Sociological Aspects of Cleft Palate Adults: I. Marriage.

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Preface

Findings presented here are part of a much larger study of a broad range of factors related to social functioning of the cleft palate adult. Conclusions must await a fuller presentation of the entire study.

Introduction

The habilitation of cleft palate patients must be determined, in part, by measures of social functioning. This requires an assessment of the ability of the individual to secure rewards from his social system and the patterns of life which are adopted in seeking these rewards. Our goal is to determine the degree of independence achieved from any limitations which might be associated with the cleft problem. This investigation of certain aspects of marriage—including marriageability, age at marriage, divorce and number of children—provides one indication of the degree of freedom achieved through the habilitative process.

A review of the literature on the social functioning of cleft adults would suggest that there is no generally agreed upon criterion for assessing acceptable levels of performance. This often leads to vagueness and generalization in study conclusions. Secondly, assumptions as to adult functioning are made by projecting the results of personality assessment during childhood onto the adult population. Thirdly, acceptable adult social functioning in a single area, education for example, often leads to the assumption that satisfactory life patterns are to be found for all the characteristics by which adults in our society are evaluated. Because of these varied approaches to data analysis and interpretation, the literature is often inadequate, jumbled and confusing.

The literature, based on studies of adult populations (*3, 5, 20, 23, 34*), is not in agreement regarding the adequacy of adult social functioning.

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Crocker, Clifford & Pope (*5*) reported high levels of satisfaction with education, job, sex and marriage, and appearance. No difference was found in mean number of jobs and distribution of socioeconomic status. Clifford (*5, 23*), supporting Goodstein (*13*), indicated an apparent negligible influence of having a cleft on the high levels of personal satisfaction and no significant difference in the area of employment or socioeconomic status. Birch & Lindsay (*3*), however, reported most patients had been teased about their facial deformities and speech defects before and during puberty and had problems in heterosexual relationships which were magnified in later adolescence and adulthood. The findings of McWilliams and Paradise (*20*) on marital status most closely parallel those of the authors of this report.

Research Population. Population was defined as all postoperative cleft lip and palate (CLP) and cleft palate only (CPO) patients at the Lancaster Cleft Palate Clinic who were 24 to 54 years of age. The 24 to 54 age range was selected for study because 24 years was a convenient cut-off point for assessing college attendance, thus providing a basis for assessing other social economic variables.

Sample Selection. Subjects had all been enrolled as patients of the Clinic in 1964 when records were computerized or were subsequently enrolled through June of 1972. Patients who were currently in a treatment program or had been treated within the previous year were excluded from the sample.

A total 280 cases met the above criteria. Forty of these were eliminated because of unuseable addresses. Two others were not residents of North America and one was institutionalized. These cases were excluded because control data were unavailable. Of the 237 sample subjects, three refused to participate in the study and no response was received from an additional 38. One hundred ninety-six or 83% of the sample completed the survey instrument.

Sibling Control. Cleft subjects were requested to supply background information on their siblings between 24 and 54 years of age. A total of 283 names were obtained. Thirty-seven were eliminated from the sample for a variety of reasons: one was deceased; 23 had unuseable addresses; one was a prisoner of war in Viet Nam; 10 were not contacted at the request of the cleft subject. The derived sibling sample was 248 subjects. Siblings were then contacted and were surveyed with the same instrument used for the cleft subjects. Five subjects refused to complete the instrument, 2 failed to respond personally, and no response was obtained from an additional 51, yielding 190 completed instruments or 77% of the sample.

Random Control Sample. The cleft-sibling relationship in several critical areas could not bare the assumption of freedom from influence between the two groups, therefore, the design of the study required additional control. A random probability sample of the U.S. population was drawn at the

.03 sample error from the U.S. population for the age range 24 to 54 years. The subjects were drawn from a national probability sample of households. Interviewers listed all adults, age 24 to 54 inclusive, in each of the sampled households. One listed person in each household was designated, on a random basis, to complete the survey questionnaire by self enumeration. The survey yielded 209 completed instruments. The data were collected with the assistance of Westat Research, Inc. of Rockville, Maryland.

