TWO VOLUME SET

Ronald E. Goldstein's Esthetics in Dentistry

THIRD EDITION

Edited by

Ronald E. Goldstein

Stephen J. Chu

Ernesto A. Lee

Christian F.J. Stappert

WILEY Blackwell

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Esthetics in Dentistry

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Preface to Third Edition

I owe so much of my career in esthetic dentistry to my first and most important mentor… my father, Dr Irving H. Goldstein, a great dentist, civic leader, and philanthropist. I learned so much watching him create the most beautiful smiles and only wish Dad had kept a photo library as I have done in my career. He taught me that being an average dentist was never an option… rather to always work to be the best, and at 84 years, I am still striving every day I practice.

I was first drawn to the study of esthetics a number of years before my 1969 article "The study of the need for esthetic dentistry" was published in the *Journal of Prosthetic Dentistry*. That article identified dentistry's lack of appreciation for the patients' appearances and their self-perception.

During the first half of the 1970s, I avidly pursued my study of esthetics, investigating every known aspect of dentofacial appearance. I became convinced of the huge untapped potential the field offered for improving patient outcomes and enhancing dental practice. Eventually, I was inspired to dedicate my professional career to promoting a comprehensive interdisciplinary approach to dentistry that united function and esthetics in total dentofacial harmony.

When the first edition of this text was published in 1976, the United States was in the midst of a celebration marking the 200th anniversary of our birth as a nation. It was an unprecedented national observance of the highly successful American Revolution. At the time, I considered the two events—both of considerable importance to me—distinct from one another. Since that time, however, I have come to recognize that, although the publishing of any textbook could never be considered in the same breath with the emergence of a nation, both events were indeed revolutionary.

Six decades ago, esthetics was considered, at best, a fortuitous by-product of a dental procedure—a bridesmaid, but certainly not a bride. In the years that have ensued, esthetics has taken its rightful place, along with functionality, as a bona fide objective of dental treatment. The revolution that has transpired has not only enhanced our knowledge of the field but also in methodology and technology. Today's patients are highly informed about the possibilities of esthetic dental restorations and fully expect that esthetics will be considered, from the inception of treatment to the final result.

Consumers know that dental esthetics play a key role in their sense of well-being, their acceptance by others, their success at work, in relationships, and their emotional stability. Informed by magazines, books, internet, and ongoing social media coverage, plus driven by the desire to live better lives, patients seek out dentists who can deliver superior esthetic services.

The ongoing effort to meet these demands with state-of-the-art and science treatment represents the continuation of that revolution. At the time this text book first appeared, I hoped that esthetics would eventually hold a preeminent position in our profession. That goal has been accomplished. Esthetics is recognized worldwide today as a basic principle of virtually all dental treatment.

We have been so fortunate in having over 75 world authorities helping to update the 47 chapters in two volumes. Virtually every phase of esthetic dentistry has now been included. It is my hope that, in some small way, this updated edition will serve to advance all aspects of the esthetic dental revolution and, in so doing, help patients and practitioners achieve even greater, more satisfying outcomes.

I feel so fortunate that three of the world's best known, talented, and respected academicians, clinicians, and teachers agreed to co-edit this third edition with me—Drs Steven Chu, Ernesto Lee, and Christian Stappert have continuingly contributed greatly in making the third edition more far-reaching into the high-tech worldwide revolution in esthetic dentistry.

Ronald E. Goldstein

Acknowledgments

So many people have worked on various aspects of this third edition that it would take far too much space to mention all of them. However, there were those who gave significant time to the project, and it is those people who I will attempt to thank at this time.

Most helpful in every way was the extraordinary 7-year effort of my personal editorial assistant, Annette Mathews. Annette's attention to detail and meticulous follow-through helped us greatly to complete this third edition. Despite the frustration of dealing with three different publishers, Annette helped coordinate with over 75 contributors, in addition to continuously proofreading the 47 chapters. I have had the pleasure of working with many individuals in my 60 years of practice, but none better than Annette. She wins the prize!

Others who assisted me on various aspects of the book were Daria Molodtsova, Candace Paetzhold, and Yhaira Grigsby.

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Last but not least, I must thank my busy but devoted family; my dentist sons Cary and Ken plus my dental daughter Cathy Goldstein Schwartz were particularly helpful in the second edition, and my physician son, Rick, managed to keep me healthy enough to complete the task.

I must pay the final tribute to my wife, Judy, who has continued to support and advise me throughout my career. She has put up with the tremendous hours over 60 years of writing articles and books and helped me through the good and bad times… fortunately more good than bad. My only promise to her was that this third edition of *Esthetics in Dentistry* will definitely be my last textbook as author or co-author.

Ronald E. Goldstein

PART I
PRINCIPLES OF ESTHETICS

Chapter 1 Concepts of Dental Esthetics

Ronald E. Goldstein, DDS and Gordon Patzer, PhD

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Beauty is in the eye of the beholder.

Margaret Hungerford

What is esthetics?

Mosby's Dental Dictionary defines esthetic dentistry as, "the skills and techniques used to improve the art and symmetry of the teeth and face to enhance the appearance as well as the function of the teeth, oral cavity, and face."[1] This definition positions appearance as a focal point of esthetic dentistry. Dental esthetics (also spelled aesthetics) connects with the principal aspect of appearance—physical attractiveness. Accordingly, esthetic dentistry provides benefits that extend far beyond total dental health toward total well-being throughout life.

Each of us has a general sense of beauty. Our own individual expression, interpretation, and experiences make it unique. In addition, we are also influenced by culture and self-image. What one culture perceives as disfigured may be beautiful to another. Chinese women once bound their feet, and Ubangis distend their lips. Individuals' sense of what is beautiful influences how they present themselves to others. Esthetics is not absolute, but extremely subjective.

> *Many factors and dimensions determine a person's appearance, among which physical attractiveness predominates and which esthetic dentistry can affect favorably. The entirety of the physical attractiveness aspect of appearance calls for the label,* physical attractiveness phenomenon.

Gordon Patzer

Physical attractiveness phenomenon is a bias based on physical attractiveness. As discomforting as it may be for people to acknowledge, the reality lives. Individuals with an appearance of higher physical attractiveness *do* experience benefits throughout life that their counterparts of lower physical attractiveness *do not*. This takes place uniformly regardless of age, gender, race, ethnicity, socioeconomic level, geographical location, political

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structure, time in history, and so on. Indeed, esthetic dentistry naturally plays a critical role in a person's appearance, particularly in the link between dental esthetics and physical attractiveness. Therefore, it is reasonable to recognize esthetic dentistry as one dimension of physical attractiveness phenomenon. It is also reasonable to view the reality caused by, or at the least correlated with, physical attractiveness phenomenon to be significantly interrelated. In other words, esthetic dentistry possesses considerable capability, opportunity, and responsibility concerning the benefits and detriments that individuals experience throughout their lives.

Notions that esthetic dentistry is only about vanity and caters exclusively to the rich and famous fail tests of reality. Dental professionals who provide esthetic dentistry and recipients of these services readily offer evidence contrary to this. Yes, function matters tremendously. It is essential throughout dentistry, but coupling function with form that improves appearances matters even more. No, dental esthetics is not about vanity, the rich, or the famous. It is about realization that esthetic dentistry done well can contribute to the lives of all people in all walks of life far beyond the in-office, oral cavity, dental treatment received. As dental esthetics exert a key role in a person's looks, those looks carry influences internally concerning self-image, confidence, and happiness, and externally concerning what others see. In other words, at the same time that esthetic dentistry contributes to total dental health (making it a health science,) a person's ability to retain or to enhance appearances of his or her teeth contribute accordingly to the world's interactions with that person and vice versa.

Historical perspective of dental esthetics

Cosmetic dental treatment dates back more than four millennia. Throughout history, civilizations recognized that their accomplishments in the field of restorative and cosmetic dentistry were a measure of their level of competence in science, art, commerce, and trade. There are repeated references in history to the value of replacing missing teeth. In the El Gigel cemetery located in the vicinity of the great Egyptian pyramids, two molars encircled with gold wire were found. Gold was also used to splint anterior teeth and may be thought of as a luxurious way of saving teeth. This was one of the first pieces of evidence showing the Etruscan culture valued the smile as an important part of physical attractiveness. It was apparently a prosthetic device.[2] In the Talmudic Law of the Hebrews, tooth replacement is permitted for women. The Etruscans were well versed in the use of human teeth or teeth carved from animal's teeth to restore missing dentition[3] (Figure 1.1).

Other historical evidence that ancient cultures were concerned with cosmetic alteration of the teeth includes reference to the Japanese custom of decorative tooth-staining called *ohaguro* in 4000-year-old documents. Described as a purely cosmetic treatment, the procedure had its own set of implements, kept as a cosmetic kit. The chief result of the process was a dark brown or black stain on the teeth. Studies suggest that it might also have had a caries-preventive effect[4] (Figure 1.2).

