

Impact of Craniofacial Appearance on Social Interaction*

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According to orthodontists' reports, a high percentage of orthodontic treatment is performed to improve patients' physical appearance. Generally, it is assumed that craniofacial improvements will enhance patients' self-esteem and their social relations as well as their physical condition. In this paper we review social psychological data which indicate that physical attractiveness is as important in influencing self-esteem and social relations as orthodontists believe it to be.

Some Americans are dissatisfied with their craniofacial appearance. For example, Berscheid, Walster, and Bohrnstedt¹ offered readers the opportunity to express their thoughts and feelings about their bodies. More than 62,000 readers returned the 109-item Body Image questionnaire. Table I summarizes how satisfied these Americans were with their own craniofacial appearance.

Almost every one was happy with his or her face—only 11% of the women and 8% of the men expressed any dissatisfaction. Evidently, one's face is one's fortune. They were equally satisfied with their overall body appearance. Only 7% of the women and 4% of the men said they were "quite" or "extremely" dissatisfied with their overall body appearance. Only 16% of the women and 11% of the men said that they were even slightly dissatisfied.

The respondents were not uniformly delighted with all aspects of their faces, however. Both men and women were unhappiest with their teeth—almost one third were dissatisfied.

According to orthodontists' reports, a high percentage of orthodontic treatment is performed to improve the patient's physical appearance.² Generally, orthodontists assume that craniofacial improvements 1) improve patient's self-esteem; 2) improve their social relationships; and 3) improve

their physical condition, e.g., increase their chewing ability, decrease cavities, preserve natural dentition.

Are Americans right to be so concerned about their craniofacial appearance? Are orthodontists right? Is physical attractiveness as important in shaping of self-esteem and social relations as they seem to think? Recently available social-psychological data suggest that they are. In their 1974 review of physical attractiveness research, Berscheid and Walster³ cited only 42 studies of the links between beauty, self-esteem, and social relations. However, since this 1974 review, *Psychological Abstracts* has summarized more than 250 research articles investigating these links.

In this paper, we will review what social psychologists know about the critical importance of physical attractiveness in interpersonal encounters. We will begin by asking "What is beauty?" Then we will ask what people expect beautiful people to be like and to what extent perception is translated into action—do the beautiful really have an advantage in life? Finally, we will review the impact that differential treatment has on the beautiful.

WHO IS PHYSICALLY ATTRACTIVE

The questions of who is physically attractive—and why—have fascinated novelists, poets, and street corner pundits for centuries. Unfortunately, the popularity of the questions is not reflected in the definitiveness of the available answers.

It has been said that "Except for some arbitrary beauty-contest conventions about 'ideal' female dimensions, we know less about attractive stimuli for people than we do about those for fish."⁴ Since Victorian times, a few

intrepid analysts have attempted to order the chaos and to advance theories of beauty in humans, but without conspicuous success. Darwin surveyed the beauty standards of various tribes throughout the world and sadly concluded that there is no universal standard of beauty. Modern analysts⁵⁻⁵ agree. Authors of serious treatises on beauty are inevitably reduced to gaping at the dazzling variety of characteristics which someone, somewhere, sometime, has considered to be beautiful.

What is Attractive, in General?

Ford and Beach⁶ examined more than 200 primitive societies. They were able to find *no universal* standards of sexual attractiveness. Within a given society, however, there is a reasonable consensus as to what is beautiful. For example, Europeans and Americans show considerable agreement in the perception of beauty. Illiffe⁷ conducted a study in Great Britain, in which a daily newspaper asked readers to rank the "prettiness" of 12 photographs of women's faces. Illiffe found that the thousands of readers who responded (from markedly different social classes and regions and ranging in age from 8 to 80 years) had similar ideas as to what was beautiful. Laboratory researchers, too, have found that there is reasonable consensus as to what is attractive but only that.

What happens when we focus on *specific* aspects of beauty? That is, what is a "good looking" face? How important is facial beauty? The mouth? Teeth?

Importance of Craniofacial Beauty

Here, not one social psychologist has investigated the question. Recently, some social psychologists trained in dentistry have begun such investigations.²⁻⁸ Although social psychologists found it impossible to define craniofacial beauty, they can attest to its importance.

Terry and Davis⁹ asked college students to rate the importance of individual facial features in judging a

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person's physical attractiveness. They found that it is the mouth, eyes, structure of the face, hair, and nose—in that order—that is important. In another study, Terry¹⁰ found that the mouth, again, was the most important, followed by the eyes, hair, and nose.

