposed Classification” (1966). Interpersonal and non-interpersonal conflicts were determined independently from the psychiatric diagnoses. Much depended on the frequency, intensity, and duration of conflicts. Interpersonal conflicts usually involved peers, siblings, parents, and teachers while non-interpersonal conflicts involved difficulty adjusting to cleft palate treatment, difficulty learning, problems with intense emotions, and excessive dependency.

STATISTICAL ANALYSES: Chi square analyses (Siegel, 1956) were used to test for significant differences between the cleft group
and the control group. The Fisher test (Siegel, 1956) was used to test for significant differences between the cleft subgroups which had less than 15 subjects. Differences which had p values at the 5 per cent level or below were regarded as significant.

**Results**

Second congenital anomalies or malformations were present in 13 cleft children (32% per cent). These anomalies, often multiple in the same child, included club foot, fusiform fingers, pectus excavatum, ear deformities, angioma, microcephaly, hypertelorism. One boy had cleft palate associated with the Pierre Robin syndrome, microcephaly, and hearing loss. This boy was classified as having a second anomaly.

Five males with CPO had a second anomaly compared with one male with CLP (not a significant difference using the Fisher test). Two females with CLP had a second anomaly compared with five females with CPO (not a significant difference). Combining subgroups revealed that ten subjects with CPO had second anomalies compared with three subjects having CLP ($x^2 = 4.10, df = 1, p < .05$). There was no significant difference when the MCPO and FCLP groups with second anomalies (seven) were compared to the combined MCLP and FCPO groups (six).

Speech and hearing problems in the subjects of the four cleft subgroups are summarized in Table 1. Hearing loss greater than 20 decibels in the lower frequencies was determined by an audiogram done within a year of the evaluation. There were no significant differences between the subgroups having bilateral hearing loss greater than 20 decibels (using the Fisher test). A hearing loss incidence of 15 per cent bilaterally and 12% per cent unilaterally was similar to the findings of MacCollum et al. (1956) of 19 per cent occurrence of a 20-decibel or greater average hearing loss in the better ear of a cleft population.

Speech problems were determined by a published articulation test, i.e. Arizona Articulation Proficiency Scale (Fudula, 1970) and by a subjective test for velopharyngeal adequacy i.e. University of Missouri Test for Velopharyngeal Competence which has not yet been published or standardized. Intelligibility of speech was determined on the basis of clinical judgment using a seven-point scale. Five subjects, all males, were rated as difficult to understand. The MCPO-FCLP groups were not significantly different from the FCPO-MCLP groups for speech and hearing problems (using Chi square tests). However the males had significantly greater numbers of subjects with articulation problems ($x^2 = 12.1, df = 1, p < .005$) and inadequate velopharyngeal competence ($x^2 = 4.95, df = 1, p < .05$) when compared with females. Frequencies of speech difficulties were similar to other reports. Westlake and Rutherford (1966) summarized many studies and estimated that 10 per cent of school-age cleft children were very hard to understand and 68 per cent had nasality problems. About 44 per cent of Spreistersbach’s (1973) sample had poor articulation skills.

Table 2 compares the numbers of subjects with speech and hearing problems with the numbers of subjects with psychiatric diag-

**TABLE 1. Summary of speech and hearing problems in cleft group**

<table>
<thead>
<tr>
<th>group</th>
<th>mean age</th>
<th>subjects with significant articulation problems</th>
<th>subjects with significant intelligibility problems</th>
<th>subjects with inadequate V-P competence</th>
<th>subjects with hearing loss $&gt;20$ decibels</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Bilateral</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(n = 10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCPO</td>
<td>12.76</td>
<td>8 (80%)</td>
<td>4 (40%)</td>
<td>8 (80%)</td>
<td>3 (30%)</td>
</tr>
<tr>
<td>(n = 10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FCLP</td>
<td>11.66</td>
<td>3 (30%)</td>
<td>0 (0%)</td>
<td>4 (40%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>(n = 10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCLP</td>
<td>12.03</td>
<td>8 (80%)</td>
<td>1 (10%)</td>
<td>5 (50%)</td>
<td>2 (20%)</td>
</tr>
<tr>
<td>(n = 10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FCPO</td>
<td>10.35</td>
<td>1 (10%)</td>
<td>0 (0%)</td>
<td>1 (10%)</td>
<td>1 (10%)</td>
</tr>
<tr>
<td>(n = 40)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>11.7</td>
<td>20 (50%)</td>
<td>5 (12%)</td>
<td>18 (45%)</td>
<td>6 (15%)</td>
</tr>
</tbody>
</table>
noses and conflicts. Those subjects with articulation deficits alone or in combination with other deficits were also the subjects who were most likely to have psychiatric diagnoses and both types of conflicts. Hearing loss and velopharyngeal incompetence were not significantly more frequent in cleft children with psychiatric diagnoses or conflicts.