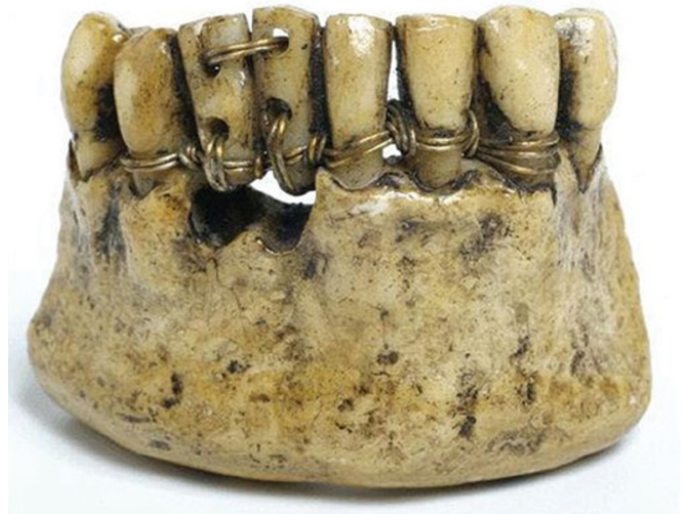


Figure 1.1 Over 4000 years ago, the Etruscans demonstrated the earliest treatment related to esthetic dentistry by using gold wire to save diseased teeth to maintain the beauty of the smile. This reproduction shows copper wire. Figure courtesy of the Royal College of Surgeons of Edinburgh.

Figure 1.2 An example of dental esthetics practiced from ancient times in Japan, likely around 500 AD, called ohaguro, in which people stained their teeth to be black in color. This practice continued into the Meiji era, which ended in the early 20th century. Figure courtesy of Dr Peter Brown.

Smiles are evidenced as early as 3000 BCE.[1] A smile on the face of a statue of an early king of Abab is noted in the art of Sumer. Aboucaya noted in his thesis that the smile was absent or not very marked in early works of art and, when present, was almost always labial. The dentolabial smile, where the teeth are seen behind the lips, starts to emerge in the first decades of the 20th century. This is attributed to an increased emphasis of awareness of the body and art of cosmetics due to the evolution of social life and the change in habits and manners. Teeth began to play an increasingly important role as more attention was paid to the

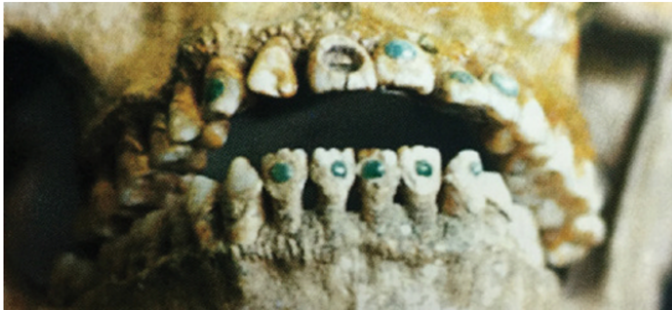


Figure 1.3 **(A)** This 2000-year-old Mayan skull provides some of the best evidence that jadeite inlays were used for cosmetic, rather than functional, purposes.

face, which exhibited more open and unrestricted expressions. The resulting emphasis on dental treatment and care also created an interest in the improvement of the esthetics of the smile.

At the height of the Mayan civilization, a system of dental decoration evolved in which some teeth were filed into complicated shapes and others were decorated with jadeite inlays (Figure 1.3A and B). These dental procedures were purely cosmetic and not restorative. Although the intent of these ancient attempts at cosmetic dentistry was strictly ornamental, there were sometimes beneficial side effects, such as the possible caries-preventive consequence of *ohaguro*. More often, however, the side effects were harmful. Some Mayans, seeking to brighten their smiles with jadeite, developed periapical abscesses because of careless or overenergetic "filers of the teeth," as their dentists were called. Today, dental esthetics is founded on a more ethically sound basis: the general improvement of dental health. But the same desires of those ancient men and women to submit to dental decoration as an outward portrayal of the inner self motivate today's adults to seek esthetic treatment. Distant history shows, without exception, labial smiles with lips closed and thus teeth not seen, rather than smiles with lips open and teeth visible. History made today and in the future likely will be substantially different, with quite dramatic changes over time with smiles more commonly showing teeth. Nevertheless, smiles with lips articulated to reveal teeth do not appear in history until the early 1900s, and then only very gradually and nearly only in images representing American history and, less so, history representing other Western cultures.

This change during history with smiles increasingly revealing teeth, albeit initially, parallels numerous other pertinent changes. First is the change regarding broader developments throughout populations particularly related to an individual's appearance in step with physical attractiveness phenomenon. Second, it is certainly reasonable to speculate that the change in smile appearances has been due in large part to esthetic capabilities within the dental profession, as well as changes in societal attitudes. It is certainly correct to attribute the interest in greater visibility of teeth, akin to the "American smile," wanted and displayed today and no doubt increasingly in the future, to these developments. Although esthetic dentistry can help achieve self-assurance, it must always be predicated on sound dental practice and keyed to total dental health. The limitations of esthetic treatment must also be communicated to the patient.

Figure 1.3 **(B)** Aside from jadeite inlays, the Mayans also valued using special tooth carvings to enhance physical appearance. However, there are still cultures that practice filing teeth for cosmetic enhancement (https://anthropology.net/2007/06/01/damien-hirsts-diamond-encrusted-skull-jeweled-skulls-in-archaeology/).

The social context of dental esthetics

A desire to look attractive is no longer taken as a sign of vanity. In an economically, socially, and sexually competitive world, a pleasing appearance is a necessity. In today's technology-driven society, social media contributes to a person's image being viewed more than ever. In addition, high definition has driven many television personalities to improve their physical appearance. As a result, more and more people are considering esthetic dentistry as a necessity to maintain an appealing look. The reason? Dr Johnnetta Cole, past president of Spellman College, tells the author, "Because people have to look at me."

Since the face is the most exposed part of the body, and the mouth a prominent feature, teeth are getting a greater share of attention. "Teeth are sexy" announced a leading fashion magazine, and it then went on to elaborate in nearly 500 words (Figure 1.4A and B). The headline was just the capstone of a string of magazine articles that drew new attention to teeth. Gradually, the public has been made more aware of the "aids to nature" that Hollywood stars have been using since movies began. They discovered that their favorite actors, models, and singers used techniques of dental esthetics to make themselves more presentable and attractive. Some followed the Hollywood lead and asked their dentists to give them teeth like those of some celebrities and thus learned of methods and materials that could improve their appearance.

In the United States today, we place a premium on health and vitality. In fact, these two words are now intertwined with images of beauty. Goleman and Goleman[5] reported that researchers found that attractive people win more prestigious and higher-paying jobs. At West Point, cadets with Clint Eastwood-style good looks—strong jaws and chiseled features—rise to higher military ranks before graduation than their classmates. They also found that good-looking criminals were less likely to be caught; if they did go to court, they were treated more leniently. Teachers were found to go easier when disciplining attractive children; both teachers and pupils consider attractive children as

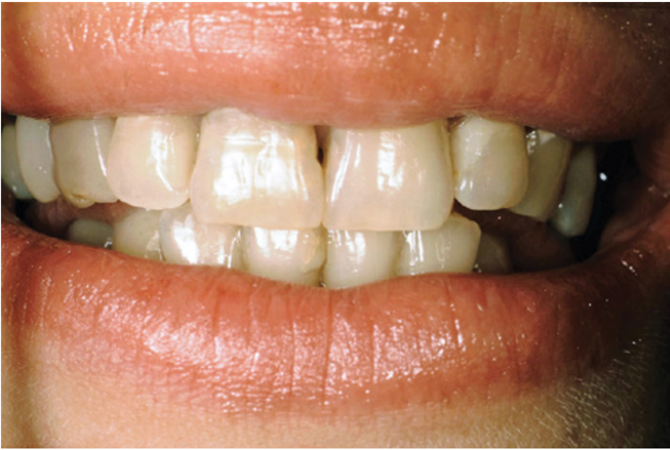


Figure 1.4 **(A)** Discolored teeth and leaking and discolored fillings marred the smile of this 24-year-old internationally known ice skating performer. (Note also the slight crowding of the front teeth, with the right lateral incisor overlapping the cuspid.)

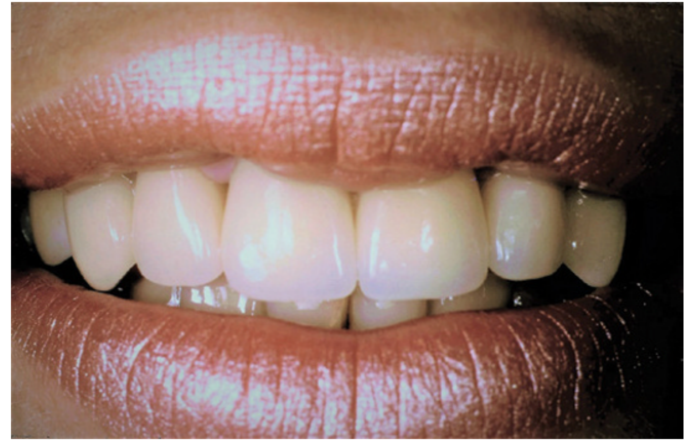


Figure 1.4 **(B)** A new sense of self-confidence and a much more appealing smile was the result of six full porcelain crowns. The teeth appear much straighter, and the lighter color brightens the smile and enhances the beauty of her face and lips.

smarter, nicer, and more apt to succeed at all things. Many studies on self-esteem have illustrated that body image was one of the primary elements in self-rejection.[3,6] Television reinforces in us an extraordinarily high standard of physical attractiveness, and Hollywood has long rewarded beauty and given us standards that are probably higher than most of us will ever achieve.

Society chooses leaders to set unspecified but pervasive standards of acceptable dress, behavior, and recreation. The swings of fashion filter down from the posh salons of couturiers patronized by the wealthy, or up from department store racks from which the majority buy their clothing. A catchphrase repeated on radio or television instantly becomes part of the national language, and songs that began as commercials wind up topping the popular music charts.