The data suggest that American men and women show substantial agreement as to what is attractive-unattractive. Luckily, for the vast majority of us, although there is substantial agreement as to what is beautiful-ugly, there is not *complete* agreement. The poetic hope that anyone will be found beautiful by someone also seems to be true.

OPERATION OF BIAS: EXPECTATIONS

Berscheid and Walster³ and Hatfield and Perlmutter⁵ found that most people possess very definite stereotypes as to what beautiful-ugly people are like: *What is beautiful is good; what is ugly is bad.*

According to folk psychology, people's appearance tells us a great deal about their personality and character. There is considerable evidence that most people assume that highly attractive individuals possess a wide variety of socially desired traits while unattractive people possess an equal complement of unappealing ones.

The data suggest that prejudice begins early. Children have very different expectations as to how unattractive and attractive children will *probably* behave. Investigators¹¹⁻¹² found that, as early as nursery school, children's perceptions were influenced by their peers' physical attractiveness. For example, the children believed that unattractive boys were the most likely to engage in aggressive, antisocial behavior. When children were asked to nominate "someone who scares you," they generally chose their unattractive classmates (male and female). At the same time, however, when children were asked to nominate "someone who's afraid of lots of things," they chose the unattractive *girls*. The unattractive were seen as frightening and frightened.

Attractive boys and girls were perceived to be more independent than their unattractive peers; they were perceived to enjoy doing things alone, not needing help from anyone and not afraid of anything.¹³

How can we account for the children's biased perceptions of their attractive-unattractive peers? The preceding evaluations could have been due to either of two factors: prejudice and/or the operation of self-fulfilling

TABLE 1. Respondents' Satisfaction with Their Bodies

	Quite or Extremely Dissatisfied		Any Dissatisfaction		Any Satisfaction		Quite or Extremely Satisfied	
	Female %	Male %	Female %	Male %	Female %	Male %	Female %	Male %
Overall body appearance	7*	1*	23	15	77	85	151	55†
Face								
Overall facial attractiveness	3	2	11	8	89	92	61	61
Hair	6	6	19	20	81	80	53	58
Eyes	1	1	6	7	94	93	80	81
Ears	2	1	7	5	93	95	83	82
Nose	5	2	23	16	77	84	55	64
Mouth	2	1	7	6	93	91	73	75
Teeth	11	10	30	28	70	72	50	46
Voice	3	3	18	15	82	85	55	58
Chin	1	3	13	11	87	89	67	69
Complexion	8	7	28	22	72	78	48	58
Extremities								
Shoulders	2	3	13	11	87	89	68	67
Arms	5	2	16	13	84	87	62	62
Hands	5	1	19	8	81	92	60	75
Feet	6	3	20	11	80	89	57	70
Mid torso								
Size of abdomen	19	11	50	36	50	64	29	42
Buttocks (seat)	17	6	43	20	57	80	37	56
Hips (upper thighs)	22	3	49	12	51	88	32	64
Legs and ankles	8	1	25	11	75	89	52	69
Height, weight and tone								
Height	3	3	13	13	87	87	72	67
Weight	21	10	48	35	52	65	31	43
General muscle tone or development	9	7	30	25	70	75	38	45

*These figures included in "Any Dissatisfaction."

†These figures included in "Any Satisfaction."

prophesies. It is possible that unattractive children are caught up in a vicious cycle of stereotyped expectations and self-fulfilling prophesies. Other children expect them to be unpleasant and, therefore, remember behaviors that confirm this stereotype.^{3,5-12}

By adulthood, bias based on beauty is firmly entrenched. Experiments make it clear that the beautiful-ugly are *perceived* to be different, even when observers know nothing about their behavior, or when the behavior of the beautiful-ugly is identical.

Men and women were asked to attempt to guess what the people in a collection of photographs, who differed markedly in appearance, were like. The authors¹⁴⁻¹⁵ found that men and women assumed that attractive people possess almost every socially desirable personality trait possible; they are assumed to be more sexually warm and responsive, sensitive, kind, interesting, strong, poised, modest, sociable and outgoing than persons of lesser physical attractiveness. When asked to guess what fate had in store for the attractive-unattractive, the raters predicted that physically

attractive individuals would have happier marriages and more prestigious occupations than would the less attractive. All in all, attractive people were expected to lead far more fulfilling lives than were the unattractive.

Beauty is Sanity

There is considerable evidence that the beautiful are assumed to be more mentally healthy than are the ugly.¹⁶

There is some evidence that men's judgements of whether or not a woman has "something to live for" may depend on her beauty. Pavlos and Newcomb¹⁷ asked men to read background information about an attractive or unattractive woman, who discovered that she had treatable or incurable cancer. Shortly thereafter, she tried to kill herself. Was she justified? The attractive woman was perceived as quite unjustified in attempting suicide, especially when her cancer was treatable. In contrast, the unattractive woman was perceived as more justified in her desperate act. Startlingly, men's feelings about whether or not the unattractive woman

was justified in attempting to commit suicide was not influenced by the prognosis of the disease.