1970 Census. Results of the random sample control were compared with the 1970 U.S. Census of Population across a range of variables, including socioeconomic factors, to establish sample reliability. On these items near unity was obtained. The U.S. Census itself was not a suitable control since it measured too few of the variables under consideration.

Description of Sample. Of the 196 cleft subjects, 105 were male and 91 were female. In breaking the sample down by cleft type, 77 of the male subjects were CLP while 24 were CPO. In the female group, 46 were CLP and 43 were CPO. In the sibling group of 190 subjects, 80 were male and 110 were female. In the control group, 89 were male and 120 were female.

Mean age of cleft subjects was 36.7, the mean age of siblings was 37.6, and the mean age of controls was 39.4. Ages for males and females in each of the three groups did not vary more than three months in mean years.

Methodology. The methodology used throughout the study, both in terms of questionnaire design and method of quantifying variables, was an application of the Working Papers of the United States Bureau of the Census[2] and the standard procedures of social survey research. The survey was a self administered questionnaire with 62 variables. The instrument made no reference to cleft palate and provided anonymity of response. For the cleft and control groups, an abbreviated questionnaire was developed for subjects who did not respond to the longer version. The abbreviated version accounts for all unequal *N*s with the exception of six cases where cleft type of the respondent could not be determined due to an error in questionnaire identification. These six cases are omitted where type of cleft is the independent variable. The questionnaire was designed to achieve a descriptive assessment of the social functioning of clefts and their siblings compared with or contrasted to each other and the general population.

Results

Marital Status. In assessing marital status, the single subjects are compared with all subjects who are, or have been, married. Clefts as a whole marry at a significantly lower rate when compared with the sibling group ($\chi^2 = > .001$). The same level of significance is achieved in comparing

[2] U.S. Census methodology was used throughout this study for determining socioeconomic class and in survey design. The methodology is presented in the Census Working Papers, particularly No. 15.

TABLE 1. Single to married comparison.

Subjects Compared	Single	Married	% Single	X^2
1. Clefts to Controls				
Clefts	52	144	26.53	
Sibling Controls	17	173	8.94	20.29**
Random Controls	18	191	8.61	22.71**
2. Clefts to Controls by Sex				
a. Cleft Males	27	78	25.71	
Sibling Control Males	9	71	11.25	6.06
Random Control Males	9	80	10.11	7.73*
b. Cleft Females	25	66	27.47	
Sibling Control Females	8	102	7.27	14.77**
Random Control Females	9	111	7.50	15.22**
3. Clefts to Controls by Type				
a. CLP	33	90	26.82	
Sibling Controls	17	173	8.94	17.80**
Random Controls	18	191	8.61	19.76**
b. CPO	17	50	25.37	
Sibling Controls	17	173	8.94	11.67**
Random Controls	18	191	8.61	12.91**
4. Clefts to Controls by Sex & Type				
a. CLP Males	21	56	27.27	
Sibling Control Males	9	71	11.25	6.46
Random Control Males	9	80	10.11	8.16*
b. CPO Males	4	20	16.66	
Sibling Control Males	9	71	11.25	0.45
Random Control Males	9	80	10.11	0.78
c. CLP Females	12	34	26.08	
Sibling Control Females	8	102	7.27	10.28*
Random Control Females	9	111	7.50	10.39*
d. CPO Females	13	30	30.23	
Sibling Control Females	8	102	7.27	13.75**
Random Control Females	9	111	7.50	14.03**

*Significant at the >.01 level
**Significant at the >.001 level

clefts with the control group. Yules Q (*6, 11, 12, 16, 17*) indicates a substantial negative association between marriage and having a cleft (clefts to siblings Q = 0.57; clefts to controls Q = −0.58).

A comparison between CLP and the sibling group indicates that siblings marry significantly more often (χ^2 = >.001). The same holds for comparison of CPO subjects with the sibling group. A comparison of CLP with controls yields a χ^2 = >.001 as does the comparison of CPO with controls (see Table 1).