Uninfluenced by the esthetic standards set by society, many individuals want to change their appearance to emulate their chosen leaders. General social attitudes profoundly influence an individual's idea of what is attractive: "natural," "beautiful," and "good looking" hold different meanings within the population (Figure 1.5A and B). The female shown in Figure 1.5C was happy with her diastema, thinking it was "cute" and part of her personality. Occasionally, patients take extreme measures to call attention to the mouth in an attempt to achieve an attractive image (Figure 1.6). Therefore, it is the responsibility of the dentist to understand what the patient means when using a particular term, and to decide to what degree the patient's ideal may be realized. The patient's own feeling of esthetics and concept of self-image is most important.

Esthetic dentistry demands attention to the patient's desires and treatment of the patient's individual problems. Esthetic dentistry is the art of dentistry in its purest form. The purpose is not to sacrifice function but to use it as the foundation of esthetics.

> *The excellence of every art is its intensity, capable of making all disagreeables evaporate, from their being in close relationship with beauty and truth.*
>
> John Keats

Esthetics: a health science and service

Is esthetic dentistry a health science and a health service?[7] Or is it the epitome of vanity working its way into a superficial society?

The answer to these questions lie in the scientific facts gleaned from over a thousand studies proving the direct and indirect relationship of how looking one's best is a key ingredient to a positive self-image, which in turn relates to good mental health. The authors of a survey of nearly 30,000 people point to a relationship between psychosocial well-being and body image.[8] They found that feeling attractive, fit, and healthy results in fewer feelings of depression, loneliness, and worthlessness. This study also found that the earlier in life appearance is improved, the more likely it is that the person will go through life with a positive self-image. Sheets states that, "An impaired self-image may be more disabling developmentally than the pertinent physical defect."[9] For instance, adults who reported having been teased as children were more likely to have a negative self-evaluation than those who were not teased (Figure 1.7A and B).

According to Patzer, the face is the most important part of the body when determining physical attractiveness.[10] Specifically, "the hierarchy of importance for facial components appears to be mouth, eyes, facial structure, hair, and nose" (Table 1.1). Therefore, it becomes apparent that not only should esthetic dentistry be performed but it should also be performed as early as possible. It is not necessary for every dentist to master all of the treatments available. However, the advantages, disadvantages, possible results of treatment, maintenance required, and life expectancy of each treatment modality should be thoroughly understood by all dentists. A willingness to refer to another dentist when he or she is more capable of satisfying the patient's desires is both ethical and necessary for good patient relations. Your patient will likely return to you with trust and loyalty for your good judgment in referring for the specific esthetic treatment. The alternative is that your previously satisfied patient may leave you for another dentist if you

Figure 1.5 **(A–C)** Esthetic values change with social attitudes. (A) This patient once thought that showing gold was desirable, and it was accepted in her socioeconomic peer group. (B) When her status changed 10 years later, so did her attitude, and the gold crowns were removed. It is important to "wear" these temporary acrylic crowns for 1–3 months to make certain the patient will continue to like his or her new look. (C) This lady was happy with her diastema, thinking it was "cute" and part of her personality.

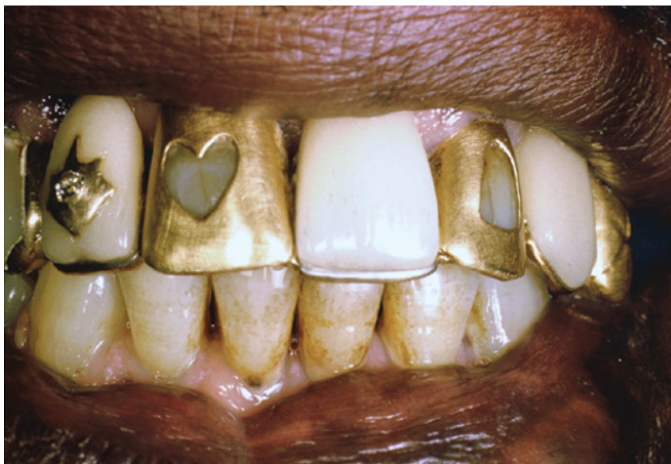


Figure 1.6 Example of an individual during contemporary times who defines good-looking teeth best when adorned with an inlaid diamond and multiple open-faced gold crowns depicting various shapes.

do not offer the requested treatments or belittle their effectiveness without offering an alternative. The fact is, all esthetic treatment modalities work on indicated patients. A good example would be a patient with teeth yellowed due to aging. If you do not provide vital tooth bleaching as one of your routine esthetic dentistry treatments, refer to a colleague who does provide this service. Most likely, the patient will return to your office for routine treatment. Patients may actually appreciate you more, realizing that you are more concerned with their well-being than your own.

Two questions seem in order. On the basis of the previous premise linking a great smile to overall success in life, are we as dentists doing all we should to motivate our patients to improve their smiles? Are we as a profession doing all we should to motivate the 50% of the population who do not normally visit the dentist to have their smiles esthetically improved? Based on the enormous amount of research showing the advantages of an attractive smile, the answer to both questions would seem to be "No." We can and should do much more to inform the public about why a great smile is an important asset and that we as a

Figure 1.7 **(A)** This 13-year-old girl reported that boys "called her names," referring to her tetracycline-stained teeth.

Figure 1.7 **(B)** Although bleaching was attempted, bonding the four maxillary incisors was required to properly mask the tetracycline stains. Unless attention is paid to esthetics in young people, severe personality problems may develop. Improving one's self-confidence through esthetic dentistry can make all the difference in having a positive outlook on life.

Table 1.1 Numerical Ranking of Relative Importance of Face Components Using Three Different Research Methodologies

	Rank Order	Ratings by Self-Method	Ratings by Others Method	
			Dissected Photos	Intact Photos
Mouth	1	$r = 0.54$	$r = 0.53$	$r = 0.72$
Eyes	2	$r = 0.51$	$r = 0.44$	$r = 0.68$
Hair	3	$r = 0.49$	$r = 0.34$	Not assessed
Nose	4	$r = 0.47$	$r = 0.31$	$r = 0.61$

profession are the logical group to help accomplish this goal. Furthermore, we need to show how easy and painless it can be to achieve. One survey of dentists revealed 83% want greater effort by organized dentistry to promote the value of dentistry to the public.[11] Fitting promotional information can be delivered effectively online through popular social media alternatives as well as through radio, television, and print.

Understanding the patient's esthetic needs

A practicing dentist needs to be acquainted with certain generalities concerning the psychological significance of the patient's mouth. He or she should be familiar with basic considerations that apply to esthetic treatment as well as be aware of various problems that such treatments may incur. To be better equipped to anticipate any such problems, a better understanding of physical attractiveness phenomenon is essential.

Physical attractiveness phenomenon

Physical attractiveness is how pleasing someone or something looks. It is a reality perceived. And, as in nearly all of life, perception is more important than reality. However, given its esthetic essence, its variable/invariable nature constituted by tangibles and intangibles, perception of physical attractiveness is physical attractiveness. Modifiers qualify where and on which continuum the perceived physical attractiveness rates. Levels and descriptors range from low or extremely low to high or extremely high physical attractiveness, from very physically unattractive to very physically attractive, and so on.

Its basic definition applies equally to words used interchangeably—beauty, handsomeness, good looks, ugliness, cuteness, and so forth—as well as words used tangentially that express level and polarity such as gorgeous, stunning, head-turner, hunk, hottie, hot, voluptuous, pretty, homely, dog, pretty ugly. Sexiness does not define physical attractiveness. They are two different traits among many that can differentiate or describe a person. The terms are accordingly neither synonymous nor accurately interchanged. Sexiness expresses a level of sexual or erotic arousal.

Figure 1.8 Although physical attractiveness and sexiness are two separate traits, this model represents a combination of both.

A person whose appearance represents high or low physical attractiveness may or may not represent high or low sexiness. To be good-looking is not necessarily to be sexy nor vice versa. These two characteristics can certainly at times overlap and closely interrelate, but they are separate traits not unlike other distinguishing characteristics in these regards; whereby people viewed as more physically attractive are viewed concurrently more favorably on many other visual and nonvisual criteria (Figure 1.8). Although both men and women can be judged physically attractive with or without a great smile, so can they be judged as sexually appealing. However, there are definite attributes to the smile that can enhance one's attractiveness as well as one's sexiness.

Whether speaking about physical attractiveness or sexiness, teeth represent a key feature. Teeth add to or subtract from these desired appearances due to their prominent and inescapable presence (Figure 1.8). As noted earlier, teeth get a substantial share of attention in fashion magazines and in everyday interactions. The reason? The face is the most exposed part of a person combined with movements of the mouth caused by speaking and by many moods expressed in the face. These readily seen movements accordingly draw notice and attention to the observed person's teeth. Following the eyes' attention to a person's teeth,

Table 1.2 Impressions About Persons of Higher and Lower Physical Attractiveness

Persons of Higher Physical Attractiveness		Persons of Lower Physical Attractiveness
Curious	rather than	Indifferent
Complex	rather than	Simple
Perceptive	rather than	Insensitive
Happy	rather than	Sad
Active	rather than	Passive
Amiable	rather than	Aloof
Humorous	rather than	Serious
Pleasure-seeking	rather than	Self-controlled
Outspoken	rather than	Reserved
Flexible	rather than	Rigid
More happy	rather than	Less happy
Better sex lives	rather than	Less good sex lives
Receive more respect	rather than	Receive less respect

framed by moving actions of the mouth, people rightfully or wrongly infer far more information about the person observed. Accordingly, teeth considered to look esthetically appealing tend to be accompanied with corresponding inferences, assumptions, stereotypes, and expectations about individuals whose teeth communicate good and positive, bad and negative, or somewhere in between (Table 1.2).

