Psychological Aspects of Dentofacial Esthetics and Orthognathic Surgery

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A comprehensive review of the psychological effects of physical attractiveness, with a survey of 50 maxillofacial surgery patients.

Beauty is an outward gift which is seldom despised except by those to whom it has been refused.
—Edward Gibson

A major objective of orthodontic treatment is the establishment of a harmoniously functioning dentition which is healthy and esthetically pleasing to both clinician and patient.

Inability to function well, pain or concern for health of the teeth or their supporting structures are the generally accepted "legitimate" reasons for patients seeking orthodontic (or surgical-orthodontic) care. Most clinicians, however, recognize that it is generally the unesthetic appearance of malaligned teeth and/or jaws that ultimately motivates patients to seek professional help.

The validity of undergoing or seeking financial aid for such treatment for cosmetic reasons is often questioned.

Key words: Beauty, Cosmetic, Esthetics, Maxillofacial Surgery, Physical Attractiveness

Endeavors have been made to rate malocclusions "objectively,"[7,11,25,27] using indices to categorize the need for treatment under such terms as unnecessary, elective, highly desirable or mandatory.

Most such indices are based on morphologic features alone. While these do relate to the esthetic appearance of the dentition and face, they do not provide information on the psychological awareness of the victims of such disfigurements.

There has always been a tendency to think of beauty as being no more than skin deep, relegating beauty or physical attractiveness to the back burner while placing greater values on other social attributes. Only recently[24,29] have psychological factors such as those involving self-image been incorporated into evaluations of malocclusion.

The purpose here is to examine the effects of beauty or physical attractiveness on social interaction, consider whether beauty is as unimportant in today's social milieu as we would like to believe, and examine the effects of the reactions of individuals to physical appearance on the relationship between clinician and patient.

Part I

Facial Attractiveness in Interpersonal Relationships

The Identity Need

Among the inherent needs of Man are the need to conform and the need for identity. Man generally achieves identity by participating and perhaps excelling in one or more of the many socially acceptable activities of society. Conforming to society entails adoption of the customs, conventions and rituals of that society. Customs and values among different cultures are often at variance, and even the values of the subcultures within a social structure may be subtly different from one another.

Individuals who for various reasons are not able to accommodate to conventional modal patterns of society may sometimes seek identity by adopting antisocial behavior patterns such as joining a street gang or resorting to drugs. Even such antisocial behavior is a quest for identity among peers by whom these people are accepted.

Separation of cultures may be geographic or temporal. What is socially desirable in one culture may be totally unacceptable in another, and features or values that are acceptable in a culture or social organization at one time may be totally unacceptable at some other time.

Such values are in an almost continuous state of flux. Consider the code of dress; what was fashionable a decade or two ago now appears ludicrous.

The features of Man which are probably most subject to geographic and/or temporal variability are the concepts of physical attractiveness, particularly facial beauty.

Esthetic Awareness

Man's awareness of facial and body esthetics extends beyond recorded history. There is abundant evidence of

appreciation of beauty in prehistoric archaeological artifacts.

Artistic expression appears to have played an important part in the life of primitive people. They painted on the walls of caves, engraved rocks,[57] carved wood and adorned their bodies.

Facial and bodily adornment may have changed through the ages, but Man's sensitivity toward it has not. Scarification of face and body is a beautifying technique that has been dated back more than 20,000 years.[55] There are still numerous cultures which continue to use self-mutilation as a cosmetic aid,[8,23,35,43,44,46] and even technologically advanced cultures continue to use limited self-mutilation such as piercing of ears for the wearing of jewelry.

The Status of Beauty

Beauty or physical attractiveness in individuals has almost always been a feature which causes people to react favorably in social interaction, particularly on first encounters. Physical appearance, particularly where others find it pleasing or displeasing, dramatically affects our behavior patterns in life. It affects such intimate matters as the quality of our sex life and who (or if) we marry, and such far-reaching matters as our educational and career opportunities.[9,10] This is not a comforting fact to most of us.

The development of esthetic awareness begins very early in childhood with the attitude that "what is beautiful is good." Fairy tale princesses are beautiful, princes and heroes always handsome, whereas witches, demons and villains are depicted as bestial, mean and ugly.

