INFORMATION TO USERS

This material was produced from a microfilm copy of the original document. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the original submitted.

The following explanation of techniques is provided to help you understand markings or patterns which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting thru an image and duplicating adjacent pages to insure you complete continuity.

2. When an image on the film is obliterated with a large round black mark, it is an indication that the photographer suspected that the copy may have moved during exposure and thus cause a blurred image. You will find a good image of the page in the adjacent frame.

3. When a map, drawing or chart, etc., was part of the material being photographed the photographer followed a definite method in "sectioning" the material. It is customary to begin photoing at the upper left hand corner of a large sheet and to continue photoing from left to right in equal sections with a small overlap. If necessary, sectioning is continued again — beginning below the first row and continuing on until complete.

4. The majority of users indicate that the textual content is of greatest value, however, a somewhat higher quality reproduction could be made from "photographs" if essential to the understanding of the dissertation. Silver prints of "photographs" may be ordered at additional charge by writing the Order Department, giving the catalog number, title, author and specific pages you wish reproduced.

5. PLEASE NOTE: Some pages may have indistinct print. Filmed as received.

77-21,409

STAAT, Janice Claire, 1947-
SIZE OF NOSE AND MOUTH AS COMPONENTS
OF FACIAL BEAUTY.

The University of Oklahoma,
Ph.D., 1977
Psychology, social

THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

SIZE OF NOSE AND MOUTH AS COMPONENTS

OF FACIAL BEAUTY

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

DOCTOR OF PHILOSOPHY

By

JAN STAAT

Norman, Oklahoma

1977

SIZE OF NOSE AND MOUTH AS COMPONENTS

OF FACIAL BEAUTY

A DISSERTATION

APPROVED FOR THE DEPARTMENT OF PSYCHOLOGY

BY

DISSERTATION COMMITTEE

ACKNOWLEDGEMENTS

I wish to express my appreciation to Dr. John McCullers
for his guidance, patience and encouragement during every phase of
the work on this dissertation. I would also like to thank the members
of my committee, Dr. Roger Fouts, Dr. Kirby Gilliland, Dr. Michelle
Mondani, and Dr. Alan Nicewander, for their cooperation and assistance.
Thanks are also due to Mary Beth Gajewski, Richard Leaman, and James
Moran for their assistance in data collection. I am also grateful
to my husband, Henry, both for his understanding and support as well
as his practical assistance in completing this dissertation.

TABLE OF CONTENTS

iv

TABLE OF CONTENTS (continued)

Size of Nose and Mouth as Components

of Facial Beauty

Jan Staat

University of Oklahoma

Abstract

Four experiments designed to extend and substantiate re-
sults of previous research showing the importance of feature size
to facial attractiveness are reported. The first three experiments
involved the use of an Identi-Kit. In the first experiment subjects
were provided with sets of Identi-Kit materials that included small,
medium, and large noses and mouths. Subjects constructed attractive
and unattractive faces using these materials. In the second and
third experiments subjects chose the more attractive of pairs of
preconstructed Identi-Kit faces that varied in nose and mouth size.
The pairs of faces in the second experiment varied in other character-
istics as well as nose and mouth size, while those in the third
experiment were identical except for nose and mouth size. All three
Identi-Kit experiments showed that smaller features are considered
more attractive than larger features. The fourth experiment investigated
the importance of feature size to facial attractiveness in real
peoples' faces. Attractiveness ratings of photographs were correlated
with measurements of the noses and mouths of the individuals photo-

graphed. A significant and negative relationship was found between
attractiveness ratings and feature size of female faces. The correla-
tions on the male faces revealed a negative, though not significant,
relationship between attractiveness ratings and feature size of
male faces.

Size of Nose and Mouth as Components

of Facial Beauty

Jan Staat

University of Oklahoma

The bulk of research on physical attractiveness has been
devoted to discovering the social consequences of being physically
attractive or unattractive. There has been considerable research
on this topic in recent years, and it is quite consistent in showing
that physically unattractive people are viewed in a much more negative
light or treated in a much more unfavorable way than attractive
people. For example, attractive individuals are seen as more poised,
self confident, interesting, sociable, and outgoing than persons of
lesser physical attractiveness (Dion, Bersheid, & Walster, 1972;
Miller, 1970). They are also more likely to receive assistance when
in distress (West & Brown, 1975; Benson, Karabenick, & Lerner, 1976),
to receive a more favorable rating on a job application (Dipboye,
Fromkin, & Wiback, 1975), and to be given a shorter prison sentence
(Efran, 1974; Izzett & Leginski, 1974) than unattractive individuals.
Attractiveness in these experiments is typically determined prior
to the experiment by rating photographs that are later presented to
the subjects for evaluation. For a review of this literature, see
Berscheid and Walster, 1974.

Research aimed at determining the elements or constituents
of physical beauty has, on the other hand, been quite limited. One
early study which examined the constituents of physical beauty was
by Taylor and Thompson (1955). In this study pairs of faces were
presented to subjects ranging in age from 7 to 21 years. A standard
face was constructed according to the classic proportions of
Leonardo Da Vinci, and variations upon the standard were made by
increasing or decreasing, in a systematic manner, the size of features
and distance between them. It was found that as age increased, so
did the tendency to prefer the standard face. In addition, a preference
was noted for thinner lips, wider mouths, and shorter noses.

McCullers and Staat (1974, Note 1) approached the problem
of the components of facial beauty from a slightly different viewpoint.
Rather than have subjects judge the attractiveness of pairs of faces
as did Taylor and Thompson, they asked subjects to draw attractive
and unattractive faces. It was found that both black and white
American subjects as well as a number of groups of foreign subjects
drew significantly longer and wider noses and longer and wider mouths
on the unattractive faces than on attractive faces.

Even though these studies are highly consistent and have
been well replicated there is a possibility that the results reflect
an artifact of methodology rather than the subjects' true conceptions
of beauty. If unattractiveness is a distortion of an ideal or
standard face as Taylor and Thompson (1955) suggest, it would be
easier to distort features in the larger than in the smaller

2

direction. It is virtually impossible to draw a grotesquely small
nose or mouth. That is, the artist is limited as to how much smaller
than normal he (or she) can draw features even if they are eliminated
altogether. The only limitation upon how large a particular feature
can be drawn, on the other hand, is the size of the paper. For this
reason, before accepting conclusively the importance of feature size
to facial beauty, the McCullers and Staat results should be sub-
stantiated using other methodologies. Four-experiments were designed
to do this. The first three involved the use of the Identi-Kit,[1]
which was originally designed for the identification of criminal
suspects. The Identi-Kit consists of a series of transparent overlays
containing different hair, eyes, noses, mouths, etc. These may be
combined in an almost infinite number of ways to form different
composite faces. In the first study, subjects constructed their
own Identi-Kit versions of attractive and unattractive faces. This
experiment is similar to the drawing studies in that the subject was
free to create faces that fit his own conception of beauty. However,
the possible artifact of the drawing method is eliminated. In the
second and third studies faces which varied in nose and mouth size
were constructed by the experimenter and presented to the subjects
in pairs for attractiveness judgments. The pairs of faces in the
second experiment varied in all characteristics (hair, eyes, eyebrows,
as well as nose and mouth). In the third study the pairs of faces
were identical except for nose and mouth differences. A very brief
exposure of the faces in the third study was necessary to prevent

3

the subject from detecting that the pairs were identical except for
nose and mouth size. The fourth experiment was an attempt to relate
feature size and facial attractiveness using photographs of real
people rather than drawings or Identi-Kit faces.