Research methodology

Researchers use observation, survey, and experiment, along with variations of each, to study physical attractiveness phenomenon. Surveys are abundant to contemporary society but have limited application for this research area. A survey might ask people (respondents) directly or indirectly whether another person's physical attractiveness influences their assumptions and expectations about the person, likely behaviors toward the person, and so forth. Such a survey can obtain insightful data depending on the circumstances. When it comes to appearances and particularly physical attractiveness, respondents too often provide less than truthful responses to be in line with societal ideals. For that reason and others, when asked, people routinely and inaccurately self-report that another person's physical attractiveness makes no difference. However, when placed in parallel "candid camera" situations, evidence time after time confirms that "actions speak louder than words" when dealing with physical attractiveness phenomenon.

The dichotomy between what most people say regarding another person's physical attractiveness and what these same people do is well documented. Representing anecdotal data,

simply focusing on this aspect expressed in the words and actions of friends often reveals the reality of respective differences. Mass media investigations provide equally strong findings through often-entertaining field experiments; examples include American television programs broadcast nationally as reported by correspondent John Stossel on the ABC News program *20/20*, correspondent Keith Morrison on the NBC News program *Dateline NBC*, and supermodel turned television host Tyra Banks on *The Tyra Banks Show*. The physical attractiveness variable in each of these instances was manipulated either by casting multiple actors considered to possess high or low physical attractiveness or by making-up individual actors accordingly. Research procedures then record with hidden cameras and hidden microphones the reactions and interactions with these actors by members of the public. Despite less stringent scientific research procedures, these mass media investigations yield findings overwhelmingly parallel and supporting of the attitudes and behaviors reported repeatedly in scholarly journal articles investigating the consequences of physical attractiveness.

The importance of facial appearance

Allport observes, "Most modern research has been devoted not to what the face reveals, but what people think it reveals."[12] He describes tendencies to perceive smiling faces as more intelligent and to see faces that are average in size of nose, hair, grooming, set of jaw, and so on, as having more favorable traits than those that deviate from the average. Summarizing an experiment by Brinswick and Reiter, Allport notes, "One finding…is that in general the mouth is the most decisive facial feature in shaping our judgments."[4] Meerloo observes, "Through the face, one feels exposed and vulnerable. One's facial expression can become a subject of anxiety."[13]

Studies suggest that even infants can tell an attractive face when they see one, long before they learn a society's standards for beauty. Results of experiments with two groups of infants were reported by psychologist Judith Langlois and five colleagues at the University of Texas at Austin. One group consisted of infants aged 10–14 weeks with an average age of 2 months and 21 days. Sixty three percent of the infants looked longer at attractive faces than at unattractive faces when shown pairs of slides of white women. The second group consisted of 34 infants whose ages ranged from 6 to 8 months. Seventy one percent of the infants looked longer at attractive faces than at unattractive faces.[14–18]

Any dentist dealing with appearance changes in the face must consider the psychological and the physical implications of the treatment. The consideration must involve not only results and attitudes following treatment but also causes, motivations, and desires that compel the patient to seek esthetic treatment (Figure 1.9A and B).

"The psychological concept of self and body image is totally involved in esthetics,"[19] notes Burns, continuing with the observation that dentofacial deformities have been largely regarded in

(A)

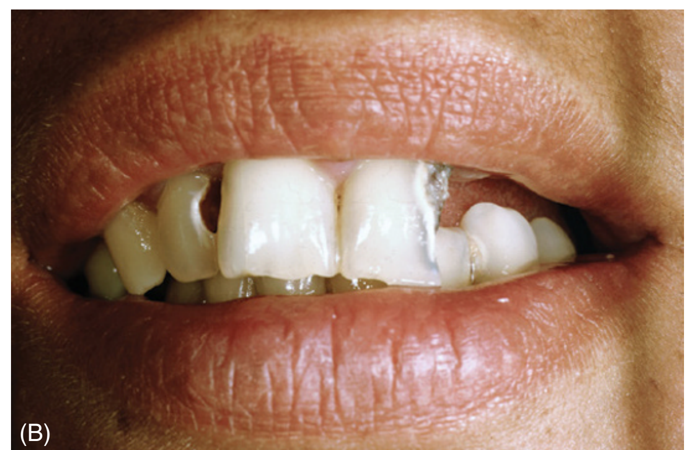

(B)

Figure 1.9 **(A and B)** This girl shows why she chose not to smile. Despite the total breakdown of the oral cavity, her motive in seeking dental treatment was esthetic.

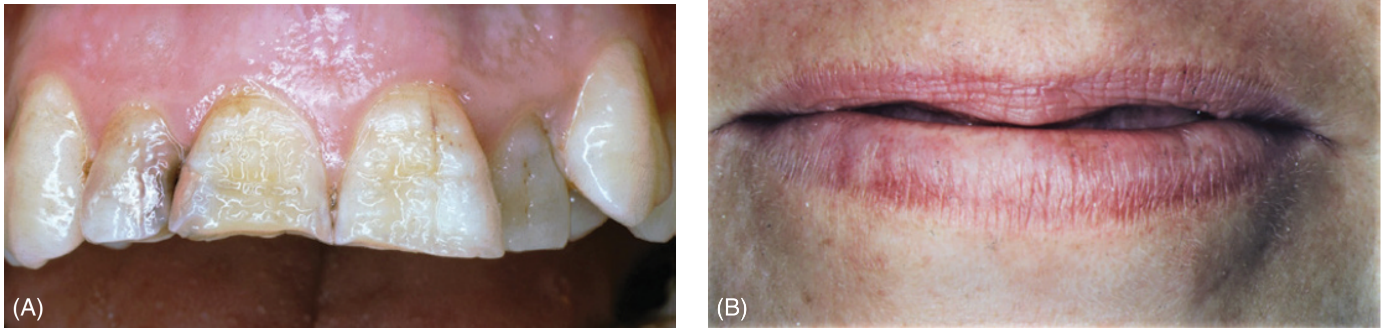


Figure 1.10 **(A and B)** This woman developed a habit of smiling with her lips together to avoid showing her unsightly maxillary incisors.

terms of diagnosis and treatment, rather than in terms of their psychological ramifications. Burns' consideration of the psychological aspects of esthetic treatment stems from his initial observation that the mouth is the focal point of many emotional conflicts. For example, it is the first source of human contact—a means of alleviating or expressing discomfort or expressing pleasure or displeasure (Figure 1.10A and B).

Functions of teeth

The appearance of a person's teeth communicates much about that person. Therefore, it is not surprising what people actually want to achieve with their teeth and smile. The functions of teeth in the minds of many people include the role of communicating information. Part of the way we communicate is through smiling at one another. Proper functioning of teeth for these people means more than to chew well and pain-free. They believe consciously or subconsciously that the look of their teeth substantially influences the perception of themselves by themselves and by others. Accordingly, the look of another person's teeth can influence the perception of these people. The reality is that the esthetic appearance of a person's teeth does contribute to the person's overall appearance and connects that person to physical attractiveness phenomenon.

Demeaning comments, shunning, and even bullying becomes a way of living for individuals sentenced to visibly missing, crowded, spaced, or protrusive teeth, or other dental anomalies. This is true at least for those individuals without the means for corrective action toward less negative appearances of their teeth. These individuals—male and female, young and old—make ill-fated attempts to avoid those negative reactions. Typical attempts include avoiding all smiling for fear of showing their esthetically unappealing teeth, or concocting a smile that never shows teeth, or using a hand or napkin to cover the mouth while speaking face to face. As well as looking a bit foolish or robotic, their thoughts and actions take a toll on these individuals. The tolls range from avoiding valuable social interactions to missing employment opportunities.

Tolls on a person can be particularly great on those of younger ages, in elementary school through high school. The negative consequences go far beyond affecting only self-image and self-confidence. Their reactions can exert their own toll with damage and costs to others and one's self. Evidence of such reactions makes news reports periodically and too frequently. For example, those bullied can become antisocial and even take up criminal ways, and, in some cases, end either their own life and/or the lives of others.

The mouth can be a particularly significant component of a person's physical attractiveness, which at the same time is rather inseparable from teeth and smile. One of psychology's most revered, Gordon Allport, once observed that people perceive smiling faces to be more intelligent[12] and, citing another research project noted, "…in general the mouth is the most decisive facial feature in shaping our judgments" about a person.[2] Accordingly, actions that include esthetic dentistry likely should be performed at earlier rather than later ages. Consider the 13-year-old girl pictured in Figure 1.7. Before esthetic dental treatment, she reported that kids called her names due to the appearance of her teeth. Professionals would readily interpret these taunts as demeaning with potential negative influences far beyond this girl's early teen years.

An improved self-image leading to increased self-confidence with assistance from esthetic dentistry is not limited to teenage girls. A good smile in these regards can produce improvements in psychological and social well-being for individuals of all ages in all walks of life. Figure 1.4A and B shows the before and after photos of teeth of an internationally accomplished ice skater, mid-20s in age, reported to have gained a new sense of self-confidence after cosmetic dentistry transformed her unpleasing smile into a much more appealing smile.