The subjects who had never married comprised 26.53% of the clefts, 8.94% of the siblings, and 8.61% of the random controls. By cleft type, 26.82% of the CLP group and 25.37% of the CPO group had never married. Further breakdown by sex and cleft type indicated that in the CLP group 27.27% of the males and 26.08% of the females remained single. For the CPO group 16.66% of the males and 30.23% of the females did not marry.

When comparing CPO males with CLP males we found a moderately positive association between having only a cleft of the palate and marriage ($Q = +0.3043$). A comparison of CPO males with CPO females yields a moderate positive association between CPO males and marriage ($Q = +0.3684$). CPO females marry at slightly less than the rate for CLP females ($Q = -0.1022$). A comparison of CLP males and CLP females yields a negligible difference.

AGE AT FIRST MARRIAGE. It may be argued that an important aspect of the cleft adult's adjustment to society is the relative ease or difficulty in mate selection and marriage. This may be indicated by the frequency of marriage and the age at which it occurs. The mean age at marriage for the three groups was 24.23 years for clefts, 21.68 years for siblings, and 21.16 years for controls. Median ages are 23, 21, 21 for clefts, siblings and controls respectively (see Table 2).

TABLE 2. Comparison of groups for mean age at first marriage.

Subjects Compared	No. of Subj.	Mean	S.D.	t-score
1. Clefts to Controls				
Clefts	132	24.23	5.79	
Sibling Controls	158	21.68	3.33	4.55***
Random Controls	191	21.16	3.65	5.48***
2. Sibling Controls to Random Controls				
Sibling Controls	158	21.68	3.33	1.40
Random Controls	191	21.16	3.65	
3. Clefts to Controls by Sex				
a. Cleft Males	72	24.76	5.26	
Sibling Controls Males	60	22.96	3.29	2.43**
Random Control Males	80	22.61	3.55	2.94**
b. Cleft Females	60	23.60	6.31	
Sibling Control Females	98	20.89	3.11	3.11**
Random Control Females	111	20.11	3.36	4.01***
4. Clefts to Controls by Type & Sex				
a. CLP	87	24.62	5.56	1.03
CPO	45	23.48	6.13	
b. CLP Males	54	24.92	4.92	
Sibling Control Males	60	22.96	3.29	2.48**
Random Control Males	80	22.61	3.55	2.96**
c. CPO Males	18	24.27	6.13	
Sibling Control Males	60	22.96	3.29	0.85
Random Control Males	80	22.61	3.55	1.08
d. CLP Females	33	24.12	6.45	
Sibling Control Females	98	20.89	3.11	2.73**
Random Control Females	111	20.11	3.36	3.39***
e. CPO Females	27	22.96	6.07	
Sibling Control Females	98	20.89	3.11	1.68
Random Control Females	111	20.11	3.36	2.31*

*Significant at the >.05 level
**Significant at the >.01 level
***Significant at the >.001 level

There is a substantial delay in the time of first marriage for the cleft group. When comparing the cleft group with siblings, the later married significantly earlier ($t = >.001$). Similarly, controls married earlier than clefts ($t = >.001$). As expected, a comparison of siblings with controls was not significant.

Referring to Figure 1, it can be noted that cleft marriages fail to keep pace with sibling and control rates of marriage most dramatically between the ages of 19 and 23. Control and sibling rates rapidly accelerate during these years. The cleft group is never able to compensate for this delay.

Analyzing age at first marriage by sex, we found that cleft females married significantly later when compared with sibling females ($t = >.01$) and control females ($t = >.001$). This is graphically presented in Figure 2. Notice the depression in rate for cleft females between the ages of 17 and 24.

Comparing age at first marriage, cleft males marry later than sibling males ($t = >.01$). Cleft males also marry later than control males ($t = >.01$), (see Figure 3).