Studies suggest that psychotherapists are no more immune to the halo-effect cast by physical beauty than are lay persons.⁵⁻¹⁷⁻¹⁹ Of course, bias is a two-way street. Counselors may be biased, but so are their clients. There is some evidence that clinicians' physical attractiveness influences their clients' expectations.²⁰

Beauty is Character

If people assume that "beauty is good," they might be expected to give the physically attractive the benefit of the doubt when they appear to have done something wrong. As a result, the physically attractive may be punished less severely than unattractive people. There is some evidence that these hypotheses are correct.

Dion¹⁴ studied women's reactions to the transgression of beautiful/ugly children. Women were asked to review some teachers' reports, which contained the 7-year-old's name and photograph (attractive or unattractive), some rudimentary background information, and the teacher's description of a mild or severe transgression which the child had committed. When the women were asked how they thought the child usually behaved on a typical day, the attractive child did seem to have a big advantage. If the child's transgression was very mild in nature, there was no difference in how the act was perceived; but if the transgression was severe, the women attributed significantly more antisocial behavior dispositions to unattractive boys and girls than to attractive children.

However, the authors found no support for the speculation that women would feel the unattractive child should be punished more severely than the attractive one.

Other researchers have explored the importance of physical attractiveness in influencing people's perceptions of adults' characters.²¹⁻²⁴

Sigall and Ostrove²⁵ argued that whether or not the beautiful were treated more leniently than others, depended on whether or not they seemed to be taking advantage of their beauty in carrying out their criminal activity. Students were asked to recommend punishment for an attractive or unattractive woman accused of stealing money (a crime not related to attractiveness) or swindling money from a bachelor (an attractiveness-related crime.) The attractive woman received a lighter sentence than the

unattractive defendant, when the crime was *not* related to physical attractiveness. The beautiful swindler received a harsher (although not significantly harsher) sentence than the unattractive swindler.

Judgments about Victims

What about victims? Do the beautiful receive more sympathy than the ugly? Perhaps. Two studies asked students their opinions about a rape case involving an attractive or unattractive woman. Seligman *et al.*²⁵ found that students made quite different attributions as to why each of the women was raped. If the woman was beautiful, that seemed to "explain" the rape. If the woman was not attractive, the students felt that she must have done something to provoke her attack. Regardless of what the woman looked like, and regardless of why students thought the attack had occurred, they were equally convinced of the defendant's guilt. However, Thornton²⁶ found that students recommended a longer sentence for a man who raped an attractive woman than for one who attacked an unattractive woman.

Beauty Is Competence

There is considerable evidence that physical attractiveness affects parents', teachers', employers', and peers' perception of how competent others are.

Clifford and Walster²⁷ asked 400 fifth-grade school teachers to examine students' academic files which contained a good deal of information about the students, including pictures pasted in one corner of the report. The cards reported the student's absences during the school year, grades in the subject areas and in the three personal trait areas of "healthful living," "personal development," and "work habits and attitudes." The teachers were asked to estimate the children's parents' attitudes toward school, the children's IQs, and their probable future educational accomplishments. As predicted, the children's physical attractiveness had a strong impact on the teachers' expectations of their intellectual potential.

A variety of studies indicate that teachers *expect* beauty and brains to go together, and they grade accordingly.¹³⁻²⁸⁻³⁰ These biases are especially ominous in light of the fact that physical attractiveness is *not* related to students' scores on objective tests.²⁸

The attractive/unattractive are likely to confront such biases through life. For example, college students rate essays³¹ and paintings³² more positively when

they are attributed to attractive individuals than to unattractive ones. Similarly, personnel managers evaluate attractive job applicants more favorably than equally qualified, but unattractive candidates.^{16,33}

Sex-Beauty Interactions

Do people see handsome men and beautiful women differently? There is some evidence they do. Berscheid and Walster³ observed that gender may be important in determining people's reactions to beauty, for two reasons: 1) It may be more *important* to be a beautiful woman than a handsome man. 2) The *content* of the physical attractiveness stereotype may differ for men and women.