Personal values

The depth and breadth of a person's physical attractiveness far exceeds first impressions. Hidden and not-so-hidden values drive thoughts and actions that produce significant consequences whereby higher physical attractiveness is

overwhelmingly beneficial and lower physical attractiveness is overwhelmingly detrimental. Awareness of this reality provides insight into why and how physical attractiveness can strongly motivate people to value it, retain it, and pursue more of it.

Consider the value of physical attractiveness embraced by Lucy Grealy, a well-educated, best-selling author, known to have many friends, loving family members, sincere romantic relationships, and mass media critical acclaim for her book, *Autobiography of a Face*. In review of a book written by a long-term friend that describes Ms Grealy as a cancer survivor and recipient of 38 operations, *The New York Times* states:

> "Stricken with Ewing's sarcoma at the age of nine, Grealy [who died at age thirty-nine] endured years of radiation and chemotherapy followed by a series of reconstructive operations, most of them unsuccessful. Yet it was the anguish of being perceived as ugly, and of feeling ugly, that she identified as the tragedy of her life. …Grealy came to feel that her suffering as a cancer patient had been minor in comparison."

Values placed on a person's own physical attractiveness vary between individuals. Although the real-life case above might reflect a small, unreasonable, extreme portion of people, it might not. "Beauty was a fantasy, a private wish fraught with shame" for Ms Grealy, who was never able to free herself from "her desire to be beautiful." At various levels, all people throughout their lives hold personal feelings to be more physically attractive. Despite sometimes denial or lack of awareness, evidence overwhelmingly shows that most if not all people value higher levels of physical attractiveness.

As well as valuing others more or less as influenced by their physical attractiveness, it influences one's own value. Researchers for the 2005 Allure State of Beauty National Study that surveyed more than 1700 Americans concluded, "…among the most surprising statistics from the study is that enhancing their [physical] appearance fuels women's confidence." Data from that 2005 survey showed "Ninety-four percent [of the respondents] agree that the more beautiful they feel, the more confident they are." The two factors are interrelated intricately as signaled by the high portion of respondents, 94%, who "say that when they feel more confident, they take more time to look good."

Employment: a closer look

Employment in direct regard to physical attractiveness phenomenon merits a closer look because of the prominent role that gainful work commands throughout nearly every person's life. Two *Newsweek* magazine surveys in 2010 summarized the findings found consistently as reported in scholarly journals. *Newsweek* collected their data from 202 corporate hiring managers in positions ranging from human resource employees to senior-level vice presidents and from 964 members of the public with survey procedures that ensured a nationally representative sample. The subtitle for the reporting article proclaims, "The bottom line? It pays to be good-looking." Their conclusion based on these data: "…paying attention to your looks isn't just about vanity, it's about economic survival [and]…managers are looking beyond wardrobe and evaluating how 'physically attractive' applicants are." Also concluded, these 2010 data "confirm what no qualified (or unqualified) employee wants to admit: that in all elements of the workplace, from hiring to politics to promotions, looks matter, and they matter hard."

Here are some of those specific findings, which highlight how or why looks matter more than you might have imagined.

- **Getting hired**—Among managers, 57% believe that a (physically) "unattractive [but qualified] job candidate will have a harder time getting hired; 68% believe that, once hired, looks will continue to affect the way managers rate job performance." Among members of the public, "63 percent said being physically attractive is beneficial to men who are looking for work, and 72 percent said it was an advantage for women in any job search" (Figure 1.11A–C).
- **Looks above education**—Asked to use a 10-point scale to rate a series of character attributes with 10 being the most important for securing employment, "looks came in third (with a mean score of 7.1), below experience (8.9) and confidence (8.5), but above where a candidate went to school (6.8) and a sense of humor (6.7)."
- **Return on investments**—For individuals considering where or how best to invest their job-hunting resources, 59% of "hiring managers advised spending as much time and money 'making sure they look attractive' as on perfecting a résumé."
- **Lessons learned**—Reverse older or heavier looks, in light of the managers at 84% and 66% respectively stating that, "they believe some bosses would hesitate before hiring a qualified job candidate who looked much older than his or her co-workers" and "they believe some managers would hesitate before hiring a qualified job candidate who was significantly overweight."

For employment decisions, it can be legal to differentiate/discriminate in light of a person's physical attractiveness; that is, if these differentiations are truly based on differences of physical attractiveness and not based on differences of factors prohibited by federal law such as age, sex, race, and so forth. Accordingly, 64% of hiring managers shared these sentiments, stating, "they believe companies should be allowed to hire people based on looks—when a job requires an employee to be the 'face' of a company." It is also important to realize just how much a great smile can be, especially to a person who otherwise might not be judged as attractive. A person can be fat or thin, tall or short, but a winning smile can make the difference in being hired or not.

The business of looking good

Pursuits to look good—whether to retain or to increase physical attractiveness—continue despite downturns and upturns in the broader economy. Proof of collective expenditures can be seen in the somewhat regular mass media reports that highlight annual numbers for sales and services in related industries and professions. Underlying these expenditures, options available to maintain and enhance an individual's physical attractiveness are ever increasing along with continuously evolving wants, demands, innovations, and technological advances.

Providers of products and services to meet the wants of people concerning physical attractiveness range from companies within the cosmetics and beauty sector of world commerce to the professional practitioners regulated through local state licensing requirements. A list of the most notable commerce entities with focus on physical attractiveness begins with major diversified corporations (Unilever, Procter & Gamble, etc.) and continues with major branded companies (Estee Lauder, L'Oreal, etc.). The cosmetic surgery profession likely represents the most visible among professionals regulated by state licensing, with their associations (American Society for Aesthetic Plastic Surgery [ASAPS], American Association of Plastic Surgeons [AAPS], etc.) tabulating and disseminating information about their collective procedures performed.

Suppliers and providers pertinent to the business of looking good are expansive and commonly referred to in summary manner as the beauty industry. A wide array of products and services constitute this industry, sometimes with varying definitions used

Figure 1.11 **(A–C)** This young woman refrained from smiling because she was embarrassed by her high lip line that revealed too much of her gums. She said it affected her personality and relationships. She received implants, orthodontics, bleaching, cosmetic contouring, and gum surgery to lengthen her teeth and give her a more attractive medium lip line and overall smile.

Figure 1.11 (Continued)

to categorize the variety of products and services. Nevertheless, consumer purchases in pursuits to enhance or retain physical attractiveness total large annual sales. For example:

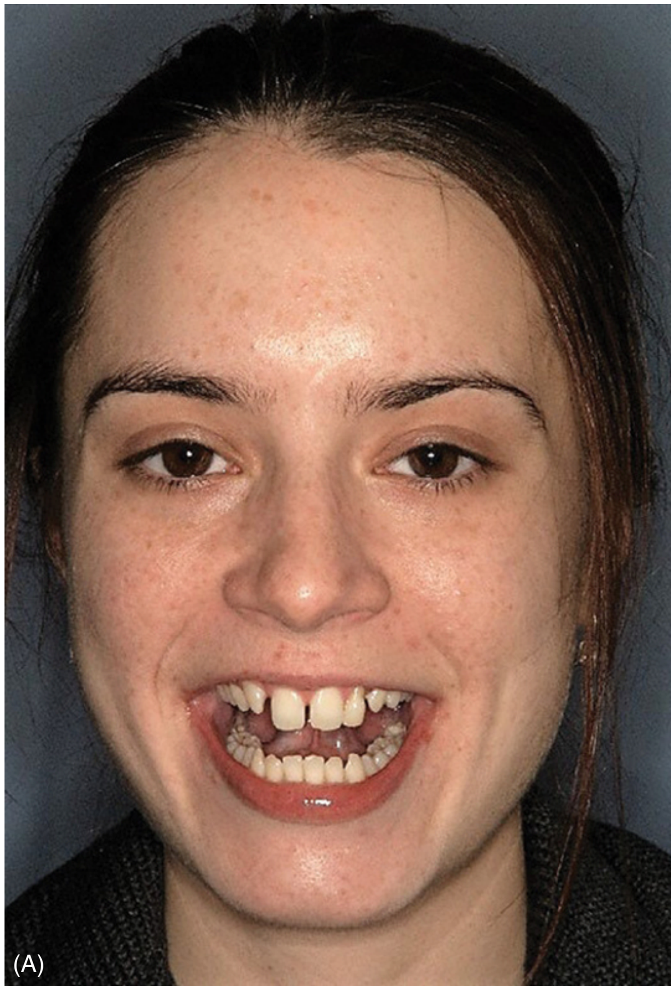
- Personal care products contributed US$236.9 billion in 2013 to the US economy, spanned 3.6 million US jobs held by individuals of diverse backgrounds, and in 2014 accounted for a $5.8 billion export trade surplus (http://www.personalcarecouncil.org/sites/default/files/2016YearInReviewFinal.pdf).
- Hair care services generate nearly $20 billion in annual sales in the United States alone, and $160 billion worldwide (http://www.firstresearch.com/industry-research/Hair-Care-Services.html).
- Retailers focused entirely on cosmetic and beauty products generate $10 billion annual sales and number about 13,000 stores (Figure 1.12A–C).

Cosmetic surgery represents a prominent option for people to enhance or retain their physical attractiveness. It accordingly represents a sizeable portion of consumer purchases that are reasonable to align with the beauty industry moniker. In these regards, the two leading professional organizations for surgeons certified by the American Board of Plastic Surgery who specialize in cosmetic plastic surgery—the American Society of Plastic Surgeons (ASPS) and the American Society for Aesthetic Plastic Surgery (ASAPS)—each with thousands of members, some of whom overlap with membership in both societies, systematically collect statistics from their members about types and numbers of procedures performed annually.