When age at first marriage is analyzed by cleft type and sex, CLP females marry significantly later than sibling females ($t = >.01$). CPO females also marry later than sibling females ($t = >.05$). CLP males marry later than sibling males ($t = >.01$), however, CPO males do not marry significantly later than sibling males. Later marriage is characteristic of the CLP group regardless of sex.

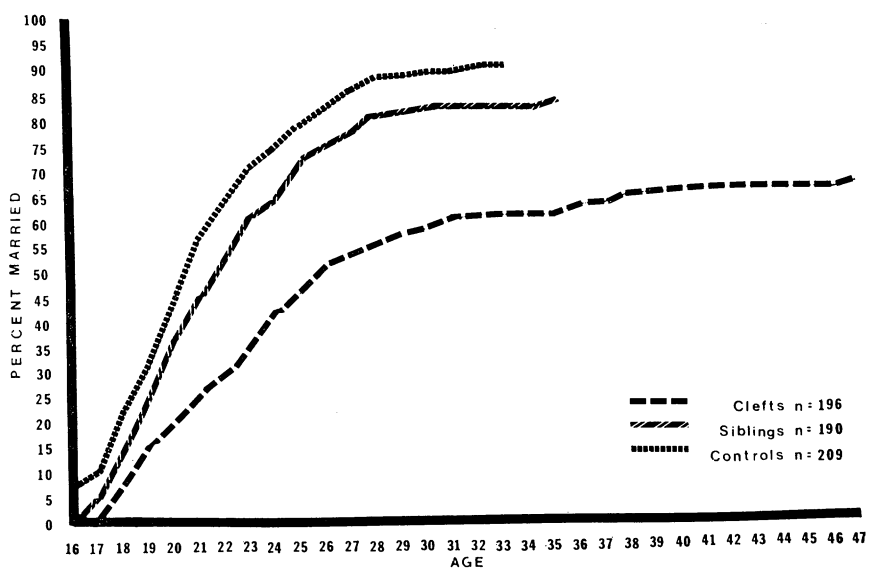

FIGURE 1. Cumulative percent of age at first marriage for adult cleft patients, their sibling's and random control group.

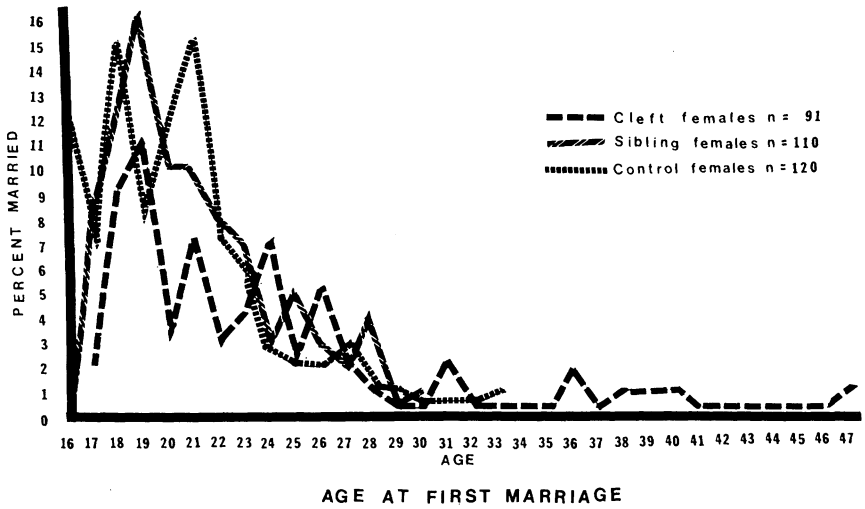

FIGURE 2. Noncumulative percent of age at first marriage: Females.