**COMPARISON OF CLEFT AND CONTROL SUBJECTS:** Psychiatric status of the four subgroups of cleft subjects and the control group subjects is given in Table 3. The psychiatric diagnoses, according to the GAP criteria (1966), for the cleft group included mental retardation alone (four), mental retardation with associated organic brain syndrome (one), developmental deviations alone (five). These diagnoses were clinical diagnoses since the investigators did not have access to intelligence test scores at the time of the interview. Diagnoses of developmental deviation were also clinical diagnoses based on lags in social, cognitive, or emotional development.

Objective intelligence testing was done on 20 subjects because the clinic did not routinely test for intelligence unless there was sufficient reason. Since the purpose of this study was not to determine exact intellectual functioning, the investigators did not require that each subject undergo intelligence testing. As a result of this limitation, borderline mental retardation might not have been diagnosed. It was felt that the diagnosis of gross mental retardation was not missed in any of the

<table>
<thead>
<tr>
<th>TABLE 2. Speech and hearing problems associated with psychological problems in cleft group</th>
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<tbody>
<tr>
<td>n = 20</td>
</tr>
<tr>
<td># subjects with significant articulation problems</td>
</tr>
<tr>
<td>n = 10</td>
</tr>
<tr>
<td># Subjects With Psychiatric Diagnosis</td>
</tr>
<tr>
<td>n = 17</td>
</tr>
<tr>
<td># Subjects With Interpersonal Conflicts</td>
</tr>
<tr>
<td>n = 26</td>
</tr>
<tr>
<td># Subjects With Non-Interpersonal Conflicts</td>
</tr>
</tbody>
</table>

* Significant p < .025.

<table>
<thead>
<tr>
<th>TABLE 3. Psychiatric status of subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td># subjects with psychiatric diagnosis</td>
</tr>
<tr>
<td>(n = 10)</td>
</tr>
<tr>
<td>Female Cleft Lip Palate</td>
</tr>
<tr>
<td>(n = 10)</td>
</tr>
<tr>
<td>Female Cleft Palate Only</td>
</tr>
<tr>
<td>(n = 20)</td>
</tr>
<tr>
<td>Total Female Clefts</td>
</tr>
<tr>
<td>(n = 10)</td>
</tr>
<tr>
<td>Male Cleft Lip Palate</td>
</tr>
<tr>
<td>(n = 10)</td>
</tr>
<tr>
<td>Male Cleft Palate Only</td>
</tr>
<tr>
<td>(n = 20)</td>
</tr>
<tr>
<td>Total Male Clefts</td>
</tr>
<tr>
<td>(n = 20)</td>
</tr>
<tr>
<td>Female Control Group</td>
</tr>
<tr>
<td>(n = 20)</td>
</tr>
<tr>
<td>Male Control Group</td>
</tr>
</tbody>
</table>
subjects interviewed. When medical records were later reviewed, the five subjects with clinical diagnoses of mental retardation had previously been tested for intelligence (WISC) with full-scale scores ranging from 43 to 56. Two subjects with developmental diagnoses had average IQ’s while IQ’s were not available for three subjects with these diagnoses. No other full-scale IQ’s available were below 70.

Psychiatric diagnoses for the control group included reactive disorders (two), and developmental deviations (two). Chi square tests were used to determine significant differences between the number of cleft subjects having a psychiatric diagnosis, interpersonal conflict, or non-interpersonal conflict and the number of control subjects having a psychiatric diagnosis or conflict of either type. No significant differences were found.

Mothers’ responses to the behavior checklist were compared by using chi square tests for each of the 120 items. Subjects were divided into those showing any severity of the behavior in question and those having no problem with the behavior. Two-by-two contingency tables were set up in comparing 40 control subjects with the 40 cleft subjects. Based on an analysis of 120 x² comparisons, one would expect less than two significant differences at the .01 level by chance. There were four significant differences at or below the .01 level. Significantly more cleft subjects had problems with “excess dependency on parents for self-help” when compared with control subjects (see Table 4). On the other hand, a significantly greater number of control subjects had problems with “resents being corrected”, “talks negatively about self”, and “blames others for own misbehavior” (see Table 4). Shyness and enuresis (found in six and eleven cleft subjects respectively) were not significantly more frequent in cleft subjects in contrast to the Gluck et al. study (1965).

Comparison of Cleft Subgroups: The Fisher test in association with 2 x 2 contingency tables was used to compare the number of subjects having psychiatric diagnoses in the cleft subgroups. Significantly more males with CPO (six) had psychiatric diagnoses than did males with CLP (one) (p = .05). The difference was not significant when females with CPO were compared with females with CLP. Six males with CPO had a psychiatric diagnosis compared to no females with CPO having a psychiatric diagnosis (p = .025). When males with CLP were compared with females with CLP, there were no significant differences.