Recent annual statistics from both ASAPS and ASPS, which today have their largest ever memberships, document strong motivation by people to enhance or retain one's own physical attractiveness regardless of personal costs, efforts required, and economic conditions. Late 2010, ASAPS reported "Despite Recession, Overall Plastic Surgery Demand Drops Only 2 Percent From Last Year" based on 2009 statistics, their most recent annual data available from their members at that date. Early 2011, ASPA reported "Plastic Surgery Rebounds Along with Recovering Economy; 13.1 Million Cosmetic Procedures Performed in 2010, up 5%," based on 2010 statistics from their members. Over a longer time span, ASAPS data reveal that cosmetic procedures have increased 147% in number since beginning in 1997 to collect these statistics.

Bottom-line statistics, in one of the worst general economic times in American history, include ASAPS reporting nearly

> Consumers spent nearly $10.5 billion in 2009 for cosmetic surgery procedures (ASAPS data). Breast augmentation was the most frequent surgical procedure, and facial fillers (such as Botox) were the most frequent nonsurgical procedure. Demographically, although people seeking cosmetic procedures remained in the same approximate proportions as reported in earlier years, they increasingly cross differences in race and ethnicity (whose collective minorities represented 22% of all cosmetic procedures with Hispanic/Latino at 9%, African American at 6%, Asians at 4%, and 3% for other non-white people), as well as differences in gender and age.



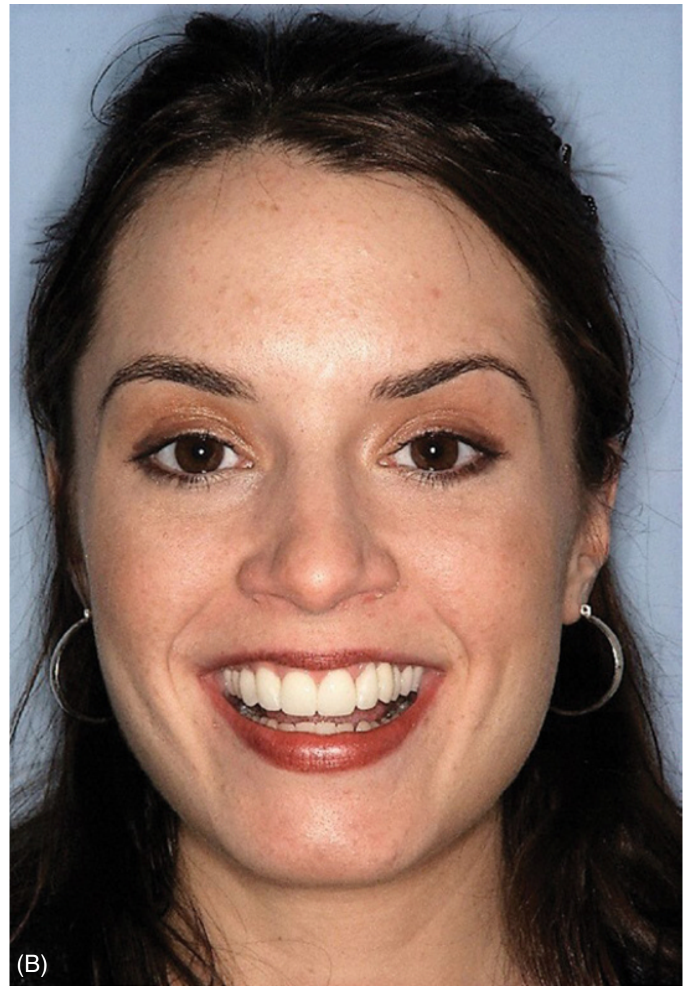


Figure 1.12 **(A–C)** Before and after full face smile photos: this 22-year-old waitress was too embarrassed to smile, which limited her full potential both socially and in reaching her career goals. Porcelain veneers and a resin-bonded fixed bridge were made without reducing the tooth structure. The result of her new smile and full hair and face make-over was a life-changing physical and mental transformation for this young woman.

10 million cosmetic procedures (surgical and nonsurgical) during 2009. That finding is despite economic conditions that delayed and decreased expenditures for most all products and services, with expectations for corresponding growth of purchases to resume as the economic improves. Accordingly, a year later in an improving but still bad overall economy, ASPA reported more than 13 million cosmetic procedures performed during 2010.

Today, people motivated to pursue various physical attractiveness options locate the necessary financial resources in creative ways. No longer do they rely solely on personal savings in pursuit of looking better. Suitable efforts and expenditures directed toward a person's physical attractiveness certainly can be correct, and a wise return on investment given our world in which looking better in nearly all circumstances has benefits throughout life.

Patient response to abnormality

The smile is the baby's most regularly evoked response and eventually signifies pleasure. Thus, any aberration it reveals can naturally be a point of anxiety. Frequently the response to a deformity or aberration can be out of proportion to its severity. Abnormality implies difference, a characteristic undesirable to most people. To diminish differences, they may resort to overt or subtle means of hiding their mouths (Figure 1.7A and B). However, as Rottersman notes, "The response may not be out of all proportion to the stimulus. This is a signal for the doctor to exercise caution, and to attempt to discern what truly underlies the patient's response" (W. Rottersman, personal communication). Understanding the patient's motives requires acute perception on the dentist's part, informed by a thorough examination and history that reveal the patient's actual dental problems.[20] The patient's own assessment of his problems and his reaction to them are of equal importance. The dentist should be alert for a displacement syndrome, in which an anxiety aroused by real and major emotional problems may be transferred to a minor oral deformity. When a patient with a long-standing complaint finally presents for treatment, the dentist must determine what prevented him or her from coming for treatment sooner. A patient who criticizes a former dentist is apt to be hostile, and the dentist should not present a treatment plan before determining what the patient believes treatment can accomplish.

Psychology and technology

For all patient treatments intended to change facial appearances, it is important to consider psychological dimensions as well as the treatment procedure and technology. Esthetic dentistry demands attention to the individual patient's desires, goals, and motivations, as well as physical conditions. Patients interested in esthetic dentistry present any number of scenarios. Every patient is an individual who likely requires individual attention to an extent. As well as actual dental conditions, their reasons for seeking treatment might reflect varying wants, feelings and anxieties, personalities and self-images, and unrelated or unrealistic perspectives, motivations, goals, and expectations. Complicating the reasons are interconnected influences from spouses, coworkers, aging, cultural changes, changes in socioeconomic level, and so forth. Stated succinctly by one dentist, "The reasons why patients seek esthetic treatment are as varied and intricate as the reasons they avoid. …such as orthodontic, cosmetic restorative, cosmetic periodontal, plastic or orthographic surgery, or any combination of these."

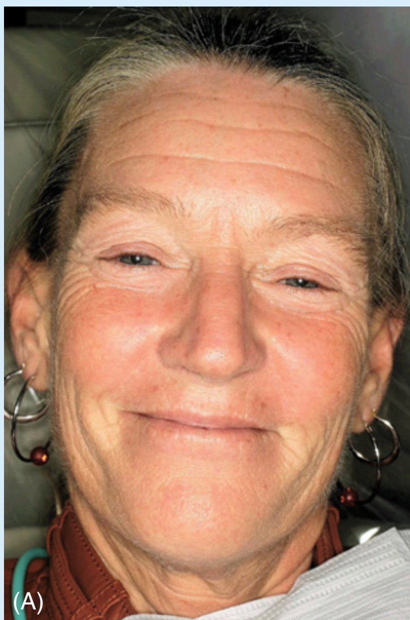
The individual's own feelings about dental esthetics are in some ways the most important. They determine his or her self-image in conjunction with that individual's perception of what and who are important in their lives. As much as possible, the dentist who devotes time to esthetic dentistry then functions as a vehicle of sorts to help patients realize their wants in the realm of feasibilities. Accordingly, practitioners of esthetic dentistry must understand what patients mean with their particular words and take appropriate actions in the context of ethics, good judgment, and technological capabilities.

A patient's own assessment of, reaction to, and perspective of dental issues are important. At the same time, the dentist needs to be alert to potential displacement syndrome whereby the patient transfers attention from unrelated or unrealistic emotions and problems to a minor or uncorrectable dental malady. Relative to other areas, esthetic dentistry may encounter more of these situations with variations. For example, before presenting a treatment plan for patients with a long-standing complaint about a dental issue, it should be determined why the person did not come sooner for treatment. Similarly, before presenting a treatment plan for a patient who might be highly critical of a former dentist or dental treatment, it should be determined what the patient believes treatment now can accomplish. See also Chapter 2 in this volume.

Patient types and dentist alerts

The reasons why patients seek esthetic treatment are as varied and intricate as the reasons they avoid it. How adults feel about and care for their mouth often reflects past, current, and future oral developmental experiences. Adults in their mid-20s may not have developed a sense of the meaning of time in the life cycle. Lack of oral health care may reflect a denial of mortality and normal body degeneration. Between the ages of 35 and 40 adults become reconciled to the fact they are aging and a renewed interest in self-preservation emerges. This interest is often directed toward various types of self-improvement such as orthodontic, cosmetic restorative, cosmetic periodontal, plastic or orthognathic surgery, or any combination of these. Patients sometimes cloak their actual dental needs with peripheral and unrealistic motivations, perceptions, and goals. At least some insight to understanding tangential orientations of these different types of patients might be necessary to complement a thorough examination and history.