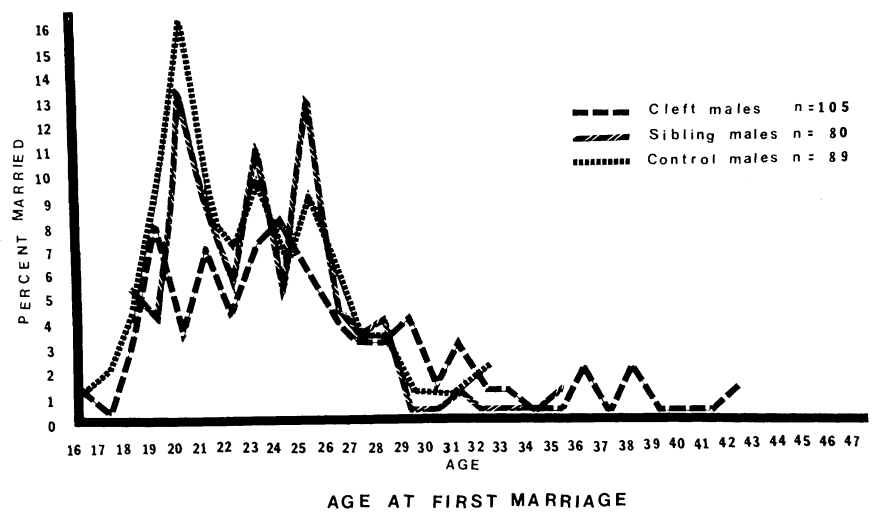

FIGURE 3. Noncumulative percent of age at first marriage: Males.

In terms of mean number of years, the greatest difference in age at marriage between clefts and siblings occurs between CLP females (24.12) and sibling females (20.89), a mean difference of 3.23 years ($t = >.01$). The comparison for CLP males with sibling males yields a difference of 1.96 years with means at 24.92 years for CLP males and 22.96 years for sibling males ($t = >.01$).

The same relationship holds at even higher significance levels when the clefts are compared with controls. Again, the most significant difference occurs betweeen CLP females and control females with the cleft group

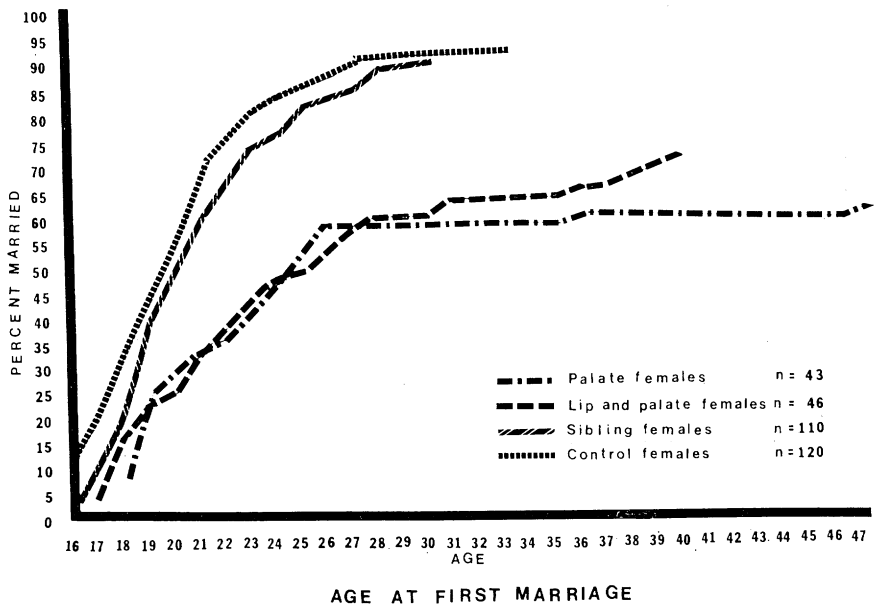

FIGURE 4. Cumulative percent of age at first marriage: Females.

marrying at a mean of 4.01 years later ($t = >.001$). The female CPO group marries at 2.85 mean years later than controls ($t = >.05$) (see Figure 4).

The CLP male group marries at a mean 2.31 years later than controls ($t = >.01$), whereas, CPO males marry at 1.66 mean years later, a non-significant t (see Figure 5).

The comparison of both age at first marriage and married to single ratios for male CLP and CPO subjects indicates that not only do CLP males marry less frequently but also later than the CPO males. The later group appears to be least affected of all clefts in terms of age at marriage and proportion married.