The combined MCPO-FCLP groups were compared with the combined FCPO-MCLP groups using the chi square tests. There were nine psychiatric diagnoses in the MCPO-FCLP groups and one psychiatric diagnosis in the FCPO-MCLP groups (x² = 6.53, df = 1, p < .02). When the same groups were compared for differences in psychiatric conflicts, there were no significant differences.

Subjects with second anomalies were compared with subjects without second anomalies by using 2 x 2 contingency tables and chi square testing (see Table 5). Significantly more cleft patients with second anomalies had psychiatric diagnoses (x² = 6.42, df = 1, p < .02) and interpersonal conflicts (x² = 4.13, df = 1, p < .05).

Discussion

The procedures used in the study had certain limitations i.e. the inability to interview subjects blindly and the fact that control subjects were interviewed at home. Without a blind interview technique, experimenter bias

<table>
<thead>
<tr>
<th>Behavior Problems</th>
<th>Cleft Group Subjects with Problems</th>
<th>Control Group Subjects with Problems</th>
<th>Chi Square Value</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excess Dependency</td>
<td>18 (45%)</td>
<td>6 (15%)</td>
<td>7.20</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>Resents Correction</td>
<td>12 (30%)</td>
<td>25 (62.5%)</td>
<td>7.24</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>Talks Negatively About Self</td>
<td>2 (5%)</td>
<td>15 (37.5%)</td>
<td>10.76</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>Blames Others</td>
<td>5 (12%)</td>
<td>17 (42.5%)</td>
<td>7.59</td>
<td>&lt; .01</td>
</tr>
</tbody>
</table>

* Total n cleft group = 40.
** Total n control group = 40.
TABLE 5. Comparison of cleft subjects with & without 2nd anomaly

<table>
<thead>
<tr>
<th>Psychiatric Diagnosis</th>
<th>2nd anomaly</th>
<th>no 2nd anomaly</th>
<th>chi square value and p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(n = 10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Psychiatric Diagnosis</td>
<td>7 (17%)</td>
<td>3 (7%)</td>
<td>6.42 p &lt; .02</td>
</tr>
<tr>
<td>(n = 30)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpersonal Conflict</td>
<td>6 (15%)</td>
<td>24 (60%)</td>
<td>4.13 p &lt; .05</td>
</tr>
<tr>
<td>(n = 23)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Interpersonal Conflict</td>
<td>4 (10%)</td>
<td>19 (47%)</td>
<td>.95 p.n.s.</td>
</tr>
<tr>
<td>(n = 26)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non Interpersonal Conflict</td>
<td>10 (25%)</td>
<td>16 (40%)</td>
<td></td>
</tr>
<tr>
<td>(n = 14)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Conflicts</td>
<td>3 (7%)</td>
<td>11 (27½%)</td>
<td></td>
</tr>
<tr>
<td>(n = 17)</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

was a possible limiting factor. In this study, the only way such bias could have been avoided would have been to have one psychiatrist tape an interview and a second psychiatrist rate the subjects on the basis of the tapes. The concern for different settings of the interviews was that the home setting would be more relaxed which in turn would give different impressions to an interviewer. Mothers' ratings of the subjects' behaviors were not expected to be affected by the setting differences. The principal investigator did not observe any greater degree of tension in the cleft group nor greater relaxation in the control group. Since there were no significant differences in psychiatric observations between cleft and control groups, it would seem that the effects of a home interview setting were not great.

The question might be raised whether patients coming to a University Cleft Palate Clinic were representative of a general population of cleft palate subjects. It was true that many of the more severe cleft problems, especially those associated with multiple handicaps, were referred to the Medical Center where there were better and more organized facilities and a team of specialists. Less severe deformities might have been treated by private surgeons in local communities. This skewing to the more handicapped manifested by the higher percentage of second anomalies and problems of mental retardation might reduce generalizability.

A 32½ per cent occurrence of second anomalies in the study group was not too different from Goodstein's study (1961) which had 26 per cent of the total sample and 52 per cent of the CPO sample with second congenital anomalies. In the Lamb et al. study (1973) 30 per cent had second anomalies. It was not felt that the investigators' research group was anymore skewed than the above two research studies because of a high frequency of second anomalies.

Gross mental retardation was diagnosed in 12½ per cent of the investigators' sample. Estes and Morris (1970) found 8.3 per cent of one sample of cleft subjects to have IQs below 69. Goodstein (1961) had a 5.7 per cent incidence of IQs below 69, and that incidence was not significantly different from the investigators' incidence. Although a higher percentage of retarded subjects would be expected in any cleft group, the investigators' research group was slightly skewed to having more subjects with mental retardation. Perhaps a larger sample size would have reduced this skewing.