Experiment I

In the McCullers and Staat (1974, Note 1) drawing studies
it often appeared that subjects drew features on the unattractive
faces of a distorted or unrealistic size. The aim of this first
study was to have the subject create faces that fit their own con-
ception of beauty, as in the drawing studies, where all features
available are of a realistic size. Thus, it will be possible to
determine if subjects still prefer small features on attractive and
large features on unattractive faces, when extreme distortions are
not possible.

Method

Subjects. The subjects were 40 white undergraduates at the University
of Oklahoma. They were randomly selected with the restriction that
each sex was equally represented.

Materials. Two complete sets of facial characteristics, each con-
taining six hairstyles, six pairs of eyes, six pairs of eyebrows,
six noses, and six mouths, were selected from the Identi-Kit for use
in this experiment. One set was appropriate for constructing female
faces and one was appropriate for constructing male faces. Two large,
two small, and two medium-sized noses and mouths appeared in each

set.[2] The two noses and mouths of a given size were as similar in absolute size and shape as was possible. Hairstyles, eyes, and eyebrows chosen were appropriate for constructing faces of about the same age as the subjects in the experiment (18 to 25 years). Identi-Kit code numbers of the features used in each set were as follows. Female set: Hairstyles (153, 146, 147,156,154, 155); Eyes (10, 57, 71, 75, 55, 16); Eyebrows (02, 24, 82, 83, 81, 01); Noses (Small, 35, 36; Medium, 11, 13; Large, 07, 32); Mouths (Small, 3, 35; Medium, 7, 20; Large, 24, 25). Male set: Hairstyles (148,160, 159, 133, 134, 141); Eyes (18, 69, 15, 72, 14, 48); Eyebrows (21, 51, 14, 42, 67, 04); Noses (Small, 36, 37; Medium, 28, 29; Large, 15, 16); Mouths (Small, 01, 14; Medium, 29, 28; Large, 05. 16). The facial characteristics are reproduced in Appendix D at a size reduction of one-third.

Procedure. The subjects were seen individually. Each subject was given a brief description of the Identi-Kit materials and shown how they were to be used. A male or female set of facial characteristics was then arranged in front of the subject and he was asked to construct either the most or least attractive face that he could. All subjects constructed an attractive and unattractive male and female face, with order of construction being randomized across subjects. Subjects were allowed 10 minutes to complete each face. If at the end of nine minutes the subject was not finished he was warned that he had only one more minute to complete the face. Two subjects received this one-minute warning. All subjects completed the task within the allotted time. Instructions to the subjects are given in Appendix C.

5

Results and Discussion. Preliminary frequency analysis showed that
the great majority of subjects constructed attractive faces with
small noses and unattractive faces with large noses. Thirty-three
subjects constructed the attractive male face with a small nose,
seven subjects used a medium-sized nose, and no one used a large
nose. In constructing the attractive female face, 36 subjects used
a small nose, four used a medium-sized nose, and no one used a large
nose. The pattern was more or less reversed in the construction of
the unattractive faces. For an unattractive male face, one subject
chose a small nose, six a medium, and 33 used a large nose; for the
unattractive female face, eight subjects chose a small nose, four
chose a medium and 28 used a large nose. Although there was a tendency
to put smaller mouths on attractive faces and larger mouths on un-
attractive faces, this trend was not as pronounced for mouths as for
noses. Attractive male faces were actually constructed most often
with a medium-sized mouth. Nine subjects chose a small mouth, 29
a medium, and two a large mouth for the attractive male face. Eleven
subjects chose a small nose, two a medium and 27 a large mouth for
the unattractive male face. In constructing the attractive female
face, 20 subjects chose a small, 11 a medium, and nine chose a large
mouth. Eleven subjects chose a small, eight chose a medium, and
21 chose a large mouth for the unattractive female face.

        Because the design of the experiment contains within-
as well as between-subject variables, a Chi Square analysis of the
frequency data was inappropriate. For this reason, the nominal data

6

were converted to the absolute sizes of the features chosen and the resulting data analyzed by means of a 1 between (sex of subject) and 1 within (attractiveness of face) factor analysis of variance. The dependent measure was the length X width (measured in millimeters) of the facial feature chosen. Four separate analyses of variance were performed, two on the nose measure data (male and female face) and two on the mouth measure data (male and female face). Four separate analyses were performed because differences in the size of the features for the male and female face, and differences in the sizes of the nose and mouth made an overall analysis meaningless. Identi-Kit code numbers of the noses and mouths chosen as well as the absolute sizes of those features are given in Appendix E.

Analyses of variance on the nose size of the male and female face both showed a highly significant (p <.0001) main effect of attractiveness. Means and (standard deviations) of nose size for the attractive and unattractive male face were 341.138 mm^2 (15.54) and 479.938 mm^2 (107.925) respectively. For the attractive and unattractive female face the means and (standard deviations) were 285.750 mm^2 (28.178) and 355.562 mm^2 (31.302) respectively. There was also significant (p <.03) sex of subject x attractiveness of face interaction on the female face. This was due primarily to the fact that male subjects used smaller noses on the attractive female face than did female subjects. The means of the nose measures for the attractive female face for male and female subjects were 275.875 and 295.625 respectively.

7

Analyses on the mouth measures of the male and female faces again showed a highly significant main effect of attractiveness (male face, $p < .0002$; female face, $p < .003$). Means and (standard deviations) of mouth size for the attractive and unattractive male face were 119.300 (30.321) and 157.100 (39.843) respectively. For the attractive and unattractive female face the means and standard deviations of the mouth size were 124.675 (28.850) and 154.075 (43.638) respectively. Summary tables of the analyses of variance are given in Appendix B.

It is obvious from the results of this experiment that when the possible artifact of the drawing methodology is eliminated, and when all facial features are of a realistic size, the subjects still associate smaller features with attractive faces and larger features with unattractive faces. Although attractive faces were constructed with both smaller noses and mouths than the unattractive, the tendency to do this was more pronounced with noses. The fact that 50% of the attractive faces were constructed with a medium-sized mouth and 27% of the unattractive faces with a small mouth seems to indicate that a very small mouth may not be seen as attractive and may actually be unattractive (though apparently not as unattractive as a large mouth). A few subjects who tried out the small mouth on the attractive face and then changed it mentioned that it looked "bitter, or unhappy" to them. The presence of the Sex X Attractiveness interaction on the female face indicated that males prefer an even smaller nose than do females on attractive female faces. This finding is consistent with our pilot work with the Identi-Kit in which it

8

was found that males showed a stronger tendency than females to prefer smaller featured faces.