In the same comparisons for cleft females, we found that CPO females marry earlier than CLP females; the marital status of CPO females is low negative in association with CLP females. In other words, while CPO females marry earlier, they marry less often than their female CLP counterparts.

MARITAL STABILITY. We have established that fewer cleft adults marry and that those who marry do so at a later age. Regarding the stability of these marriages we found that 14%, or 1 in every 7.14 cleft marriages, had ended in divorce while 12%, or 1 in 8.33 sibling marriages, had ended in divorce. For the control group 18%, or 1 in 5.55 marriages, had ended in divorce. It must be remembered that divorce rates are established with Ns larger than those of our sample.

REMARRIAGE. While divorce rates appear to be high in our society, of equal importance is the high rate of remarriage. Researchers (*1, 8, 10*) report

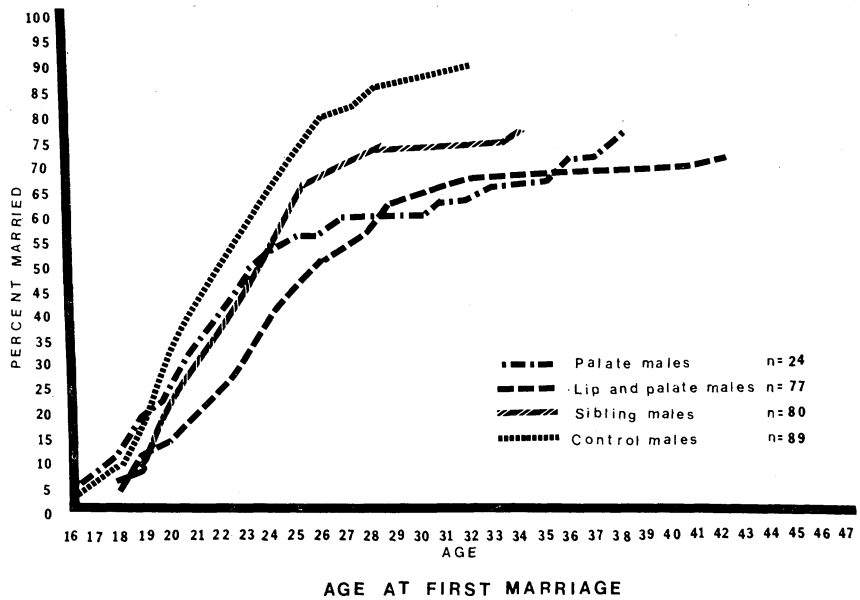

FIGURE 5. Cumulative percent of age at first marriage: Males.

that ⅓ of all divorced women are remarried within a year and that ½ will remarry within a space of 2 years. Divorced men remarry at a slightly less rapid rate. We found that 43% of the clefts who had been divorced were remarried, whereas, 50% of the siblings and 53% of the controls were remarried. The differences between the groups fail to meet tests of significance.

NUMBER OF CHILDREN. Comparisons of number of children born for the three groups revealed that cleft adults have fewer children *per marriage.*

Table 3 reports several significant *t*'s. As expected, the difference between the sibling group and the control group is not significant. When the comparison is made by sex and cleft type, the finding that clefts have significantly fewer children holds with the exception of the male CPO group. This group compares favorably with the control males in terms of number of children. We have noted earlier that CPO males tend to follow a more usual pattern in terms of percent who marry and age at first marriage.

Our findings also revealed that clefts have fewer children *per years married.* A test of proportions indicates that married cleft adults have significantly fewer children for total years married than do siblings ($\chi/\sigma = -2.21, >.05$) or controls ($\chi/\sigma = -3.07, >.01$) (see Table 4).

In addition, childless marriages occurred more frequently in the cleft group. We found a moderate association between having a cleft and childless marriages: clefts to siblings $Q = -0.48$, clefts to controls $Q = -0.47$. As expected, a comparison of siblings to controls yielded no association ($Q = 0$).