As a child grows older, the theme extends to comic strips and cartoons. We are all subjected to the incessant bombardment of the mass communication media, with newspapers, magazines, films and TV extolling the beauty cult and exaggerating evil features. Such indoctrination has made society irrepressibly face and body conscious. It is no coincidence that the cosmetic business is an $8 billion a year industry.

The effects of the need to appear physically attractive have spread from the cosmetic, clothing and jewelry industries to medicine and dentistry. Public demand has increased the scope of these professions to include the alteration of otherwise functionally normal but unattractive body features to make them esthetically more flattering. Faces are lifted, wrinkles are removed, teeth are crowned, straightened, or replaced, jaws are reshaped, noses are altered, fat is removed, hair transplanted—all in the quest to appear physically more attractive.

According to the American Society of Plastic and Reconstructive Surgeons, more than a million plastic surgery operations, including reconstructive and cosmetic procedures, are performed in U.S. hospitals each year. Forty percent of these operations are said to be for esthetic reasons.[47] Education, affluence and availability may account for the increased frequency of such operations, but the primary motivating factor remains cosmetic. Social effectiveness is conceived as being enhanced by favorable facial alterations.

Action and Reaction to Physical Attractiveness

Human behavioral development is currently recognized as being the result of inner and outer developmental

interactions and/or reciprocal interchanges. The study of the action and reaction of individuals in social situations and the influences of such reactions on the individuals is known as dialectic psychology.

The social development relationship between outward attractiveness and inner behavioral processes appears to evolve from four main assumptions:[2]

1. Physical attractiveness in others stimulates different expectations according to the degree of attractiveness perceived.
2. An individual's attractiveness appears to elicit differential social exchanges from others according to the individual's own physical attractiveness.
3. A developmental outcome results from the above social exchange. Positive or negative social reactions from physically attractive or unattractive persons are likely to *internalize* favorable or unfavorable social images, self expectations and interpersonal personality styles.
4. Attractive people, because of their greater experience with positive social interactions, will more likely manifest confident personal behavior patterns than less attractive people.

There is little doubt that physical attraction in individuals significantly affects the way people react in social encounters. The impact of this factor upon society is greater than we would like to believe. This has been demonstrated in numerous investigations in which individuals of high or low attractiveness were rated by volunteers for various social and personality traits. Some such experiments and findings are described below.

Experiments in Social Interaction

Education

Parents and teachers have been found to base expectations of the likely performance of children on their degree of attractiveness. Experimentation has shown that attractive children were predicted more likely to be elected as class representative at school, to be more popular and assumed to have better personal attitudes.[4]

The results of another experiment,[13] involving teachers from 400 different schools, showed that the expectations of the teachers were strongly influenced by the physical attractiveness of children, overriding a similarity of information provided on their past accomplishments. Regardless of whether the child was male or female, or whether the evaluator was male or female, the more physically attractive the child, the more he or she was assumed to have a higher I.Q., expected to attain more education, assumed to have parents more interested in their education and assumed to enjoy better social relationships with peers than unattractive children.

The impact of physical attractiveness has been shown to be no different at the college level. Male college students were requested to read an essay written by either an attractive or unattractive coed which was either poorly or well written.[32] It was found that attractiveness strongly biased the ratings by the evaluators.. An earlier study[50] tentatively suggested that college professors are no less likely to be influenced by a beautiful face.

Popularity

Positive evidence that physical attractiveness is associated with popu-

larity in children has been provided by Dion and Berscheid,[18,19] who showed that even as early as the preschool level, attractive children were liked better than unattractive ones.

Another finding at the preschool level was that children are able to distinguish at least one dimension of physical attractiveness, body build. At this age children began to express an aversion for certain body types, particularly chubbiness.[22,33]

Attractive children, regardless of sex, were also perceived to be more independent and less afraid of anything than their unattractive peers. Even preschoolers appear to have learned to differentiate between their peers in the dimension of attractiveness and associate physical attractiveness with positive social relationships.