McCullers and Staat noted a general reluctance on the part of their subjects to draw the required faces, and a more pronounced reluctance to draw unattractive faces. The construction experiment eliminated the need to ask the subjects to draw, however, a slight reluctance or embarrassment on the part of many subjects was noted during the construction of the unattractive faces. A number of subjects would begin working on an unattractive face and then look somewhat sheepishly at the experimenter and say something to the effect of "you don't really want it that ugly, do you?" Some subjects were so uncomfortable with their "ugly face" that they actually altered it, or "toned it down" as they said. A few subjects also felt that their unattractive faces represented a different race than their attractive faces.

Experiment II

The purpose of Experiment II was again to assess the importance of feature size to facial attractiveness without the possible drawing artifact. The drawing task was eliminated and subjects were asked to judge the attractiveness of pairs of Identi-Kit faces that were preconstructed by the experimenter and varied systematically in nose and mouth size. This variation in methodology should give further indication of the relative importance of nose versus mouth in determining facial beauty (e.g., is the nose the most critical, the mouth, or are they about the same?). The simultaneous variation

9

of the other facial characteristics was undertaken to mask the true
purpose of the experiment and make it possible to allow the subjects
to visually compare the faces for a reasonable length of time.

Method

Subjects. The subjects were 40 white undergraduates at the University
of Oklahoma. They were randomly selected with the restriction that
the sexes were equally represented.

Materials and Apparatus. Forty-eight composite faces (24 male and
24 female) were constructed using the Identi-Kit materials to yield
four nose-mouth combinations. Twelve (six male and six female) of
the faces had a small nose and mouth (SS), 12 had a large nose and
mouth (LL), 12 had a small nose and large mouth (SL), and 12 had
a large nose and small mouth (LS). The two large and two small noses
and mouths for each sex were the same ones used in Experiment I.
The two most popular hairstyles, pairs of eyes, and eyebrows from
Experiment I for each sex were used as the other facial characteristics.
The Identi-Kit code numbers of the facial characteristics used in
this experiment were as follows: Female faces: Hairstyles (153,
155); Eyes (57, 71); Eyebrows (82, 83); Noses (Small - 35, 36; Large -
07, 32); Mouths (Small - 03, 35; Large - 24, 25). Male faces:
Hairstyles (134, 148); Eyes (18, 48); Eyebrows (04, 51); Noses
(Small - 36, 37; Large - 15, 16); Mouths (Small - 01, 14; Large -
05, 16). The facial characteristics other than nose and mouth were
counterbalanced across the four nose-mouth combinations in a way
that ensured that each feature (hair, eyes, eyebrows) occurred

10

equally often with each nose-mouth combination. Photographic slides
of the constructed faces were prepared and duplicated to yield two
sets of the 48 faces. Dual Kodak Carousel slide projectors with
attached tachistoscopes were used to present the slides to the subjects.
Procedure. Subjects were seen in small groups of 4 or 5. The com-
posite faces were presented to the subjects in pairs and were
organized in the projectors so that only within sex comparisons were
made. The 96 slides provided eight pairings (four of each sex)
within each of the six possible comparisons of nose-mouth combinations:
SS vs. LL; SS vs. LS, SS vs. SL, SL vs. LS, LL vs. SL, LL vs. LS.
The pairs of faces were selected so that there were no facial features
common to both faces in a pair. Thus, within any given pair of faces,
hair, eyes, eyebrows as well as nose and mouth were different.
In order to increase generality, two random orders of presentation
were used. Faces were presented to the subjects for a duration of
5 seconds, and at this time subjects indicated which face in the
pair was the most attractive. Instructions to the subjects are
given in Appendix C.

Results and Discussion. The dependent measure was the frequency
of choice as most attractive of the 4 nose-mouth combinations (SS,
SL, LS, LL). The maximum possible score for any one nose-mouth
combination was 24, since within the 48 pairs, there were 8 of each
comparison (4 of each sex) and each nose-mouth combination occurred
3 times in the 6 possible comparisons.

Preliminary t tests showed that sex of subject and order

11

of presentation made no difference, and for this reason the data were combined in all further analyses. Means and (standard deviations) of the frequency of choice of each of the 4 nose-mouth combinations were as follows: SS - 19.275 (2.470); SL - 17.250 (2.239), LS - 6.600 (2.240); LL - 4.875 (2.662).

Data were analyzed by means of individual correlated t tests. Dunn's technique (dividing the alpha level of .05 by the number of tests performed) was utilized to control Type I error. The SS combination was chosen significantly more often than SL (t = 3.907, p <.01); LS was chosen significantly more often than LL (t = 3.059, p <.01); and the combination of SS + SL was chosen more often than LS + LL (t = 23.272, p <.01). For a more specific analysis, the normal approximation to the binomial was used to determine whether one nose-mouth combination was chosen significantly more often than the other in each of the six comparisons.[3] Table I gives the frequency of choice of each nose mouth combination in each comparison and the computed z scores and p values. The frequency of choice of each nose-mouth combination in each of the six comparisons by subject are given in Appendix E.

It is obvious from examining Table I that although a smaller mouth was more preferred than a larger mouth, the nose was far more important than the mouth. The two comparisons in which nose size is held constant (SS-SL and LS-LL) both indicate a preference for the smaller mouth, however, the difference in frequency of choices between SS and SL and between LS and LL (50 and 62 respectively)

12

is not large, particularly when compared to the comparisons that hold mouth size constant and vary nose size (SS-LS and SL-LL). The fact that these two comparisons and the two that vary both nose and mouth (SS-LL and SL-LS) are so similar indicates that the nose was the major determiner of the subjects' attractiveness choices.

The same interpretation holds true when the overall means of the four nose mouth combinations are considered. Here again a smaller mouth was preferred over a larger mouth, however, the nose was by far the most important feature. Posttest interviews with the subjects further supported this interpretation. The majority of subjects mentioned the greater importance of the nose in determining their attractiveness choices. This finding is consistent with the results of Experiment I where the tendency to choose the smallest nose was greater than the tendency to choose the smallest mouth.

Experiment III

The aim of Experiment III was to continue the assessment of the importance of nose and mouth as determinants of facial attractiveness with a different methodology. Experiment III was similar to Experiment II except that the pairs of faces were identical except for nose and mouth. A brief tachistoscopic presentation of the pairs was necessary to prevent the subject from recognizing this fact. The brief presentation interval also was thought to have the advantage of requiring the subject to respond at a more affective/ perceptual level than at an intellectual level. Thus, the results

13

of this experiment might indicate how the subject feels about nose
and mouth size when he is not allowed time to think about it.

Method

Subjects. The subjects were 40 white undergraduates at the University
of Oklahoma. They were randomly selected with the restriction that
the sexes were equally represented.

Materials and Apparatus. The materials and apparatus used in this
experiment were the same as those used in Experiment II.