Our teeth and mouths are critical to psychological development throughout life. Often, the way we treat our mouths and teeth indicates how we feel about ourselves. If we like ourselves, we work toward good oral health. Once we have reached this goal, our sense of well-being is increased (Figure 1.13A–C).



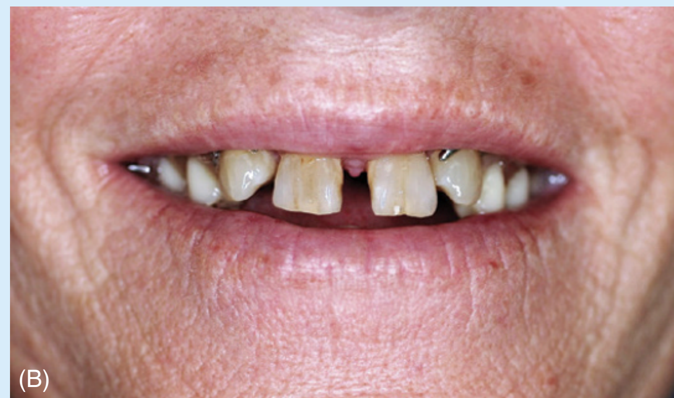


Figure 1.13 **(A)** This patient chose not to smile which affected her self-image and personality. **(B)** Since our teeth and mouths are critical factors in psychological development in life, it is not difficult to see why this patient chose not to smile.

Figure 1.13 **(C)** The smile was restored with an upper-implant-supported denture and a lower fixed and removable partial denture. Following a complimentary make-over, it is easy to see why this lady has a completely different outlook on life with her new self-image.

Burns, in his discussion of motivations for orthodontic treatment, cites the results of a study by Jarabak who determined five stimuli that may move a patient toward orthodontia. The motives, also applicable to esthetic dentistry, are as follows: (1) social acceptance, (2) fear, (3) intellectual acceptance, (4) personal pride, and (5) biological benefits. (It should be noted that these stimuli pertain only to patients who cooperate in treatment.)[6,19]

A spirit of cooperation and understanding between you and your patient is paramount to successful esthetic treatment. This relationship is a kind of symbiosis in which each contributes to the attitude of the other. The necessity for close observation and response on your part, particularly to nonverbal clues offered by the patient, cannot be overemphasized. The confidence generated by a careful and observant dentist will be perceived by the patient; so, unfortunately, will a lack of confidence. A competent, confident, professional dentist can reinforce the positive side of the ambivalence that patients feel toward persons who can help them but who they fear may hurt them.

Much psychological theory in dental esthetics must be formulated through analogy because of the comparatively recent recognition of the importance of dental esthetics and the consequent lack of a comprehensive database. The most obvious parallel field is plastic surgery. In a pioneering paper published in 1939, Baker and Smith[21] posited a system that categorized 312 patients into three groups based on personality traits as they related to a desire for corrective surgery, the motives for requesting it, and the prognosis for successful treatment.

- Group I—Ideal individuals for successful treatment with well-adjusted personalities, moderate success in life, aware that all life problems cannot be solved by better-looking teeth, and realistically want treatment to improve esthetics and/or for greater comfort. In your own practice, patients who fall into the first group are moderately successful people who want repair of their disfigurements for cosmetic reasons or comfort, not as an answer to all their problems. They do not expect too much from the improvement and they have a realistic visual concept of the outcome. They are ideal subjects for successful treatment.
- Group II—Irksome individuals of two types. The very irksome type are individuals who remain unhappy with results despite the excellent technical outcome achieved through prior treatment, indicating the same will happen with future treatments. Underlying that unhappiness, they continue past dysfunctional thinking about their prior appearance defects causing unrelated life problems outside the oral cavity or they find actual life with better-looking teeth to be not as great as they had earlier unrealistically fantasized. A substantially less irksome type in this Group II category are passive apologetic individuals who are grateful for any and all treatment, even though past results proved technically unsatisfactory as likely will be results of future treatments.
- Group III—Individuals with psychotic personalities for whom treatment outcomes will never be satisfactory in their view, regardless of actual technical results. Their visibly unattractive dental esthetics that existed before treatment served then as a focal point of their life problems and will probably continue always. With these people, any esthetic correction serves only to disrupt the rationalization process. Soon, some other defect is seized upon as the focus for their continuing psychotic delusions. These individuals warrant other professional treatment such as psychological or psychiatric counseling because dental treatment alone likely only disrupts their delusional rationalizations with no significant benefit in the longer term.

As expressed above, patients focused on cosmetic dentistry can be greatly appreciative and/or greatly demanding. Nevertheless, they must all be satisfied with their results. This satisfaction usually means their concept of a natural looking outcome that meets their pretreatment expectations and receives “a thumbs up” approval in the eyes of the patient and the most significant other(s) in the patient’s life. Advance measures, pretreatment, by the dentist to improve the likelihood of posttreatment satisfaction include the following:

- Listen well to the wants and perspectives of the patient before embarking on treatment. This “listening” extends to observing well any possible pertinent nonverbal clues exhibited by the patient.
- Discuss well any concerns, questions, expectations, and as much or little detail as appropriate for the individual patient.
- Present treatment options along with their procedures, timelines, advantages, and disadvantages or limitations.
- Be “realistically idealistic,” expressing the ideal but realistic scenario while being neither unrealistically optimistic that then builds too high of expectations that cannot be met and will generate dissatisfaction. Nor should you be unreasonably pessimistic. The latter balances lower expectations that results will nearly always meet and exceed and for that reason will nearly always generate substantial satisfaction with positive word-of-mouth evaluative comments to family and friends.
- Trial smile procedures are discussed in detail in Chapter 3.

The dentist–patient relationship should be long term, which by definition concerns posttreatment. Esthetic dentistry offers this opportunity more so than other dental treatments. Patients typically deliberate over this decision longer and with more thought invested than for other dental treatments. This greater investment in the decision process combined with improvement of appearance/physical attractiveness, as well as dental health, sets the stage for a rather special bonding consequence analogous to that between a cosmetic surgeon and a patient. To increase this likelihood, just as there are pretreatment alerts and actions for dentists when delivering esthetic treatments, there are posttreatment alerts and actions. For patients satisfied with their results, reinforcing words and careful direction for maintenance along with additional optional treatments might be well appropriate. This situation certainly poses opportunity for good word-of-mouth comments by the patient to family, friends, and potentially coworkers. Alternatively, the patient might experience

confusion posttreatment. Commonly known as buyer's remorse, it is a mental uncertainty or uneasiness about whether the decision, effort, and cost were worth the change or lack of change in appearance. Dentists who perceive such will serve everyone well by explaining fully the situation and maybe at the same time meeting with the most significant other(s) in the patient's life.

Psychology and treatment planning

Esthetic dental treatment can enhance a patient's own intensely personal image of how he or she looks and how he or she would like to look. As Frush observes, "A smile can be attractive, a prime asset to a person's appearance, and it can be a powerful factor in the ego and desirable life experiences of a human being. It cannot be treated with indifference because of its deep emotional significance." Frush notes that in any esthetic treatment there is the need for consideration of a patient's satisfaction with the natural appearance and function of the result. Artificial appearance or failure to satisfy the patient's expectations may damage his or her ego. Frush terms such damage a negative emotional syndrome (J.P. Frush, personal communication).

Frush continues, "The severe emotional trauma resulting from the loss of teeth is well recognized, and dentists, being the closest to this emotional disturbance, normally have a deep desire to help the patient through the experience as best they can. It is of prime importance to understand that a productive and satisfying social experience after treatment depends upon the acceptance of the changed body structure and the eventual establishment of a new body image by the patient as it is. The acceptance of treatment by the patient is made considerably easier when the prosthesis accomplishes two basic esthetic needs: the portrayal of a physiologic norm, and an actual improvement in the attractiveness of the smile and thus all related facial expressions." Facilitating such acceptance requires several things from the dentist: (1) constructive optimism, never exceeding the bounds of fact and candor; (2) specific demonstration of the means and methods to be employed in treatment; and (3) an open discussion of all patient anxieties and the proposed treatment options.

Healthy teeth are taken for granted; when they are painful, they become a point of exclusive attention. However, such overt stimulus is not necessary for a patient to become obsessively concerned about the appearance or health of the teeth. As an integral component of the body image, teeth can be the focus of feelings ranging from embarrassment to acute anxiety. As noted earlier, teeth may not be the actual cause of the disturbance, but instead the object of displaced anxieties.

All of these anxieties related to dental deformities are influenced by the patient's own view of the dental deformity and the reaction of other people to that deformity. Root notes that, "The first and foremost psychological effect of dentofacial deformity manifests itself in a sense of inferiority. This sense of inferiority is a complex, painful, emotional state characterized by feelings of incompetence, inadequacy, and depression in varying degrees."[22] These feelings of inferiority are a significant part of a patient's self-image, desire for treatment, and expectations of what the treatment can accomplish. Every patient is an individual and requires individual treatment. Generalities almost never apply; they are more useful as guidelines and suggestions than as prescribed courses or methods of treatment.

Predicting patient response

When certain patients appear for treatment, it is wise to proceed with extreme caution, and it is suggested that function alone be used as the criterion for operative intervention. Regardless of the technical success of the procedure, it would only serve to exacerbate, rather than remove, expression of their incipient psychosis. Many times, the restorations look good to you, but the patient still expresses dissatisfaction. This dissatisfaction may be a manifestation of some underlying fear or insecurity rather than a desire for artistic perfection in the restoration. Desire for artistic perfection may be indicative of a patient's underlying problems and may make it impossible for you to treat that person successfully. If we can know enough about the patient's personality to determine the various factors influencing his or her desire for esthetic correction, we would then be better equipped to predict the degree of psychological acceptance of that correction.