Male/Female Dating

Physical attractiveness may have considerable impact at initial acquaintance, but when one gets to know someone, does physical attraction become less important? In an experiment to test this hypothesis, Mates[36] studied college men and women in dating situations. The findings showed that instead of becoming less important, physical attractiveness assumed increasing importance from the first to subsequent dates.

Even when other very powerful qualities such as *independence* and *honesty* are compared, the influence of physical attraction on social choice is still the most potent factor in heterosexual choice.[5] Although honesty affected dating choice, physical attractiveness was found to be far more important.[37] In another study,[48] independence was not significant and even trustworthiness did not fare well against attractiveness. Physically attractive women received high ratings as desirable dates whether or not they were trustworthy.

Research in the area of heterosexual dating by computer leaves little doubt that in spite of what most people believe to be noble qualities, such as intelligence, social skills, personality, cheerfulness, sense of humor and good sportsmanship, it is physical attractiveness which still plays the dominant role in mate selection.[10]

In certain instances, however, physical attractiveness may result in a negative reaction. Association with an attractive person is often perceived to be correlated with positive social status.[6,49] Perceived acceptance or rejection of social approaches to physically attractive stereotypes may thus act as a moderating factor.[26] Although there may be a greater liking for attractive persons, with aspiration to approach them, the status and prestige associated with beauty frequently influences some individuals to stay more remote from them than from unattractive persons.

Job Competency and Opportunities

The findings in an experiment to determine whether success in job situations was in any way related to physical attractiveness revealed that in cases of low probability of a good outcome, unattractive persons were attributed more responsibility for the outcome.[46] Attractive persons, on the other hand, were seen as being less responsible for what occurred in similar cases. The investigators concluded by stating "Not only is what is beautiful good; what is beautiful is responsible for what is good (success), and what is not beautiful is responsible for what is not good (failure)."

Discriminating factors can be work-

ing against an individual even before getting an opportunity to demonstrate one's ability or competence. Trained and experienced professional interviewers have also been shown to be swayed by a beautiful face.[20]

Transgression

Written information describing various behavior transgressions by seven-year-old children were assessed by a group of female college students.[16] Accompanying the written behavior patterns were photographs of the children with varying degrees of physical attractiveness. The findings supported the hypothesis that unattractive children were perceived as behaving more antisocially than attractive children, while the latter were listed as being predominantly prosocial.

The reaction by parents to children's transgressions are no different. Dion[16] found that when mothers heard about transgressions of a rule by a child, they would more likely respond with the belief that an attractive child was merely having an "off" day, while an unattractive child was seen as having an antisocial disposition.

Imagined Personalities

To determine whether physical attractiveness in any way affects the image of the perceived personality of an individual, people were asked to look at head and shoulder photographs of young men and women of varying degrees of physical attraction, and to report on what they perceived to be their personalities.[18] The findings were that physically attractive people, as contrasted to physically unattractive people, were believed to be more sensitive, kind, interesting, strong, poised, modest, sociable, outgoing, exciting and sexually warm and responsive. Furthermore, it is believed that attractive people will capture better jobs, have more successful marriages and generally experience happier and more fulfilling lives than less attractive people. Those findings were the same regardless of whether the person being rated was male or female, and regardless of whether the evaluations were made by males or females.

A separate study[38] involved asking college men and women to record their impressions on an *Adjective Preference Scale* of 132 dimensions based on photographs which had been previously rated as showing low, moderate or high degree of attractiveness. The findings corroborated previous studies in which the pattern that emerged was one in which unattractive persons were associated with the negative or undesirable end of the adjective scales and the more attractive persons were judged significantly more positively.

Another experiment[52] involved getting men and women acquainted with one another over a telephone. They were shown photographs of physically attractive or unattractive persons of the opposite sex to whom they believed they were talking. Men who believed they were interacting with physically attractive women were judged by the observers on the basis of their verbal contribution to the conversation to be more sociable, sexually warm, interesting, independent, sexually permissive, bold, outgoing, humorous, and generally more socially adept than were men who believed themselves to be talking to physically unattractive women. Both parties were seen as acting and reacting to the image of a personality they perceived

to be associated with either an attractive or unattractive counterpart.