Procedure. As in Experiment II the composite faces were presented
to the subjects in pairs, and only within sex comparisons were made.
Unlike Experiment II, however, the pairs of faces were identical
in all respects except for the nose and mouth. Thus, in any given
pair of faces the eyes, eyebrows, and hairstyle were the same, the
only difference between the faces in the pair was the nose and mouth.
As before, eight pairs (four of each sex) were judged within each
of the six possible nose-mouth comparisons: (SS vs. LL, SL vs. SS,
LS vs. LL, SL vs. LS, LS vs. LL, SL vs. LL). The pairs of faces
were presented in 2 random orders to increase generality. Slides
were presented by means of dual Kodak Carousel slide projectors with
attached tachistoscopes for a duration of .5 second.[4] Subjects had
5 seconds to record their choice of the more attractive face before
the next pair of faces was presented. Instructions to the subjects
are given in Appendix C.

Results and Discussion. Data in Experiment III were analyzed in

14

the same manner as in Experiment II. As before, the dependent measure
was the frequency of choice as most attractive of the four nose-
mouth combinations (SS, SL, LS, LL). Preliminary t tests showed
no sex differences and no order of presentation differences; the
data were combined in all further analyses. Means and (standard
deviations) of the frequency of choice of each of the four nose-
mouth combinations were as follows: SS - 19.350 (2.107); SL -
16.975 (2.626); LS - 5.850 (2.815); LL - 5.825 (2.308). Individual
correlated t tests revealed no significant difference between LS
and LS (t<1). SS was chosen significantly more often than SL (t =
4.189, p <.01), and the combination of SS + SL was chosen more often
than the combination of LS + LL (t = 24.962, p <.01). The normal
approximation to the binomial was again used to determine if one
nose-mouth combination was chosen significantly more often than the
other in each of the six comparisons. Table II gives the frequency
of chocie of each nose-mouth combination in each comparison and the
computed z scores and p values. The frequency of choice of each nose
mouth combination in each of the six comparisons by subject are given
in Appendix E.

The pattern of results in this study is quite similar to
that of Experiment II. The nose was again far more salient than the
mouth. When both faces in a pair had a small nose, the size of the
mouth obviously influenced the subjects' choices. They preferred
a small mouth to a large one (SS chosen more often than SL). However,
when both faces had a large nose, the nose was apparently so un-

15

attractive to the subjects that the size of the mouth did not influence
their judgments, and they responded randomly to the LS-LL comparison.
It appears that a large nose is so perceptually dominant that the
subject simply cannot pay attention to the mouth.

The purpose of the .5-second presentation was to prevent
the subjects from becoming aware of the fact that they were judging
faces that were identical except for nose and mouth. This manipulation
appears to have been successful. None of the subjects verbalized,
in posttest interviews, the critical difference between the faces.
When asked what they felt they based their decisions on, many subjects
mentioned the nose. A number of them felt it was the eyes or hair-
style that determined which face was the more attractive, in spite
of the fact that eyes and hairstyles were identical within a given
pair. A few subjects mentioned the mouth and a few simply didn't
know or couldn't verbalize what their decisions were based on.

Experiment IV

Experiment IV was an attempt to relate feature size to
facial attractiveness in a more "true to life" situation. Feature
size and attractiveness ratings of photographs of real faces were
correlated. The purpose of this experiment was to determine if
feature size plays the same role in facial attractiveness with
real people's faces as it did in Identi-Kit faces and in drawings
of faces.

16

Method

Subjects. The subjects were 80 white undergraduates at Oklahoma
State University. They were randomly selected with the restriction
that the two sexes were equally represented.

Materials and Apparatus. Color photographic slides were taken
of 100 white male and 100 white female undergraduates at the Univer-
sity of Oklahoma. The subjects and students photographed were from
different universities to minimize the possibility that any subjects
would be acquainted with any of the students photographed. In
order to ensure uniformity of the photographs, the distance of
the camera from the subject and the lighting was held constant
throughout the photographing sessions. All subjects were draped,
had their glasses removed and were told to neither smile nor frown
for the photograph. Males with facial hair were not photographed.
Several facial measurements in millimeters, using metal calipers,
were taken of all students photographed. The measurements included
the length and width of the face, length and width of the nose
and mouth, and chin length.

Procedure. Subjects rated the photographic slides on a 9-point
attractiveness scale. Because it was felt that asking subjects
to rate 200 photographs would produce too much fatigue, 40 subjects
rated half the pictures (50 male and 50 female faces) and the other
40 subjects rated the remaining pictures. Subjects were seen in
small groups of 1 to 4. The pictures were presented with a Kodak
Carousel slide projector for a duration of 8 seconds. Instructions

17

to the subjects are given in Appendix C.

Results and Discussion. The mean attractiveness rating and (standard
deviation) of the male faces was 4.31 (0.95) for male subjects
and 4.22 (1.12) for female subjects. For female faces the mean
attractiveness rating and (standard deviation) was 4.81 (1.05)
for male subjects and 4.91 (1.06) for female subjects. Males and
females showed a high degree of agreement in their attractiveness
ratings of the photographs as revealed by a .90 correlation between
male and female ratings of both male and female faces. The average
attractiveness rating of each picture by male and female subjects
was correlated with the facial measurements of the students photo-
graphed. Facial measurements in the correlational analysis included
face length, face width, nose length, proportional nose length
(nose length/face length), nose width, proportional nose width
(nose width/face width), mouth length, proportional mouth length
(mouth length/face width), mouth width, proportional mouth width
(mouth width/face length), and chin length. The facial measure-
ments and average attractiveness ratings of each photograph are
given in Appendix E.

There were no significant correlations between ratings
and facial measurements on the male faces. All correlations, except
face length, mouth length and proportional mouth length, were
negative, indicating that smaller featured faces tended to receive
higher attractiveness ratings, though not significantly. For the
female faces, nose width was negatively correlated with male

18

attractiveness ratings ($r = -.211, p < .05$) and approached significance

with female ratings ($r = -.176$, $p < .10$). Mouth length was negatively

correlated with both male ($r = -.302$, $p < .01$) and female ($r =$

$-.229$, $p < .01$) attractiveness ratings. As with the male faces,

most of the correlations were negative, but nonsignificant, with

the exception of mouth width and proportional mouth width.

In order to refine the analysis separate correlational

analyses were performed using the 10 male and female faces which

received the highest and the 10 which received the lowest ratings.

Because the highest and lowest rated faces were not exactly the

same for male and female subjects, separate correlations were computed

for each sex. There were no significant correlations on the male

faces for either sex. On the female faces, mouth length was negatively

correlated with the attractiveness ratings of male subjects

($r = -.752, p < .01$) and female subjects ($r = -.612$, $p < .05$). Nose

width was significantly correlated with female ratings ($r = -.548$,

$p < .05$), and approached significance with male ratings ($r = -.411$,

$p. < .10$).

Correlations were also computed using the 10 faces with

the largest noses, the 10 with the smallest noses, the 10 with

the largest mouths, and the 10 with the smallest mouths of each

sex. In the analysis of male faces with the largest and smallest

noses, nose width was negatively correlated with both male and

female ratings ($r = -.446$, $p < .05$; $r = -.445$, $p. < .05$). Male subject

ratings were negatively correlated with nose length on the female

19

faces with the largest and smallest noses ($r = -.507$, p. <.05).
No significant correlations were found for the males with the largest
and smallest mouths. Male ratings of females faces with the largest
and smallest mouths were correlated with mouth width ($r = -.443$,
p <.05). Complete intercorrelation matrices of both the overall
and specific analyses are given in Appendix B.