How can these patients be recognized by the busy dentist? Although experience may be the best teacher, the cardinal requirement is to show an interest in the patient's complete makeup. Look at the patient as an integrated human being, not just as another oral cavity. Baker and Smith offer the following questions to help evaluate patients:[21]

1. What was the patient's personality prior to the disfigurement?
2. What was the patient's emotional status when first conscious of his or her disfigurement?
3. What part has the disfigurement played in forming the present personality? In other words, is there some limitation in personality development because, for instance, the patient does not smile? What habit patterns have developed?
4. What will probably be the emotional effect of the esthetic correction of the defect?

Obviously it will take some time to arrive at the answers. The conclusion should reveal to which group this patient belongs, and in this way you can better predict the patient's acceptance of the esthetic results. Consideration of the emotional status of any patient who seeks esthetic treatment is important. It can help preclude unpleasant reactions toward either the treatment or you in those cases where treatment, though functionally and artistically successful, is unsatisfactory to the patient. Therefore, the patient's entire personal, familial, and social environment must be considered in relation to esthetics.

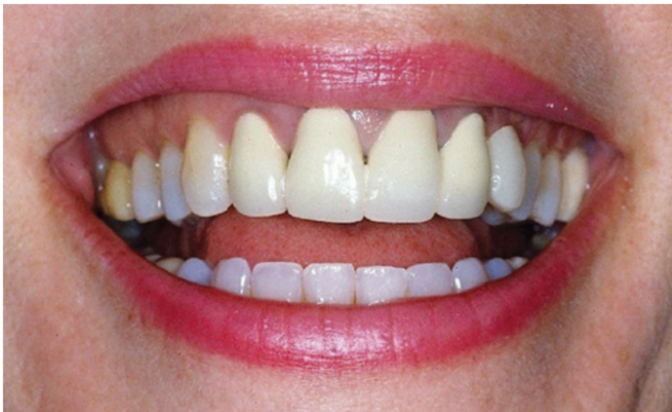


Figure 1.14 **(A)** This patient reached a point in her life where she realized her smile was looking much older than she felt.

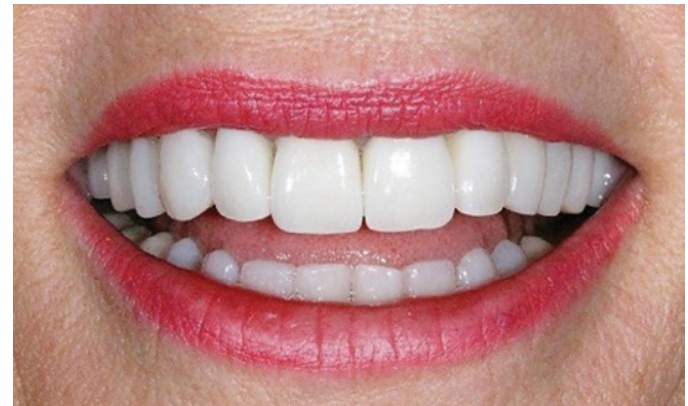


Figure 1.14 **(B)** A new smile make-over helped restore her youthful smile and self-esteem.

"Crossroads"

Well-adjusted individuals go through life, treating esthetic dental problems as tooth-by-tooth decisions. However, many individuals reach a point in their lives where they look in the mirror and realize their smile is looking much older than they feel. Such was the case with the patient in Figure 1.14A and B. Many years ago, the American Dental Association even made a movie about these individuals who reach a "crossroads" in their lives.

And, in those regards, the patient's entire personal, familial, and social environment must be considered in relation to esthetics.

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Chapter 2 Successful Management of Common Psychological Challenges

Shirley Brown, DMD, PhD

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I had rarely heard him sounding so emphatic or so perplexed. My friend and colleague, Dr J, is a renowned restorative dentist. He called to refer a patient to my psychotherapy practice:

"I told her I might be able to help her, but that I won't even touch her mouth until she sees you for psychotherapy."

Really? What's the issue?

"Well, she's a lovely 45-year-old, a successful radiologist who, since having a porcelain crown placed on tooth number 5 about a year ago, believes that she is hideous and refuses to be seen in public. She's had to resign from her medical practice. Other than doctors' appointments, she won't leave the house. She even cuts her own hair! She harassed the office of the dentist who made her the crown to such a degree that he had to change the office phone number. Each plastic surgeon she consults tells her she's just aging, which has convinced her of a local conspiracy against her by plastic surgeons. The dentist who treated her is very capable, and a number of terrific dentists have refused to treat her. The thing is, she actually does have some occlusal problems, and I agree the crown could look a little more harmonious. The woman is truly suffering, and I think I could help her. But not until she's had some therapy!"

Ok. Well, thanks for the referral… I'll try to get her scheduled and see what I can do. I'll be in touch.

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Introduction

One of the greatest challenges in dental practice is the psychologically difficult patient. We dentists are entertained by sharing our tales of the strange and outrageous, patient "war stories." Patients, for their part, lament the apparent obliviousness of the "typical" dentist, who fills the mouth with instruments and cotton before embarking on provocative topics of conversation. Patient behaviors in the dental chair range from routine to irrational, and dentists' management skills range from naturally talented to insensitive and impatient. Certainly, most dental school applicants emphasize their "people skills" in their application essays. Yet dental education generally lacks formal training in psychology or patient management. This state of affairs leaves many dentists poorly equipped to successfully handle the challenging patient encounter, and many patients wishing for greater mental comfort from their dental experiences. The benefits of closing the often wide gap between patient demand and dentist skills are many, and include reduced stress for all concerned, better treatment plan acceptance, better clinical outcomes, and practice growth through referrals from satisfied patients. Since it can be nearly impossible for patients to evaluate a dentist based on his or her technical proficiency, it is pain management and patient comfort that distinguish the patient-rated "great" dentists from all others. This results in enhanced referral rates as well as reduced risk of malpractice suits.

For the dentist whose practice focuses primarily or largely on esthetic procedures, there are additional, very particular considerations in the area of patient management. This is due to the fact that higher concentrations of certain patient types are more likely to seek esthetic dentistry. These include individuals going through normative life transitions when their physical appearance has greater than usual salience, such as early and middle adulthood, as well as patients with certain pathologies of mood, behavior, and personality, such as depression, eating disorders, and narcissistic personality disorder (NPD). See Table 2.1.

This chapter provides you with detailed background information on each of the most common patient challenges that you are likely to encounter and clear guidelines for improved management of these patients. Case examples will provide "real-life" illustrations and will go beyond the usual sharing of bizarre or frustrating experiences with patients to a more informed and practical understanding from which to enhance the success and satisfaction of esthetic dental practice.

Table 2.1 Disorders of Special Concern to Esthetic Dentists

Category	Disorder
Mood disorders	Depression Bipolar disorder (BD) Obsessive-compulsive disorder (OCD)
Eating disorders	Anorexia nervosa (AN) Bulimia nervosa (BN)
Personality types	The anxious patient The angry patient The demanding patient
Narcissistic personality disorder (NPD)	
Life event stress/ adjustment disorder	
Body dysmorphic disorder (BDD)	

Brief description of psychological terms and concepts

Mood disorders are the most common psychological diagnoses in the general population and thus in dental practice (20.8% in the US adult population).[1] The rate of major depression has been estimated at 19%,[1] the rate of bipolar disorder (BD; formerly manic depressive disorder) is estimated to be 3.9%,[1] the rate of anxiety disorders, such as obsessive-compulsive disorder (OCD), is estimated to be 18.1% of the US population.[1] These three main mood disorders should be clearly understood by the esthetic dentist because of management demands and because psychoactive medications commonly used to treat these syndromes can affect the oral cavity significantly. In addition, body dysmorphic disorder (BDD), which is a less prevalent subcategory of OCD, is particularly important to understand as it presents extreme and special challenges and protocols for the dental practice.

Eating disorders, which include anorexia nervosa (AN) and bulimia nervosa (BN),[2] are of high and increasing prevalence in the general population, estimated at 2.7% in US children and adolescents; AN is estimated at 0.6% in US adults (0.9% female and 0.3% male), and BN at 0.6% in US adults (0.5% female and 0.1% male).[1] Although both of these syndromes present the dentist with specific clinical and management challenges, there is a higher concentration of individuals with BN who seek esthetic dental procedures. This is in part because people whose work places them in the public eye, such as modeling, acting, and television talent, are under higher pressure to maintain thinness and therefore at greater risk of becoming bulimic. Of all the eating disorders, BN results in the greatest degree of damage to oral structures, particularly the anterior esthetic zone of the mouth, for reasons to be described. Mortality rates from medical complications and suicide have been estimated at 4% for AN and 3.9% for BN, the highest of all mental disorders.[3]

Personality disorders are a group of conditions in which the individual's persistent style of thinking, feeling, and behaving deviate significantly from social norms and interfere with personal and professional relationships. These differences stand apart from the symptoms of mood disorders, which can co-occur, and generally respond to long-term psychotherapy but not to psychoactive medications. Of the 10 main personality disorders, NPD stands out as a significant source of management challenge for the dentist. Prevalence rates for the personality disorders cannot be meaningfully estimated due to the difficulty of accurate survey measurement.

Patients with difficult personalities that are not so extreme as to be diagnosed as "disordered" will also be discussed (such as