TABLE 3. Comparison of groups for mean number of children.

Subjects Compared	No. of Subj.	Mean	S.D.	t-score
1. Clefts to Controls				
Clefts	134	1.69	1.44	
Sibling Controls	159	2.47	1.67	5.57***
Random Controls	192	2.62	2.00	5.47***
2. Sibling Controls to Random Controls				
Sibling Controls	159	2.47	1.67	
Random Controls	192	2.62	2.00	0.88
3. Clefts to Controls by Sex				
a. Cleft Males	71	1.69	1.44	
Sibling Control Males	60	2.58	1.69	3.42***
Random Control Males	80	2.26	1.67	2.37*
b. Cleft Females	63	1.69	1.44	
Sibling Control Females	99	2.40	1.66	3.22**
Random Control Females	112	2.88	2.17	4.57***
4. Clefts to Controls by Type & Sex				
a. CLP	88	1.70	1.45	0.12
CPO	46	1.67	1.41	
b. CLP Males	53	1.66	1.45	
Sibling Control Males	60	2.58	1.69	3.28**
Random Control Males	80	2.26	1.67	2.30*
c. CPO Males	18	1.77	1.43	
Sibling Control Males	60	2.58	1.69	2.02*
Random Control Males	80	2.26	1.67	1.28
d. CLP Females	35	1.77	1.47	
Sibling Control Females	99	2.40	1.66	2.25*
Random Control Females	112	2.88	2.17	3.58***
e. CPO Females	28	1.60	1.39	
Sibling Control Females	99	2.40	1.66	2.66**
Random Control Females	112	2.88	2.17	3.87***

*Significant at the >.05 level
**Significant at the >.01 level
***Significant at the >.001 level

We found that clefts have fewer children per marriage, fewer children per years married and more childless marriages. Studies by Jacobson (*15*) and others indicate that the divorce rate is 3.4 times greater for couples without children. The relative frequencies of divorce varies inversely with the number of children in the family. In our sample, childlessness occurred with divorce in 10% and 9% of the marriages for siblings and controls respectively. For the cleft group the association is at 44%. By cleft type, 25% of the CPO and 60% of the CLP divorces occurred with childlessness. If the cleft is male, there is a 10% greater association between childlessness and divorce.

Discussion

We found that the cleft group marries up to 4 years later than either of the control groups. The CLP group married the latest. We also noted that

TABLE 4. Significance of difference between two sample proportions for number of children to number of years married.

Subjects Compared	Number of Subjects	$\frac{X}{\sigma}$
1. Clefts to Controls		
Clefts	122	
Sibling Controls	148	-2.2100*
Random Controls	167	-3.0700**
2. Sibling Controls to Random Controls		
Sibling Controls	148	
Random Controls	167	-0.8600
3. Clefts to Controls by Type		
a. CLP	81	
Sibling Controls	148	-1.8900
Random Controls	167	-2.7500**
b. CPO	41	
Sibling Controls	148	-1.6069
Random Controls	167	-2.1040*

*Significant at the >.05 level
**Significant at the >.01 level

the cleft groups married less frequently than the control groups. The CPO males marry slightly earlier and at a higher rate than other cleft adults. It may be argued that the rate and lateness of marriage in the male CPO group, as compared with the earlier and almost double rate of marriage for control groups, is not substantive. But certainly the difference between each of the other cleft groups (CLP males, CLP females, CPO females) and controls is substantive.

Our finding that the divorce rate was highest for controls is as expected since, as Bell (*1*), Glick (*8*) and Goode (*10*) point out in their studies, the more teenage marriages in any sample the higher the divorce rate. The number of teenage marriages in our sample is moderately higher for the control group, that is, 15% more controls than clefts marry prior to age 20, whereas, 6% more controls than siblings marry prior to age 20. Control subjects had also been married more years exposing them to higher risk of divorce (clefts 12.09 mean years; siblings 15.10 mean years; controls 16.36 mean years).