The correlational analyses showed the relationship between
feature size and attractiveness ratings. Other questions which
needed to be answered were whether there were differences in nose
and mouth size between the highest and lowest rated faces and whether
there were differences in attractiveness ratings between the faces
with the largest and smallest noses and mouths.

Individual $\underline{t}$ tests revealed that the 10 females with
the smallest nose were rated significantly higher than the 10 with
the largest nose ($\underline{t}$ = 3.046, p <.01). A trend in this direction
was found for the male faces (t = 1.919, p <.10). The mean ratings
of the males with the largest and smallest noses were 3.81 and
4.72 respectively. The mean ratings of the females with the largest
and smallest noses were 4.21 and 5.13 respectively. In order to
be certain that faces with the largest noses actually were signifi-
cantly different in nose size than those with the smallest noses,
$\underline{t}$ tests were computed on the nose size of the two groups for each
sex. Not surprisingly, significant differences in nose size were
found between the two groups for both males ($\underline{t}$ = 17.01, p <.01)
and females ($\underline{t}$ = 8.08, p. <.01). The mean nose size of the males

20

with the largest noses was 19.64 and with the smallest noses was 13.44. The mean nose size of the females with the largest noses was 15.59 and with the smallest noses was 10.76.

There were no differences in attractiveness ratings of the males or females with the largest and smallest mouths. Mean ratings for the males with the largest and smallest mouths were 4.17 and 4.18. For the females with the largest and smallest mouths the mean ratings were 4.92 and 4.72 respectively. As was done with nose size, t tests were computed on the mouth size of the faces with the largest and smallest mouths. Again significant differences were found for both male (t = 19.65, p <.01) and female (t = 21.12, p <.01) faces. The mean mouth size of the males with the largest mouths was 11.09 and with the smallest mouths was 5.47. For females with the largest mouths, the mean mouth size was 8.97 and for the females with the smallest mouths the mean mouth size was 4.45.

There were no significant differences in the size of the nose or mouth of the 10 highest and 10 lowest rated male or female faces. However, there was a trend (t = 2.06, p <.10) for the highest rated females to have smaller noses than the lowest rated females. Mean nose size of the highest rated female faces was 12.67 mm and the mean for the lowest rated female faces was 13.77 mm. For the male faces the mean nose size of the highest rated faces was 15.42 mm and for the lowest rated was 15.99 mm. The mean sizes of the mouths for the highest and lowest rated females

21

were 6.44 mm and 6.93 mm; the mean sizes of the mouths for the highest and lowest rated male faces were 7.99 mm and 7.78 mm respectively.

Individual t tests revealed that the ratings of the top 10% and bottom 10% of both male (t = 18.36, p <.01) and female (t = 8.7, p <.01) faces were significantly different. The mean rating of the top 10% of the male faces was 5.90 and the mean rating of the bottom 10% of the male faces was 2.29. For the females the mean rating of the top 10% of the faces was 6.65 and the mean rating of the bottom 10% of the faces was 3.13.

Both the overall and specific correlational analyses showed quite clearly that smaller noses and mouths were preferred on female faces. In every analysis significant (and negative) correlations were obtained between attractiveness ratings and nose or mouth size. In most of the analyses both nose and mouth size were related to attractiveness. The results of the analyses on the male faces, however, were much less clear cut. The only significant correlation on the male faces was with nose width when the males with the most extreme noses were considered. Although most of the correlations on the male faces were in the negative direction, in-dicating higher ratings for smaller features, many of them were quite small. Thus, it appears that with males, feature size plays a much smaller role in the determination of facial attractiveness than it does with females.

The t tests comparing the attractiveness ratings of the

22

males and females with the largest and smallest noses again show the greater importance of nose size in female faces than in male faces. Thus, the females with the smallest noses were rated significantly higher than those with the largest noses, while for males only a trend was found in this direction. There were no differences in the ratings of faces with the largest and smallest mouths for either sex, indicating the greater importance of nose size than mouth size in determining attractiveness. This greater importance of nose size was again found when the nose and mouth size of the highest and lowest rated females was compared. There was a tendency for the highest rated females to have smaller noses than the lowest rated. No such trend was obtained when the mouth size of the highest and lowest rated females was compared. While it is obvious from examining the sizes of the correlations obtained that feature size is not the only determinant of facial attractiveness, it is equally obvious that attractiveness is related to nose and mouth size, at least for females.

General Conclusions and Implications

The four experiments reported here were designed primarily to determine if the results of the drawing studies were spurious or an artifact of the drawing methodology. The answer is obviously that the smaller features drawn on the attractive faces represented true conceptions of beauty, not methodological artifacts. The three Identi-Kit studies clearly showed that smaller features were preferred on attractive faces. In the first experiment there was

23

also some indication that, while smaller mouths were preferred, they
can also be so small as to be seen as unattractive. In the case
of the nose it appeared that the smaller the nose the better in
terms of facial attractiveness. The second and third studies revealed
that the nose was more important than the mouth in determining facial
beauty. In addition to this, the fact that the results of the
tachistoscopic and extended presentation studies were so similar
seems to indicate that attractiveness decisions are perceptual or
affective rather than intellectual in nature. It made very little
difference if subjects were allowed to think about which faces were
attractive or unattractive, or if they were forced to make immediate
judgments. The results of the photogrpahic study are, of course,
not as clear cut as the more controlled Identi-Kit studies. However,
here too, feature size was related to physical attractiveness, and
the nose again seemed to be more important than the mouth. The
fact that the correlations between feature size and attractiveness
were not extremely high indicates that feature size is not the only
component of facial beauty. This interpretation is supported by
the results of the analysis showing no differences in feature size
of the most and least attractive faces. In this instance, many
factors contributed to the high and low ratings of these faces, and
feature size was not significant. When, however, faces were selected
on the basis of feature size, significant differences were found
among the ratings of these faces, indicating that feature size is
related to attractiveness. The drawing studies also showed that nose

and mouth size were not the only components of facial beauty. Hair-
style was extremely important to the subjects in these studies, as
was complexion to a somewhat lesser extent.

Nose and mouth were originally selected for study because
they are relatively unchangable characteristics (unlike hairstyle
or complexion) and because there are clear differences in nose and
mouth size among various ethnic groups. In the initial stages of
the drawing research, it was believed that blacks and whites might
differ in their conceptions of beauty and that blacks might prefer
larger features since they would be more representative of the black
population. The drawing research, however, showed that blacks and
whites as well as other ethnic groups share a common cultural con-
ception of beauty in which smaller features are seen as more attractive.
Since the results of the four experiments reported here were in
agreement with the drawing studies, and since blacks, whites, and
other foreign groups did not differ in the drawing studies, it may
be concluded at this time that blacks, whites, American Indians,
and foreign groups do indeed share a common conception of beauty.