Punishment

The result of the experiment in which physical attractiveness in children was related to punitive measures by adults reflected notable differences in penalties given to attractive and unattractive boys and girls.[17]

Legal Experience

Research has shown that beautiful women are convicted less often for crimes they are accused of committing,[41] and attractive persons are treated more generously than unattractive persons when punishment is assigned for a social transgression.[21,41]

There are situations, however, when attractiveness may lead to negative results. Juries have sometimes viewed attractiveness negatively in cases in which the defendant appeared to be taking advantage of a "God-given" gift of beauty. Dermer and Thiel[15] reported such apparent effects in attractiveness-related crimes in which attractive defendants tended to be more severely penalized. These cases "when beauty may fail" have been attributed in part to jealousy, particularly when attractive individuals are judged by unattractive persons.

Nonverbal Social Behavior

Nonverbal feedback such as gazes, smiles and frowns from others communicate a great deal during social interactions. Such nonverbal attention can be flattering or disheartening, depending on the nature of the feedback. Followup questioning under experimental conditions has revealed that volunteer males confessed to remembering more about the appearance, and thinking of and liking their attractive confederates more than those who were unattractive.[30]

Adams and Cohen[1] found a positive relationship between physical attractiveness and the mean frequency of positive verbal teacher-student interactions.

Persuasiveness

The findings of various experiments[28,39,40,42,50,54,56] clearly show that attractive communicators are far more effective in persuasiveness, such as soliciting monetary donations, demanding physical tasks, game activities, etc. than unattractive communicators.

Positive Feedback in Attractive People

There is evidence[34] suggesting a relationship between peer evaluations (evaluation by others), self-ratings (inner assessment of outer appearance) and structure of personality. In other words, there is a relationship between how the world sees us, how we see ourselves, and how such interaction affects our personality.

Personality characteristics have been shown to be linked with physical attractiveness. In female college students, Krebs and Adinolfi[31] found that physical attractiveness was related to understanding, achievement and endurance, suggesting that the attractive female is more likely than her unattractive peer to show cognitive inquisitiveness, achievement needs and individuality.

A positive relationship also exists between attractiveness, peer acceptance and self-esteem. Generally, the more attractive one's outer appearance, the more likelihood there is of receiving positive peer appraisal which further supports a positive internal self-image.

Attractiveness has also been associated with independence. It was shown that physically attractive females are more assertive than physically unattractive subjects.[31]

Attractive people are purported to be more open to self-disclosure,[12] the thesis being that self-disclosure is associated with liking, friendship formation and the development of intimacy with another. Such patterns of behavior tend to elicit more positive reactions from others if the individual is attractive.

There have been a number of studies showing that standards of beauty and stereotypes of attractiveness do not change to any extent over a large portion of life span.[3,14] Two recently completed pilot studies[2] seem to suggest that facial but not body attractiveness is a relatively constant attribute.

From the above it is undisputably clear that the behavior patterns of individuals are very closely linked to physical attractiveness and as such it plays a major role in social interaction between individuals of all ages.

Part II

Facial Esthetics and Orthognathic Surgery

Ideally, patients contemplating surgery should be counseled by both orthodontist and oral surgeon, jointly if possible. Preliminary diagnostic procedures following the gathering of records are a time-consuming responsibility that usually entails close collaboration between orthodontist and oral surgeon. During this phase of preparation, attention is directed mainly toward the physical and technical ramifications of the operation, which can be so demanding that the emotional aspects of the patient may be inadvertently neglected.

Faces are among the most important parts of the human anatomy. Not only are the senses housed within the immediate vicinity of the face, but the muscles of that area portray expressions and moods such as anger, joy, sadness, frustration, happiness, and laughter. Emotions can be readily read from the face, and negative emotions can be difficult to conceal. Other body parts can be hidden from view by clothing, but faces in most cultures are exposed for all to see. Little wonder that Man is so aware and protective of this part of his anatomy.

