# Profile of an Excellent Orthodontic Patient

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Co-operation of the patient is necessary for an excellent orthodontic treatment result.[1,2] Even in a difficult case, or when the diagnosis by the orthodontist has been faulty, the final result can often be good if there has been complete co-operation by the patient. Therefore, if an orthodontist could predict the degree of assistance, he could gain insight into how successful his treatment might be. The one common problem that all orthodontists face is establishing criteria to predict patient co-operation.

## REVIEW OF LITERATURE

Several studies have been done to determine the psychological make-up of the co-operative patient.

Gabriel,[3] an orthodontist, using thirty-five items from the California Test of Personality, found some relationship between the test and patient co-operation. The California Test of Personality is organized around the concept of life adjustment as a balance between self and social adjustment. It is designed to reveal the status of certain, highly important factors in personal and social adjustment. From the results Gabriel designed special techniques for each patient to increase his motivation. Time was spent explaining the procedures to the patient. This seemed to increase patient co-operation.

Using the same California test, Gossett,[4] a psychologist, found that a patient with an optimistic look on life and an expectation that he will be treated with respect by those who have power and authority over him tended to be co-operative. Gossett also used the Severity of Malocclusion Scale, developed by Lamberth, Rogers and Gossett, to determine if there were a correlation between severity of problem and co-operation; he found none. Grewe and Hermanson[5] also found no correlation between malocclusion severity, length of treatment and co-operation.

Allan and Hodgson[6] found evidence that age was a significant factor in patient co-operation. They used the Adjective Check List Evaluation designed by Harrison Gough.[7] There was an inverse relationship between age and co-operation. The younger the patients, the more help they were. According to their information, the most co-operative patient is usually fourteen years of age or younger, enthusiastic, outgoing, energetic, wholesome, self-controlled, responsible, trusting, determined to do well, hardworking, forthright and obliging.

Story,[8] a psychologist, feels that patients respond to the orthodontist and parents in similar ways. The orthodontist becomes a substitute parent. In a young adolescent there is a strong desire for independence from parents during the same period when orthodontic treatment is going on. The orthodontic patient does not want to be uncooperative, but he has a great desire for independence, autonomy and self-regulation.

Story also indicates that the mother is the mobilizing and determined member of the family in terms of decision for treatment. The child seldom participated in the orthodontic treatment decision.

No study has been reported which uses information from the patient his-

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tory and family background to determine levels of patient co-operation before commencement of treatment.

## Methodology

This study was undertaken to see if there were specific criteria that could be initially identified to predict patient co-operation. These criteria could only be obtained from patients who have already demonstrated varying degrees of collaboration during their orthodontic treatment. A questionnaire was mailed to the parents of these children to acquire specific information about the family unit that might provide clues to patient co-operation.

A complete list of those patients treated by the author in his private practice over the past seven years was compiled. The patients had undergone significant orthodontic treatment for at least one year. The evaluation of the patients was done subjectively by the author and a dental assistant/receptionist who had been in the author's employ for the past six years. Since the office was not a multidoctor practice, the orthodontist and the assistant/receptionist had a good knowledge of the patient and parent orthodontic attitude. If either rater did not feel confident about rating a patient because of lack of knowledge about the person, then the patient was eliminated from the study. The patients were evaluated using the following criteria: oral hygiene, appliance maintenance and care, and scheduling.

The definition of good oral hygiene was that appliances were kept clean with minimal gingivitis. Good appliance maintenance and care meant that there were no broken or distorted appliances or loose bands. When auxiliary appliances were prescribed, such as elastics or a headgear, these were worn as directed. The evaluation of scheduling took into consideration whether appointments were kept, whether patients arrived promptly and, when an especially long appointment was necessary, whether the time and date were easily arranged.

A maximum value of 5 points was given to each of the three criteria. After the patients were evaluated separately by the raters, the total individual scores determined by each rater were added and an average derived. Therefore, a perfect score would be 15 points. An excellent patient was one who acquired a score of 11-15; an average patient scored 6-10.5; and a poor patient had a score of 1-5.5.

A questionnaire was sent to the parents to obtain information about the family unit. The types of questions selected were those whose answers could easily be attained by the orthodontist in his initial contacts with the parents and patients.

The occupations of the parents were classified according to the Department of Labor's "Dictionary of Occupational Titles—1965." Occupations are broken down into eight categories: 1) professional and managerial, 2) clerical and sales, 3) service occupations, 4) farming, 5) processing occupations, 6) benchwork occupations, 7) structural occupations, and 8) miscellaneous.

The patients came principally from seven areas. The following were the neighborhoods used in the questionnaire:

1. Cincinnati proper
2. Amberley Village—high socioeconomic area (nonindustrial)
3. Wyoming — high socioeconomic area (nonindustrial)
4. Finneytown—medium high socioeconomic area (nonindustrial)
5. Sharonville and Reading—medium socioeconomic area (semi-industrial)
6. Clinton County—rural area
7. Norwood—medium socioeconomic area (industrial)

8. Other scattered suburban areas

## Results

A total of 362 patients was completely evaluated by both raters. Using the correlation coefficient as a measure of agreement, the correlations between raters on each of the four variables, oral hygiene, appliance maintenance, scheduling, and their totals were significant at the .01 level.

Of the 362 patients evaluated, 163 had scores of 11 or more, 189 patients had scores of 6-10.5, and 8 patients had scores of less than 5.5. Because there were too few patients with scores of 5.5 or less, they were not further evaluated.