There is evidence in support of both contentions. Researchers have found that physical attractiveness is a more important determinant of how women are evaluated than of how men are evaluated.³⁴⁻³⁵ People do seem to have gender-specific stereotypes. They expect physically attractive women to be more feminine, and to conform more to feminine sex-role stereotypes than would their unattractive peers;³⁶ and they expect attractive men to be more masculine and to conform to masculine sex role stereotypes.¹⁶

People can hardly avoid judging others by their physical appearance; physical attractiveness (or lack of it) is immediately apparent in every social encounter. People might know full well that a host of other things—IQ, personality, character, socioeconomic status, or genetic background—are more "important" than mere beauty, but, they have no way to assess another's standing in these areas. Small wonder, then, that most people search for a link between appearance and the more elusive realities. They simply assume beauty is good, beauty is sanity, character, and competence—even in the face of evidence to the contrary.

OPERATION OF BIAS: INTERACTIONS

If people *think* differently about the beautiful/ugly and *feel* differently about them, their biases *must* inevitably be reflected in their action. Not surprisingly, most people, most of the time, treat the beautiful more compassionately than they treat the ugly.

Behavior in Intimate Settings

According to Perlmutter and Hatfield³⁷ people communicate their feelings about their relationships with

others via a panoply of "meta-messages," by paralinguistic and kinesic signals: changes of facial expression, hesitations, shifts in tempo of speech or movement, overtones of the voice, irregularities of respiration, etc. The evidence indicates that people send very different meta-messages, as well as different objective messages, to the attractive ugly.

Men treat physically attractive and unattractive women very differently.³⁸⁻³⁹ Men, shown a picture of an attractive-unattractive woman, were asked 1) to give their first impression of her, 2) to have a brief conversation with her, and 3) to rate her again after they were better acquainted. (In fact, the women were simply randomly selected college students of average attractiveness who had agreed to participate in the experiment.)

What were men's first impression of the "beautiful" or "unattractive" woman? They *expected* the attractive woman to be more poised, sociable, warm, and outgoing than the unattractive one. When they had a chance actually to talk with this woman, how did that go? In order to find out, the experimenters separately recorded the men's and women's portions of the conversation and, later, asked raters to give their impressions of it. The raters judged men to be more comfortable, more attracted to their partners, and more attractive to their partners, when they thought she was attractive than when they thought she was not. Somehow, men conveyed very different meta-messages to an "attractive" partner than to an unappealing one.

Do women respond differently to attractive men than to unattractive ones? Of course. Women were found willing to reveal far more about themselves to attractive men than to unattractive ones.⁴⁰

Helping Behavior

Beauty counts, not only in our intimate relations, but it is critically important in our day-to-day encounters as well.

In old fairy tales, the "damsel in distress" is inevitably beautiful. It's lucky she is. A number of experiments document that beautiful damsels—and ruggedly handsome knights—are more likely to get help when they need it than are their less appealing peers.

In a variety of settings, researchers have documented that, regardless of race, gender, or age, people are far more eager to help physically attractive people than the unattractive.⁴¹⁻⁴²

Help-Seeking Behavior

What about the other side of the coin: When we need help, who are we most likely to ask for aid? Stokes and Bickman⁴³ argued that men and women should be unusually hesitant to ask attractive people for aid. It is hard to ask anyone for help; it threatens one's self-esteem and public image. If others are attractive, and we value their esteem, it should be almost impossible to ask them for aid. The authors found support for their notion: people are less willing to ask attractive people than unattractive people for aid.

OPERATION OF BIAS: REALITY

Recently, researchers have begun to collect information as to what attractive/unattractive people are *really* like. The evidence confirms what many have suspected all along: attractive/unattractive people *are* different from one another in a variety of ways. These differences may be caused by two very different factors: 1) Nature. There may be a genetic link between attractiveness and a host of other variables. 2) Nurture. Or, as seems more likely, the existence of preconceived notions about what physically attractive/unattractive individuals are probably like sets the stage for people to assess beautiful/ugly behavior in biased ways. Naturally, the beautiful/nonbeautiful are molded by these experiences. In the end, they become what everyone "knew" they were from the start.

Regardless of why the beautiful/homely are different, there is evidence that people's stereotypes about beauty do have a kernel of truth.

Self-concept

Only a few researchers have tried to determine whether physical attractiveness and self-esteem are related. Adams⁴⁴ found that physically attractive men and women have unusually high self-esteem. Glasgow and Arkowitz⁴⁵ found that physically attractive people perceive themselves as more socially skillful than do their unattractive peers after a brief encounter with another person.

Personality

The data on attractiveness-personality links are surprisingly sparse. A few scattered studies indicate that the physically attractive may be more confident that they control their own fate,⁴⁶ more assertive,⁴⁷ and more independent, ambitious and sociable⁴⁸ than unattractive people.