Those seeking to alter the physical appearance of their faces generally do not do so on immediate impulse. An awareness of the disfigurement has been present for a long while, then something prompts the individual to seek assistance. If a clinician is to obtain the confidence of the patient and lend support to their emotional needs, it is necessary to gain some insight into the reactions and attitudes of patients before, during and after treatment.

Methods and Materials

To obtain some insight into the emotional needs and reactions of individuals to treatment, a posttreatment survey was conducted on a random sample of fifty male and female patients. Rather than study patients from only a single source such as a dental school, orthodontists in the area were invited to return question-

naires submitted to patients who had undergone orthognathic surgery.

Survey Sample

Of the 50 patients, 34 were females and 16 were males. The 2:1 ratio of females to males possibly relates to psychological factors; the incidence of dysplasia is not sexually dimorphic. Whereas both sexes probably would like to improve facial appearance, it would seem that females are less inhibited in their endeavors to act upon this desire.

Surgical procedures used in the 50 surgery patients evaluated in this study included 25 mandible only, 12 maxilla only with autorotation of the mandible supplemented in some cases by genioplasty, and 13 combined maxillary and mandibular procedures.

Findings and Comments

The findings below are reported in percentages of the sample of 50 patients, except where specifically noted otherwise, so each two percentage points represent one patient. Comments immediately follow the numerical findings for each question.

Previous Orthodontic Experience

Did you receive orthodontic treatment as a child?

- Never treated previously . . . 60%
- Previously treated as a child 40%

What were the reasons for not having had treatment as a child? (percentages shown are the percent of the untreated 60% of the sample)

- Unaware that it could be treated 32%
- Unable to afford it 20%
- Reluctant or embassassed to wear appliance, apprehensive, told that nothing could be done 48%

Were the results satisfactory? (percentages shown are percent of the treated 40% of the sample)

- Satisfactorily treated 44%
- Results unsatisfactory 28%
- No comment 28%

Comment:

The reported results of earlier treatment are the subjective assessments of the patients, not professional judgments. This is therefore a report of patient satisfaction, not technical accomplishment. It should also be noted that these were all patients seeking surgical correction, yet even among this group 44% were satisfied with the results of unaugmented orthodontic therapy.

Reasons for Delaying Treatment

Knowing that treatment was possible, why did you delay your decision?

- Did not delay, proceeded immediately 42%
- Embarrassed about wearing orthodontic appliances 20%
- Financial reasons 14%
- Pregnancy, parents opposed to treatment, fear of scarring, waiting for 'miracle breakthrough' in dentistry . . 24%

Comment:

With the increasing number of adults now wearing orthodontic appliances, patients have become more amenable to wearing fixed appliances. The increasing number of patients receiving treatment and concomitant high success rate also assists in negating fear of unsatisfactory results. Major medical insurance generally takes care of hospital and surgical costs, and some medical and dental medical aid societies include orthodontic fees in their coverage, easing the financial burden for many.

Decision to Proceed with Treatment

What finally convinced you to do something about your jaw problem?

- Natural desire to improve facial appearance 76%
- Health reasons to improve jaw function 70%
- Urged by dentist or physician 58%
- Urged by family and/or friends 22%
- Convinced after reading about it 10%
- Finally able to finance the operation 8%

Comment:

Most patients listed more than one reason for deciding on treatment. While the dominant reason was "facial esthetics," health and jaw function reasons were a close second. These were probably often listed because of patient perceptions that they were more acceptable reasons than one which refers solely to facial appearance.

Many complex emotional reasons can underlie an unwillingness to express esthetics as a reason, in spite of the fact that it has been shown to be a very valid and substantial reason for requesting treatment.

Chewing Ability

Have the results of treatment enabled you to chew better?

- Yes 78%
- Mild improvement 10%
- No change 6%
- Too early to tell 4%
- No 2%

Were you previously able to chew hard food?

- Yes 86%
- No 14%

Are you able to chew foods such as nuts more efficiently now?

- Yes 40%
- Little or no difference 60%

Comment:

The majority of patients (78%) reported that they were able to function better following treatment. This naturally is a subjective assessment by the patient. Whether there was a true improvement in their ability to chew better or whether the improvement was only psychologically perceived is difficult to determine, but that perception is nevertheless important.