In view of research showing the negative consequences of
being considered unattractive (e.g., Dion, Berscheid & Walster, 1972;
West & Brown,1975), this common conception of beauty holds rather
serious implications for any individual or group of individuals
which cannot hope to meet the cultural ideal. The majority of the
black population, for example, with characteristically broader
features than the whites, may be seen as unattractive (and thus

less valuable) by all groups in the society, including the blacks
themselves. Thus, the common conception of beauty may have adverse
effects upon the self concept, self esteem, achievement and life
success of individuals or groups of individuals that deviate markedly
from the common standard. Future research should be aimed at deter-
mining if these somewhat pessimistic predictions have any basis in
reality. Particularly important would be the investigation of young
children and their self concept development. If future research
does show that unattractiveness and large features seriously affect
the development of the individual and minority groups, the next
question would be whether anything can be done about it. It may
be unrealistic to believe that the standards of beauty of a society
can be changed overnight. However, simple awareness of the problem
may help to alleviate it. Though the situation may seem quite grim,
there is a possibility that not all the consequences of unattractive-
ness are bad and that not all the consequences of attractiveness
are good. If, for example, attractiveness gives an unfair advantage
in various situations, then attractive individuals may come to rely
on their appearance and not develop any other resources. When beauty
begins to fade with age, these individuals may find they have nothing
to rely on. Berscheid, Walster and Campbell (Note 2) offer some
support for this type of interpretation. Unattractive individuals,
on the other hand, who may be discriminated against in various
situations, may very well overcompensate and develop skills, inner
resources, etc. that their more attractive counterparts have failed

to do. In this situation unattractiveness could actually become
a positive rather than a negative characteristic.

One obvious question, stemming from this research is why
there should even be a common cultural conception of beauty. Why
should any group of individuals adopt a standard of beauty which
the majority of their members do not fit and which may very well
have adverse effects upon the members of the group? There are no
real answers to this question as yet, however, several possibilities
may be speculated upon. First, the standard of beauty may be a product
of the dominant white society (the majority of whom have small
features). By this view, the social power of the white majority
would cause other groups to imitate white standards and adopt them
as their own. This might explain why in years past, blacks straightened
their hair and used a light-colored pancake make-up. We are constantly
shown through television and movies how a good looking person should
look: attractive people, whether black or white, nearly always have
small narrow features. This explanation would not necessarily exclude
individuals living in other countries. Western culture has become
so pervasive that it indeed would be difficult to find a culture
that had not been exposed to the western standards of beauty.

Another possibility is that the general preference for
small features stems from racial prejudice. If blacks were considered
"bad" or inferior to whites, then anything associated with blacks
might also be considered "bad", including large features. If blacks
also adopted the view that they were in fact "bad" or inferior, then

they too would find their own features unattractive.

A third reason why so many different groups of people share a standard of beauty is that there may be a generalized tendency to prefer the more evolved face of civilized peoples to the less evolved face of primitive peoples. The former would include small features. This explanation seems less likely than those previously discussed, but it would help to account for reports of early white missionaries in Africa and elsewhere who were perceived by the natives to be gods or supernatural beings of some sort. According to this view, both primitive and civilized man should find the face of civilized man to be more attractive.

At this time it is impossible to decide among these alternatives, and the answer must ultimately come from future research. However, the drawings collected from the Chinese students shed some light on the problem. Many Chinese students drew unattractive faces as caricatures of the oriental race. Such things as slanting eyes and protruding teeth were quite common on the ugly faces. The pretty faces, on the other hand, were completely devoid of oriental characteristics. Since the Chinese civilization is one of the oldest in the world, this tendency to draw oriental features as ugly is a somewhat convincing argument against the explanation of a generalized preference for the more civilized face. Indeed the Chinese drawings seem to point to the influence of the dominant white society as determining conceptions of beauty.

Berscheid and Walster (1974) have claimed that the

28

identification of facial characteristics considered to be attractive
is a hopeless if not impossible task due to the complexity of the
human face. They argued that it is the total Gestalt which is im-
portant, not any specific facial characteristics or relationships
among them that determine attractiveness. The results of the four
experiments reported here as well as the results of the drawing
studies show, on the contrary, that it indeed may be possible to
analyze the human face and identify characteristics that determine
attractiveness. The analysis of the face should not be considered
to be complete at this time. Nose and mouth were the only characteris-
tics examined in these studies, and a relationship was found between
nose and mouth size and attractiveness. There is no reason why other
characteristics such as hairstyle, shape of the face, eyes, shape
of the nose and mouth, etc. could not be investigated.

REFERENCE NOTES

1. McCullers, J. C., & Staat, J. Draw an ugly man: Some cross-
       cultural, subcultural, and developmental data. In R. J.
       Pelligrini (Chair.) The perception of people: Inter-
       personal evaluation and the attraction response. Symposium
       presented at the meeting of the Western Psychological
       Association, Sacramento, California, April, 1975.
2. Berscheid, E., Walster, E., & Campbell, R. Grow old along with
       me. Unpublished manuscript, 1972. Mimeograph copies
       available from the authors.

30

REFERENCES

Benson, P. L., Karabenick, S. A., & Lerner, R. M. Pretty pleases:
          The effects of physical attractiveness, race, and sex
          on receiving help. Journal of Experimental Social Psychology,
          1976, 12, 409-415.

Berscheid, E., & Walster, E. Physical attractiveness. In Leonard
          Berkowitz (Ed.) Advances in Experimental Social Psychology,
          Vol. 7, New York: Academic Press, 1974.

Dion, K. K., Berscheid, E., & Walster, E. What is beautiful is
          good. Journal of Personality and Social Psychology, 1972,
          24, 285-290.

Dipboye, R. L., Fromkin, H. L., & Wiback, K. Relative importance
          of applicant sex, attractiveness, and scholastic standing
          in evaluation of job application resumes. Journal of Applied
          Psychology, 1975, 60, 39-43.

Efran, M. G. The effect of physical appearance on the judgment of
          guilt, interpersonal attraction, and the severity of recom-
          mended punishment in a simulated jury task. Journal of
          Research in Personality, 1974, 8, 45-54.

McCullers, J. C.,& Staat, J. C. Draw an ugly man: An inquiry into
          the dimensions of physical attractiveness. Personality

and Social Psychology Bulletin, 1974, 1, 33-35.

Miller, A. C. Role of physical attractiveness in impression formation.
Psychonomic Science, 1970, 19, 241-243.

Taylor, C. & Thompson, G. G. Age trends for certain facial proportions.
Child Development, 1955, 26, 97-102.

West, S. G., & Brown,T. J. Physical attractiveness, the severity
of the emergency, and helping: A field experiment and inter-
personal simulation. Journal of Experimental Social Psychology,
1975, 11, 531-538.

Footnotes

1. The Identi-Kit is manufactured by the Identi-Kit Company, a
Bangor Punta Company, Santa Ana, California. Copyright 1960, Townsend
Company.

2. Because of the rather limited number of small noses in the Identi-
Kit, one small nose (#36) appeared in both the male and female sets.