Popularity

Dion and Berscheid¹⁴ found evidence that, as early as nursery school, physical attractiveness and popularity are related. They found that, at all ages, attractive nursery school boys are more popular than their less attractive peers. For nursery school girls, however, the relationship between beauty and popularity is more complex. At very young ages, *unattractive* girls become more and more popular, while the attractive girls' popularity declines.

By adulthood, however, there is no doubt that beautiful men and women are more popular than their peers. Physical attractiveness has proved to be more important than intelligence, shared opinions, income, etc., in determining who likes whom.⁴⁹⁻⁵⁰ There is compelling evidence that our liking for same sex peers is similarly influenced by physical attractiveness.⁴⁸

Sociability

A number of researchers have found that the beautiful are more sociable and more socially skilled than their unattractive peers. An experiment by Snyder *et al.*⁵⁸ in which men talked quite differently when they believed their telephone partners were attractive than when they believed they were not, demonstrates rather clearly how people's stereotyped expectations can bias and subtly shape their behavior and, in reaction, their partner's. Snyder *et al.* point out that participants in *their* experiment conversed for only ten minutes. The cumulative effects of a lifetime of such differential treatment should prove powerful indeed.

Happiness

In terms of acceptance by peers and by adults, in terms of opportunities to select a compatible mate, in terms of the increased educational and employment opportunities, it is clear that attractive people *ought* to be happier than the unattractive.

But the Bluebird of Happiness is an elusive fowl, whose habits have not been fully identified. Often, people's personal feelings of satisfaction with their lot do not show one-to-one correspondence with the "objective" goodness of that lot. Happiness may follow "adaptation" rules. For example, Thibaut and Kelley⁵¹ pointed out that individuals' happiness in any given relationship, is a function of the outcomes they receive in that relationship, compared to all the outcomes they have known in other relationships.

Thus, it is *not* a foregone conclusion that attractive people should be happier than the unattractive. Available evidence suggests that beautiful people *probably* are happier than unattractive ones, but the data are far from clear.

Mental Illness

A number of researchers have attempted to determine whether or not physical attractiveness ugliness is related to mental and emotional health. In a classic study, Farina *et al.*⁵² observed that in our society, "Beautiful people are greatly valued and well-treated while those who are unattractive receive a most regrettable reception." They reviewed the remarkable number of ways the beautiful are advantaged and the unattractive disadvantaged, and found considerable evidence that beauty is related to social adjustment and mental health.

In Farina's study, it was not possible to tell for sure which came first: did unattractiveness generate mental illness, or are the mentally-ill simply unable to maintain the appearance? Other researchers have attempted to disentangle this riddle. Their results suggest that probably both factors were operating in Farina's study.

Cavior⁵³ argued that psychotherapists might do well to consider plastic surgery (reconstructive and cosmetic) as an alternative or adjunct to psychotherapy, since anecdotal reports by plastic surgeons and interdisciplinary research by psychologists, sociologists, and plastic surgeons have suggested that plastic surgery can result in marked changes in self-concept, behavior, and the responses of others.

Kurtzberg *et al.*⁵⁴ proposed that, if prison inmates' physical disfigurements were surgically corrected in prison, they should develop better self-concepts and better social relations. After release, men should show improved psychological adjustment, less recidivism, and have more job success.

To test their hypothesis, they assigned disfigured inmates of the New York City jail system to one of four experimental groups: Surgery Alone, Surgery and Social and Vocational Services, Social and Vocational Services Without Surgery, and a No-Treatment Control Group. Data from follow-ups on all inmates, one year following surgery or release from prison, revealed that the recidivism rate of nonaddicts receiving surgery was less significantly, (36% less) than that of disfigured men and control subjects. Nonaddict subjects receiving only social and voca-

tional services, but no surgery, recidivated at a rate of 33% *higher* than controls. This latter group also appeared to show poorer social relations and a tendency to become further alienated from society during the one-year follow-up period.

They report that "plastic surgery appeared to help those with facial disfigurements to a greater extent than those with disfigurements on their bodies."⁵⁴

CONCLUSION

The evidence suggests that most people, most of the time, *do* treat the beautiful more compassionately than they treat the ugly. They send "meta-messages" indicating their willingness to become intimate more quickly, they are quicker to offer help, and less quick to demand help in return.

There is some evidence that people's stereotypes about beauty *do* have a kernel of truth. There is considerable evidence that, by nursery school, the beautiful and the ugly are different indeed.

There is also considerable evidence that the beautiful are better adjusted and mentally healthier than their unattractive peers.

The implications of these studies for dental practice is that form is fully as important as—if not more important than—function in planning orthodontic treatment.

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