Clouding the issue is the fact that 86% of the patients reported an ability to chew hard foods prior to treatment, while 90% (only 2 more people) reported being able to chew hard food after treatment. However, 40% claimed that following treatment they were able to chew food such as nuts more efficiently.

The response of the individual accounting for the 2% negative response was somewhat contradictory, in that she reported that the results of treatment enabled her to chew better but she was able to chew hard food prior to treatment but not after treatment!

In sum, it would appear that most patients perceive an ability to function better after treatment.

Facial Changes

How would you rate changes (if any) in your facial appearance?

- Marked improvement 58%
- Moderate improvement 22%
- Mild improvement 14%
- No change 6%

Comment:

Perception of facial improvement by patients relates to two factors, the

extent of the deformity and patient attitude toward treatment.

The greater the deformity, the greater the likelihood of a dramatic correction. Those whose treatment was primarily functional, or only a moderate jaw correction, are more likely to rate their facial improvement as mild, moderate or no discernible change.

Those whose attitude toward correction is very positive are more likely to report positively on the outcome of treatment.

Pain

Extent of pain immediately following the operation.

- Hardly noticeable or mild ..66%
- Moderate 26%
- Severe 8%

Comment:

Patients with low pain tolerance are likely to report experiencing more pain than most. Four patients claimed that they had experienced severe pain, and three of them would be classified as being of nervous disposition and having low tolerance toward pain or discomfort. Presurgical orthodontic treatment on these patients was difficult, with strong reactions to routine orthodontic adjustments. The fourth patient reported that she suffered severe pain for two days before it settled down.

Most patients reported that they experienced very little pain following the operation.

Inconvenience

Extent of inconvenience.

- Extremely inconvenient 50%
- Moderately inconvenient ...33%
- Mildly inconvenient 17%

Comment:

There appears to be little doubt that having the jaws wired together for six weeks is moderately to extremely inconvenient for most people.

Weight Changes

Did your weight change as a result of treatment?

- Lost weight 96%
- Gained weight 2%
- No change 2%

Comment:

Almost all patients reported losing weight, from as little as 2 to as much as 40 lbs. Average weight loss was 13 lbs. (±10 lbs.). One patient reported no weight change, and another actually *gained* 10 lbs.

Success Rate

How would you rate the results of your treatment?

- Extremely successful 94%
- Moderately successful 4%
- Mildly successful 2%

Comment:

The most important measure of success in treatment is the subjective evaluation by the patient himself. Most patients perceived the operation as being most successful.

Anticipated Results

Were the results achieved the same as those you expected?

- Better than expected 56%
- As anticipated 36%
- Disappointed 8%

Comment:

Concern should be directed toward these patients who were disappointed with the results of their treatment.

"Ideal" results cannot always be achieved, but in those cases where the esthetic changes are expected to be limited or minimal, for whatever reason, the patient should be so informed and not be led to believe otherwise. If all patients are carefully screened and fully informed prior to treatment, the number of those dissatisfied with the results of treatment should dwindle close to zero.

Pretreatment Briefing

Were you adequately briefed as to what to expect prior to the operation?

- Yes 96%
- No 4%

Comment:

One reported being told about a planned supplementary chin augmentation on the morning of the surgery; another reported not being told that the jaws would be wired together. Disappointed patients and inadequate pretreatment briefing go hand-in-hand. Patients should be briefed on the possible hazards of orthodontic treatment, such as enamel demineralization, gingival inflammation, root resorption, temporomandibular joint dysfunction, tooth devitalization and posttreatment rebound. Surgical risks in addition to the hazards of general anesthesia include lip paresthesia (temporary or permanent), infection, bony nonunion, inability to obtain ideal position of segments, discomfort, postoperative swelling, jaw wiring, weight loss and unanticipated facial changes.

While recognizing the benefits and advantages of such procedures, patients should be made aware that, as with any treatment of the body, there are some inherent risks and limitations. While these are seldom enough to contraindicate treatment, they should be considered in reaching a decision regarding surgical-orthodontic treatment.