The divorce rate for siblings was lower than for the control group. The divorce rate is also lower for siblings than it is for the cleft group. Since cleft subjects had the fewest teenage marriages, marrying significantly later than the other groups, and since they had been married the fewest number of years, one might have expected that they would have had the

lowest divorce rate of the three groups. Bell (*1*) has pointed out that the combination of young age at marriage and low educational levels characterizes a social group in which the divorce rate is high. Our analysis indicates that clefts are not so characterized nor did they defer marriage any more frequently to pursue higher education (Peter & Chinsky, *21*). Although the divorce rate for clefts was higher than anticipated, we do not consider it substantive for purposes of problem identification.

Remarriage of divorced cleft subjects occurred only slightly less frequently than for the control group. This would be expected given the differentials in divorce by duration of marriage (*15*). It appears that remarriage did not pose the difficulty associated with first marriages for the cleft group.

We found that childlessness occurs with divorce 35% more frequently in the CLP group than in the CPO group. Given the finding that childlessness occurs slightly less frequently in the CLP group, we can theorize that when childlessness does occur in this group, it poses a greater threat to marital security. This finding may have implications for clinicians doing genetic counseling since citing high risk rates could dissuade couples from having children, thereby, greatly increasing the risk of divorce. While it is necessary to provide couples with information regarding genetic risk, they should also be cautioned as to the possible stress to their marriage associated with childlessness.

Our finding that clefts have fewer children per marriage, per years married and more childless marriages may be due, in part, because they marry later and have moderately fewer high fertility teenage marriages compared with siblings and controls. However, Hope (*14*) has pointed out, in reporting on the works of Maxwell, Blough & Duncan, that empirical studies have lead demographers to induce that the average fertility of those who move up and down the socioeconomic scale appears to be intermediate between the class from which they came and the class to which they have moved. We found that the sibling group is more upwardly mobile (Peter & Chinsky, *22*) particularly with reference to income, thus the fewer number of children in the cleft group cannot be accounted for on the basis of socioeconomic mobility.

Some might conclude from these findings that fear of having a cleft child is the cause of the fewer number of children and higher incidence of childlessness. However, we doubt that this can be viewed as a fully satisfactory conclusion. To do so would obscure other lines of inquiry which might discover causal associations with such factors as desire to escape additional responsibility, parental role insecurity, marital instability and personal immaturity.

Attention must be given to the relatively poorer performance of the CLP group in terms of age at first marriage and the CLP male group in the proportion of married to single. The findings raise the question of the effects of cosmesis. It is doubtful that we can account for these differences by attributing causation to cosmetic appearance during the period of

mate selection. What may be more accurate is that cleft of the lip may produce a secondary effect during childhood and adolescence in which there is failure to achieve gratifying peer relationships. In this theory, cosmesis would be a factor as part of the interaction of the whole social somatological matrix which would include peer relationships, role assignment, social maturity and socialization.

Having assessed the social functioning of cleft adults with regard to marriage, we conclude that their performance is not without limitation as compared with noncleft groups. However, while this is not necessarily a reflection on the treatment they have received, we must realize that at least two decades have passed since their childhood treatment. Improvement in treatment procedures in dentistry, speech and surgery may reduce the effects of the cleft, as children presently undergoing treatment reach adulthood. But because physical restoration and habilitation are time-linked processes, they do not occur prior to familial and other environmental influences. It is, then, doubtful that improvements in clinical treatment will yield parallel improvements in social functioning.

Once we have a broad understanding of the social functioning of the cleft palate adult, we may be able to identify areas where ongoing treatment of children can be augmented to better serve the cleft palate child and his family in the identified areas of need.

Summary

The goal of this paper was to determine the degree of freedom from any limiting effects associated with having a cleft. Aspects of marriage were evaluated on the basis of survey returns for 196 adult cleft subjects, their 190 siblings and 209 random controls. Results indicate that in proportion married, age at first marriage and number of children a substantive difference was found between the cleft group and the sibling and control groups. Analysis by cleft type revealed variation in social functioning between the cleft lip and palate and the cleft palate only groups.

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