3. A frequency count of the number of times each nose-mouth combina-
tion was chosen as more attractive in each comparison was made.
Since eight pairs of faces of each of the six comparisons were made,
eight was the maximum score for any one combination within the com-
parison per subject, and 320 was the maximum score for all subjects.
In the normal approximation to the binomial the mean of the distribution
is Np (320 X .5) and the standard deviation is $\sqrt{Npq}$ ($\sqrt{320X.5X.5}$).
Z scores were computed on the most frequently chosen nose-mouth com-
bination in each comparison.

4. Pilot work using .10 second presentation resulted in subjects
responding randomly.

TABLE 1

EXPERIMENT II

Frequency of Choice of Each Nose-mouth Combination

in Each of the Six Comparisons

And Computed $\underline{z}$ Scores

	SS–SL	SS–LS	SS–LL
Freq. of Choice	185 135	291 29	293 27
$\underline{z}$	2.795*	14.646**	14.869**
	SL–LS	SL–LL	LS–LL
Freq. of Choice	277 43	279 41	191 129
$\underline{z}$	13.081**	13.305**	3.466*

*
$\underline{p}$ <.01

**
$\underline{p}$<.001

34

Table 2

Experiment III

Frequency of Choice of Each Nose-Mouth Combination

in Each of the Six Comparisons

And Computed z Scores

	SS–SL	SS–LS	SS–LL
Frequency of Choice	191 129	281 39	302 18
z	3.466*	13.528**	15.876**
	SL–LS	SL–LL	LS–LL
Frequency of Choice	278 42	275 45	157 163
z	13.193**	12.857**	.335

*p .01
**p .001

APPENDIX A

LITERATURE REVIEW

PHYSICAL ATTRACTIVENESS: CURRENT RESEARCH

An individual's physical appearance is the one personal
characteristic that is obvious and immediately accessible to others
in almost all social situations. The layman has for some time been
aware of the importance of physical attractiveness, but until recently
the scientific community has shown a studied disinterest in the topic.
Exactly why social psychologists have disregarded appearance variables
is not entirely clear. Perhaps Aronson (1969) was correct in his
explanation for the neglect of the topic: "... most psychologists
prefer to believe that beauty is indeed only skin deep, and avoid
the investigation of its social impact for fear they might learn
otherwise (p. 160)". Lindzey (1965) blamed the general unwillingness
to examine physical attractiveness on the "optimistic environmentalist
philosophy of American psychology which supplied a logical antagonism
toward any hint of genetic determinism (p. 344)" (which would of
course be implied by the discovery of any link between physical and
psychological measures).

Whatever the reasons for the neglect of physical attractive-
ness in the past, research in the field is now "booming". The bulk
of this research falls roughly into three categories. The first
of these has dealt primarily with the attributions and expectations
that are made about attractive and unattractive people. Typically,
photographs of individuals varying in physical attractiveness are
presented to subjects, who in turn make certain predictions and

37

attributions about the people in the photographs. Sometimes only the photograph is shown to the subjects; sometimes other information is also supplied. Occasionally, attractive and unattractive confederates interact with the subject in some way and the subject's behavior toward the confederate is measured. A second category of research has been devoted to searching for real differences between people who differ in physical attractiveness. A third category of research has been concerned with identifying the critical components or determinants of physical attractiveness.

ATTRIBUTION AND EXPECTATION RESEARCH

Most of the attribution and expectation research has been devoted to determining whether a physical attractiveness stereotype exists and, if so, what the nature of it may be. The results of these studies have shown quite clearly that such a stereotype does exist that may be summarized as "what is beautiful is good". An attractive individual is always judged in a more positive light or treated in a more favorable way than an unattractive one.

Dion, Berscheid, and Walster (1972) had subjects rate attractive and unattractive individual's photographs on a variety of personality dimensions. On every dimension the attractive people were judged to be more socially desirable. Physically attractive people, for example, were perceived to be more likely to be sexually warm and responsive, sensitive, kind, interesting, strong, poised, modest, sociable, and outgoing than persons of lesser physical

38

attractiveness. The subjects also predicted that the attractive
individuals would have higher status jobs and would make better
marriage partners. Miller (1970) in the same general type of study,
found significant effects on 15 of the 17 dimensions on the Jackson
and Minton (1963) Adjective Preference Scale. Although it was not
independently determined which pole of each dimension was associated
with social desirability, Miller concluded "a consistent pattern
emerges, that of the unattractive person being associated with the
negative or undesirable pole of the adjective scales, and the highly
attractive person being judged significantly more positively (p. 242)".
Adams and Huston (1975) extended the physical attractiveness stereo-
type to middle-aged persons. Both elderly people and college students
rated the photographs of the middle-aged persons on a variety of
personality traits. The physically attractive middle-aged persons
were judged in more socially desirable terms than the unattractive,
and the physical attractiveness stereotype appeared to be somewhat
stronger in the elderly than in the young adults.

Unattractive people have a host of other problems in addition
to the negative evaluations of their personalities. In simulated
jury studies in which a photograph of an attractive or unattractive
individual is attached to a description of a crime, a number of in-
vestigators (Efran, 1974; Izzett & Leginski, 1974; Nemeth & Sosis,
1973; Reynolds & Sanders, 1975; Sigall & Ostrove, 1975) have found
that an unattractive defendant is given a longer prison sentence
than an attractive one, even though they both supposedly committed
the same crime. The attractive defendant is also seen as being less

39

guilty of the crime. Somewhat related to the jury studies is an
investigation by Seligman, Paschall, and Takata (1974) in which
a photograph of either an attractive or unattractive woman was attached
to a typewritten paragraph describing how the woman either lost her
job (bad outcome) or gained a promotion (good outcome). The
attractive woman was attributed more responsibility for a good out-
come while an unattractive woman was seen as more responsible for
a bad outcome. The findings are particularly interesting in view
of the fact that it was obvious to the subjects that neither woman
had any objective control of the situation.

        In more everyday situations, unattractive people are again
at a disadvantage. A number of investigators have found that un-
attractive people are less likely to receive assistance when in
various types of distress situations. For example, an unattractive
confederate received fewer offers of help with a broken down car
than an attractive one (Athanasiou & Greene, 1973); an unattractive
photograph attached to a school application left in an airport
elicited fewer attempts to deliver the "lost" application than one
with an attractive photograph attached (Benson, Karabenick, &
Lerner, 1976); and an unattractive confederate in a medical emergency
received less monetary assistance than an attractive person (West &
Brown, 1975). It has also been demonstrated that unattractive in-
dividuals are more likely to be given an unfavorable rating on a
job application (Dipboye, Fromkin, & Wiback, 1975), and more likely
to be a given poor evaluation on a written essay (Landy & Sigall,

1974) than attractive individuals. Additionally, unattractive
confederates are less able to influence the work output of subordinates
(Mills & Aronson, 1965), or effect an opinion change (Sigall, Page,
& Brown, 1971). If these considerations did not provide reason
enough to want to avoid physically unattractive people, there is
even some evidence that people who associate with an unattractive
individual may also be judged in a negative light (Bar-Tal & Saxe,
1976; Sigall & Landy, 1973).