Life Changes Following Treatment

Have any changes occurred in your life as a result of treatment?

- Positive influence on personality; more confidence; caused people to respond more positively 65%
- Positive influence on relationships with the opposite sex 24%
- No discernible change 20%
- Instrumental in getting better job, positive influence in marriage 6%
- Negative influence in social activities 4%

Comment:

Eighty percent (80%) of those treated reported positively on the influence of the treatment on their lives. It provided them with more self-esteem and confidence, favorably influenced their personalities and generally led to a more positive response to people. Many reported more than one change.

Twenty percent (20%) stated that they did not perceive any changes in their social life following the surgery.

Effective changes in self-image related in part to the degree of change achieved, patient expectations and whether the reasons for treatment were primarily esthetic or functional.

Comments from Friends

Have comments from friends been favorable?

- Yes 92%
- No change 6%
- No 2%

Comment:

The exceedingly high percentages of individuals reporting favorable comments by relatives and friends is gratifying to patients and clinicians alike. The "no difference" incidence is comprised of those who were treated primarily for functional rather than esthetic reasons.

The two patients who reported negatively both claimed that some of their friends approved of their changed facial features, while the reaction of others was mixed. It was not clear whether the mixed responses represented disapproval of the posttreatment appearance or approval of appearance before the treatment.

Single Most Important Reason for Seeking Treatment

The patients listed the following as their single most important reason for seeking treatment.

- To improve facial appearance 46%
- To improve health of gums and teeth 26%
- To improve chewing ability 20%
- To improve ability to talk . 4%
- To improve ability to breathe 4%
- Miscellaneous (headaches) .. 2%

Comment:

The single most important reason cited for patients seeking treatment was esthetic improvement, wishing to improve their facial features.

Improvement of the health of gums and teeth, and functional reasons were usually cited as additional reasons. As mentioned earlier, functional reasons are perceived by many as being legitimate reasons for seeking treatment, whereas esthetics is often not perceived as being a substantial reason for undergoing surgery.

Recommendation to Friends

Would you recommend a similar procedure to a friend if they needed treatment?

- Yes 88%
- No 8%
- Undecided 2%

Comment:

This is almost a "bottom line" question in which patients are asked indirectly whether the advantages of treatment outweighed the inconveniences and disadvantages. On balance, it would appear that the vast majority of patients were satisfied with the results of treatment to the extent that they would recommend a similar procedure to a friend. The few that reported negatively were those who were either inadequately briefed beforehand or whose results were not up to their expectations.

Comments and Advice to Friends

Finally, patients were asked what advice they would give to a friend considering orthodontic therapy augmented by orthognathic surgery. Patients contemplating any such treatment would be well advised to read the above findings and the comments below of people who have undergone such treatment.

Be sure the operation is what you want. Expect change in your appearance (for the better). Do not be influenced by family or friends.

Would encourage friends to undergo surgery—be grateful that you can be helped.

Have confidence in your orthodontist and surgeon. Do not be overly concerned with appearance during the first few months. Pain not as severe as you might suspect.

Not informed how little I could eat —find out details beforehand.

Take a positive attitude, it does work.

Be patient, don't be discouraged.

Think it through thoroughly. Be sure it is what you want—that desire carried me though the inconvenience of being wired and for 3 to 6 months of being sore, numb, etc.

Have a positive attitude and remember you have people behind you. All will work out for the best and make you happy. Worthwhile.

Accept the fact of having jaws wired for 6 weeks prior to making the decision.

If problem is same as mine, by all means have the operation. Knowing what I know, I would do it again.

Get all the facts beforehand so there will be no surprises.

Adopt a positive attitude — have trust in God and confidence in your doctors.

Obtain all the facts — good and bad. Fruit juices, instant breakfasts, baby food mixes, etc. became very trying — difficult in being able to satisfy hunger pains.

Swelling after surgery for 7 to 10 days was most trying. Frustration, worry and a feeling of helplessness during this period.

Have work done as simply as possible—try orthodontics first and surgery only if absolutely dissatisfied. Talk to someone who has undergone surgery to ask all questions.

Expect depression while wired — worthwhile.

Do it.