The questionnaire was printed on both blue and yellow paper. The blue questionnaire was sent to the families of excellent patients (scores of 11-15) and the yellow questionnaire was sent to families of average co-operative patients. The use of a colored questionnaire permitted the author to differentiate the excellent patients from the average patients while maintaining complete patient and family anonymity.

Blue questionnaires (excellent patients) were sent to 163 families and 132 were returned. This was an 81% return. From the 189 yellow (average patients) questionnaires that were sent, 126 were returned, a 66% return.

The results of the questionnaire were evaluated using the Chi-Square analysis for all items except questions 2 and 3. An analysis of variance was used to evaluate these two questions.

The questions concerning sex, occupation of father, self-employed, neighborhood and religion were significant at the .01 level. All other questions did not show a significant correlation between excellent and average patients.

It appears that the sex of the patient is important. As may be seen in Table I, females are more likely to be excellent patients as indicated by the fact that 71% of all excellent patients were female.

Table II indicates that there is a significant relationship between father's occupation and type of patient. Children of fathers in farming, benchwork, and miscellaneous blue collar work tend to be excellent patients.

Table III shows that the nonself-employed father produces the better type of patients.

Table IV indicates that the excellent patients came from the rural area of Clinton County and the industrial area of Norwood.

Table V demonstrates that the most co-operative patients come from the Protestant and Catholic faiths.

Therefore, from the preceding results it appears as if female patients

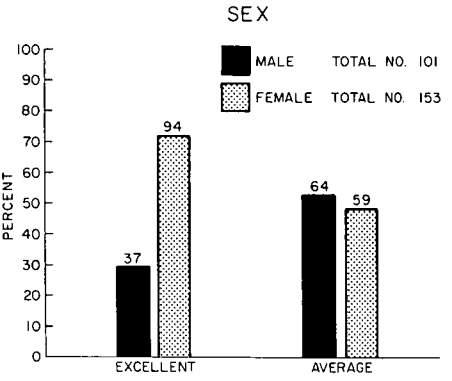


TABLE I

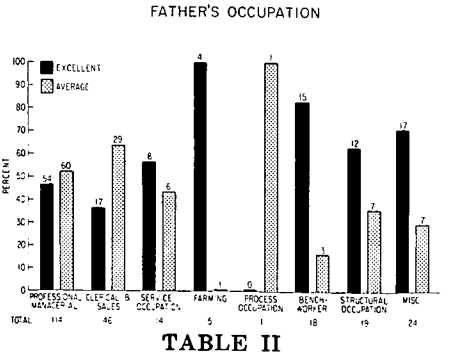


TABLE II

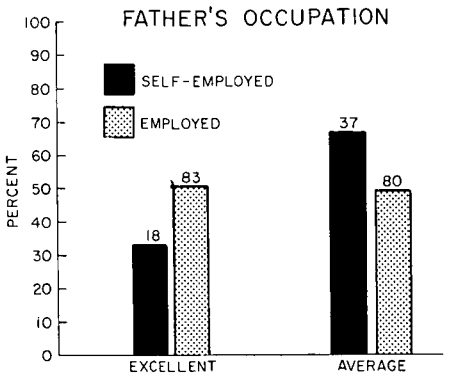


TABLE III

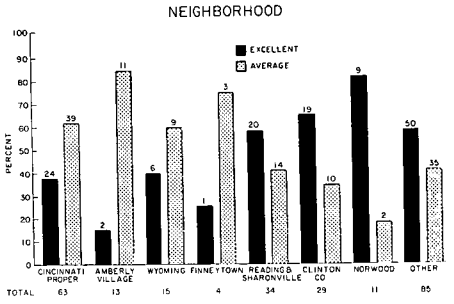


TABLE IV

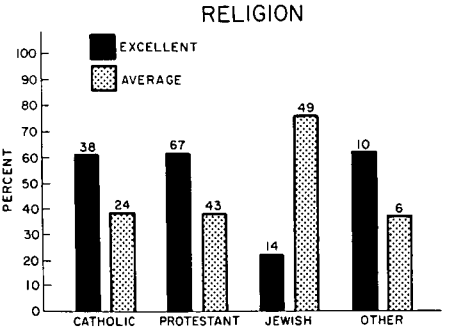


TABLE V

whose fathers are not self-employed and whose jobs are farming, benchwork or miscellaneous blue collar, and whose religion is Protestant or Catholic will likely be excellent, co-operative patients.

## Discussion

If a primary motivating factor in seeking orthodontic care is esthetics, then it would seem reasonable that girls would be more interested in attaining an excellent result through co-operation. Girls also tend to mature earlier than boys and, therefore, may take a more adult attitude toward the orthodontic experience.

Income does not seem to be a factor in help from the patient. This might be because there may not be too much difference between a $10,000 a year income and a $25,000 a year income as far as family goals are concerned. Most of my patients fell into this category. Also more people from various backgrounds have higher incomes than ever before and, therefore, one's income today is not so reflective of a particular background.

It is apparent that there is some significance as to whether or not the father was self-employed; mention must be made of farmers. They were all self-employed, but they have a different type of home-business relationship than most other businessmen.

The authors do not feel competent to discuss the other significant areas. The pertinent findings could be better analysed by knowledgeable people in theology, economics and psychology.

## Conclusion

This study was undertaken to see if there might be certain factors in a family unit that contributed to excellent orthodontic patients.

The following were significant positive factors in producing excellent patients: 1) sex—female, 2) occupation of father—farm, benchworker, miscellaneous blue collar workers, nonself-employed, 3) religion — Protestant, Catholic, and 4) neighborhood—rural, industrial.

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