The MCPO group stood out as a high risk group for psychiatric diagnoses (particularly those related to cognitive functioning) and congenital anomalies. Perhaps males with cleft palate only experienced a specific noxious influence during their mother's pregnancies or possessed a genetic factor resulting in a syndrome of cleft and other anomalies as well as intellectual deficits. More male CPO's (not significant) experienced psychological conflicts than did subjects in the other subgroups. This may have been the result of greater difficulty adjusting to physical handicaps. Psychiatric diagnoses were more likely to occur in the MCPO-FCLP groups and these findings were consistent with cognitive impairments in the same subgroups found by Lamb et al. (1973).
chiatric diagnoses were likely to have second anomalies, one of which (microcephaly) is usually associated with mental retardation.

Variables such as hearing loss and speech disorders did not appear to be factors accounting for differences in the frequency of psychiatric diagnoses between the cleft subgroups. However, subjects having primarily articulation problems, rather than hearing loss or velopharyngeal inadequacy, were more likely to have psychiatric diagnoses and psychological conflicts. McWilliams and Musgrave (1972) did a thorough study of the psychological implications of articulation disorders with somewhat similar findings. They compared three cleft groups i.e. I. normal speakers, II. speakers who misarticulated consonants without nasality problems, III. speakers with hypernasality and articulation patterns related to the velopharyngeal mechanisms. Mothers in group II and group III reported significantly more behavioral symptoms than mothers in group I. McWilliams and Musgrave (1972) questioned whether group II children were different emotionally from children in the other two groups. The investigators' research would tend to support that conclusion.

If it is assumed that the articulation problems occurred first, then difficulties with articulation may cause frustrations and dysphoric feelings because of not being understood. Peer relationships would be more limited for youngsters who have greater articulation problems. There is a need for further study of the relationship between articulation disorders and psychological conflicts.

Richman (1976) found cleft subjects to score higher than controls on the Personality dimension of the Quay-Peterson Behavior Problem Checklist, and this dimension indicated a tendency to inhibit impulses. He speculated that the cleft children were low in confidence, less competitive, and likely to avoid situations giving rise to negative responses from others. In the investigators' study the increased frequency for non-cleft control subjects to resent correction, to talk negatively about self, and to project blame probably was an indication that the cleft subjects inhibited these behaviors. It seemed that the cleft subjects suppressed direct expression of negative feelings and in particular angry feelings toward their parents. Their more dependent position put them in a precarious situation should their parents reject them because of the anger expressed. Likewise, in their relationships with peers, the cleft subjects were more vulnerable. Since they were often the object of criticisms, cleft youth were less likely to put themselves in a position to jeopardize their relationships with the peer group by projecting blame.

Data from the psychiatric interviews did not show that cleft subjects used denial extensively, and, therefore, did not explain why cleft children had a lower occurrence of talking negatively about themselves. It seems doubtful that the cleft subjects had a better self-image than the controls. More likely the cleft youth inhibited the expression of negative feelings about self to insure acceptance by their parents. One might speculate that cleft children were less aware of their deficits in view of cognitive impairments already discussed.

The cleft child's reported greater dependency on parents was expected in view of the developmental lags, the lack of skills, and the physical handicap itself which may have stirred up parental protectiveness. Families of cleft subjects were quite supportive and in fact somewhat overprotective as judged by the mothers' responses to a questionnaire concerning their own feelings and reactions. Overprotection was often a reaction to clear-cut deficits or deviations in children's social, cognitive, and emotional development.

Since non-cleft subjects were less dependent on their parents, they may have felt more secure about expressing feelings directly to their parents. Control subjects probably felt more comfortable in their relationships with peers and this may explain why they tended to project blame more frequently. Talking negatively about self could be viewed either as a healthy awareness of one's faults or a basic insecurity about one's self. Interviews with control subjects indicated that a healthy self-awareness was more likely to be the case.

The data from this research would support the conclusion that cleft lip-palate subjects do not have significantly more psychiatric disorders or psychological conflicts than non-cleft controls. Other studies (Wirly and Plotkin, 1971; Watson, 1964) have essentially reached the same conclusion by using different tech-
techniques to evaluate the subjects. There was a
trend for more cleft subjects to have diagnoses
of mental retardation and developmental de-
viations. This finding was not unexpected in
view of the basic health required to be in-
cluded as a control subject. If cognitive diag-
oses were eliminated, there was a relative
absence of “pure” emotional disorders in the
cleft group. The relative absence of emotional
disorders in a group of cleft children who were,
followed closely by a medical team would
seem to indicate that the children learn to
adjust to their handicap. Thus at a later age
the handicap itself is no more likely to lead to
emotional disorder than other environmental
and intrapsychic factors. It was possible that
early intervention by a multidisciplinary team
prevented the development of significant
emotional disorders in this particular cleft
group sample.

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