Don't eat baby food, it tastes awful.

Proceed if surgery is for health or physical appearance.

Be prepared to be swollen, bruised and even laughed at for awhile.

Worth it in spite of 6 weeks of inconvenience.

Be aware of difficulty in eating. Not to be alone. Expect a lot of shocked expressions when people see you the first time. Good way to lose a few pounds.

Must adopt a positive attitude. Obtain support of family and friends. State of mind must be in excellent shape.

Proceed—not as bad as expected—worked wonders for me.

Surgery uncomfortable for a couple of weeks—get used to it. Weight returns after few weeks.

If surgery is needed for health and physical appearance, go ahead with it.

Conclusion

It seems almost undemocratic to believe that the physically attractive are generally better liked than the homely, since physical endowments are genetically determined and are no measure of competence or achievement. But whether we like it or not, the social climate in which we live rates physical attractiveness in both males and females high on the scale of priorities, and self-image and social interaction are often affected.

As health care professionals, orthodontists see their primary objective as establishing a good occlusion and jaw function for the maintenance of the health of the teeth and supporting structures, yet esthetic improvement cannot be ignored. Physical appearance, as revealed in the survey, ranks high on the list of reasons why people seek orthodontic and/or surgical correction. In fact, skillful questioning leads one to believe that if patients were to be completely open in their responses, the figures for "to improve

facial appearance" as the primary reason for seeking treatment would be considerably higher than those revealed in the survey.

Esthetic disfigurements range from minor root rotation or diastema to severe jaw dysplasias. With the exception of severe craniofacial disorders or syndromes such as Apert's, Treacher Collins, Crouzon's, etc., from a purely physically handicapping point of view most orthognathic surgery procedures would be considered elective. But the degree of facial disfigurement does not necessarily correlate with the reaction of the individual. Compensation and adaptation to such conditions vary widely, and treatment decisions must be based on and made by the whole person.

The responsibility of the orthodontist lies in advising of available treatment procedures, not in making value judgments for patients regarding their disfigurements. This requires counseling patients before treatment to fully inform them about the prognosis, anticipated results, risks, hazards, advantages and disadvantages of the various procedures.

Equipped with this knowledge, patients are then in a position to judge whether the perceived social benefits derived from the improved appearance warrant the inconvenience and/or any of the associated discomforts and hazards of treatment.

In view of the psychological and social environment in which we live, patients should be assured that there is no need to be embarrassed, nor is there any stigma attached to a desire to improve facial esthetics. If correction of any degree of disfigurement will improve the quality of a person's life, it is their prerogative to act accordingly. The survey provides some idea of attitudes of patients toward their jaw problems prior to, during and after treatment.

Apart from correct physical diagnosis and treatment, successful results are largely dependent on the selection of suitable patients. This does require watchfulness for those who are poor emotional risks for orthognathic surgery or conventional orthodontic therapy, such as:

1. Those who relate their facial deformity to all negative life experiences. Correction of such defects strips them of their crucial defense mechanisms, which in turn may precipitate more severe psychological symptoms such as depression or intense anger toward the clinician.

2. Patients who are experiencing considerable external life stresses such as a relationship which is dissolving or increasing difficulty with a job. Such stresses may cause patients to seek facial change to prevent an unwanted outcome to their situation, and they will be sorely disappointed when it occurs in spite of the therapy.

3. Psychotic individuals who have somatic delusions about their appearance. Minimal defects are exaggerated to the extent where ultimately the clinician(s) are often incorporated into the delusion.

The latter two are extreme examples of overexpectation, which even in its milder forms frequently leads to disappointment and dissatisfaction.

Summary

The literature and the results of the survey clearly confirm that physical attractiveness plays a major role in the social life and interaction among individuals. Cosmetic improvement is a powerful motivating factor leading people to seek treatment. Those who believe that the rewards of facial im-

provement will enable them to lead more satisfying and comfortable lives should be encouraged to proceed with the treatment. However, it is absolutely essential that those contemplating treatment be counseled beforehand and fully informed on the prognosis, risks and hazards, advantages and disadvantages of such procedures before embarking on treatment.

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