<u>Research with Children</u>

Children, not only in adult attitudes about them, but also
in their attitudes about each other, are not immune to the stereo-
types associated with physical attractiveness. Adult women, when
watching films of children getting into trouble, see an unattractive
child as being more dishonest and unpleasant than an attractive
one, even though both children committed the same offense (Dion,
1972). An example of one woman's inferences about two children (one
attractive, one unattractive) committing the same transgression is
quite revealing. This woman said of the attractive child "she appears
to be a perfectly charming little girl, well mannered, basically
unselfish... She plays well with everyone, but like anyone else,
a bad day can occur. Her cruelty ... need not be taken too seriously".
When the same act was committed by an unattractive child this woman
commented "I think the child would be quite bratty and would be a
problem to teachers... she would be a brat at home... all in all

41

she would be a real problem". Dion (1974) also found that women
are more likely to be lenient in the administration of punishment
with an attractive child.

It has been demonstrated that elementary school teachers
are susceptible to the physical attractiveness stereotype when
evaluating bogus school records with photographs of attractive or
unattractive children attached. Clifford and Walster (1973) and
Clifford (1975) found that teachers express more favorable academic
expectations for attractive than unattractive children. The attractive
child was expected to have a higher IQ and to be more popular with
peers than the unattractive. Ross and Salvia (1975) found that
teachers will more readily recommend special class placement (re-
tarded) for unattractive children.

Dion (1973) found that children as young as 3 years are
well along the way toward forming the positive and negative stereo-
types associated with attractive and unattractive persons. The
children in Dion's study were shown photographs of attractive and
unattractive preschool children with whom they were not acquainted.
The children showed a consistent preference to have attractive
children as their friends. They also nominated more unattractive
children as exhibiting anti-social acts (e.g., hits for no reason)
and more attractive children as exhibiting prosocial acts (e.g.,
is more friendly). One little girl, when asked what it meant to
be pretty replies, "Well, people like you if you're pretty".
Apparently, even before school age, children have formed many of

42

the same expectations as adults about attractive and unattractive
individuals.

DIFFERENCES BETWEEN ATTRACTIVE AND UNATTRACTIVE PERSONS

From the research discussed in the preceeding section, it
is quite clear that attractive and unattractive people are expected
to differ in a number of ways. It also appears that children of
different attractiveness levels may receive differing socializations
across a wide variety of situations. Because of these differing
expectations and socializations it would seem reasonable to expect
that the physical attractiveness level of a person should effect
his life in a number of ways. One might expect, for example, that
attractive people would differ from unattractive in self concept,
educational and career achievement, general happiness, and certain
personality characteristics as well. The research in this second
category has been devoted to determining what real differences, if
any, exist between the physically attractive and unattractive.
There has not been as much research on this topic as on the attributions
and expectations, or behavior toward attractive and unattractive
persons, nor is it as conclusive.

It was noted in the previous section that attractive people
are expected to be more popular than unattractive, and this expectation
has been substantiated. Dion and Bersheid (1974), working with pre-
school children, and Cavior and Dokecki (1973), working with adoles-
cents, have found that attractive students are more popular with

43

their peers. A number of investigators (Curran, 1973; Glasgow &
Arkowitz, 1975; Strobe, Insko, Thompson, & Layton, 1971; Walster,
Aronson, Abrahams, & Rottman, 1966) have found attractiveness to
be the single most important factor in dating success.

        The question of whether physical attractiveness and
educational success are related is still unanswered. Singer (1964)
found a positive relationship between grade-point average and
physical attractiveness of college women. However, since the
attractiveness ratings were made by the women's professors, it is
not clear whether the attractive women actually did better scholastic
work, or whether the professors were more lenient in grading the
pretty girls. In spite of the fact that elementary teachers expect
attractive children to be better students, Clifford (1975) found
no relationship between physical attractiveness, IQ, and achievement
among second, fourth, and sixth grade children.

        Some differences have been found between the physically
attractive and unattractive on personality, general happiness and
self concept. Though the evidence is far from conclusive, it appears
that at least some of the beliefs people hold regarding attractive
and unattractive people have been substantiated. Mathes and Kahn
(1975) found attractiveness to be positively correlated with happiness
and self esteem, and to be negatively correlated with neuroticism
for women, but not for men. Kaats and Davis (1970) found that
attractive women have higher self confidence scores and consider
themselves to be more likeable than unattractive women. It has also

44

been demonstrated that attractive high school girls describe them-
selves as having personality traits more favorable to social inter-
action and have higher self esteem scores than unattractive girls
(Minahan, 1971).

These studies all involve very young women (from high school
to college age) and the pattern of results is similar in each case.
There appears, however, to be a reversal when older women are in-
vestigated. Berscheid, Walster, and Campbell (Note 1) found that
women of 40 to 50 years who were rated as attractive during their
college years were in general less satisfied and well adjusted to
their current life styles than were the women who had been rated
as unattractive. No such relationship was observed for men. There
was, however, suggestive evidence that the attractive men were
currently wealthier than the unattractive. It is not entirely clear
why Berscheid et al. (1972) found a reversal for the older women,
but several reasons suggest themselves. It's possible that the
women who were attractive during college were very dependent upon
their beauty, and when it began to fade with age they found they
had nothing else to rely on. It is also possible that happiness
depends upon a comparison of one's present attractiveness with that
previously enjoyed; the unattractive woman thus may have a less
striking decline in attractiveness to contend with than the attractive
one.

45

ELEMENTS OF BEAUTY

It has been said that "Except for some arbitrary beauty-
contest conventions about "ideal" female dimensions, we know less
about attractive stimuli for man than we do about those for fish"
(Hochberg, 1964). Although there is little doubt that individuals
can easily agree upon who is attractive and who is unattractive
(interrater reliabilities in picture rating studies range from .70
to .90), research aimed at determining what that agreement is based
on is indeed limited. Whether this is because of the perceived
difficulty of measuring and analyzing physical beauty or because
of a greater interest in the social consequences of attractiveness
than in its determinants is not known.

One early study (Taylor & Thompson,1955) that did examine
the constituents of facial beauty, presented pairs of faces to subjects
ranging in age from 7 to 21 years. A standard face was constructed
according to the classic proportions of Leonardo Da Vinci, and
variations upon the standard were made by decreasing or increasing,
in a systematic manner, the size of features and distance between
them. It was found that as age increased so did the tendency to
prefer the standard face. In addition a preference was noted for
thinner lips, wider mouths and shorter noses. Terry and Davis (1976)
had subjects rate the importance of various parts of the face as
determinants of attractiveness. Subjects rated the oral region as
most important, followed by eyes, facial structure, hair and nose.
No attempt was made to determine the type or size of mouth or eyes,

46

etc. that contributed to facial attractiveness.

Most of the remaining research on the elements of facial beauty has been conducted by McCullers and his associates at the University of Oklahoma. A rather detailed description of this work will be given since the main body of the dissertation is based upon it. The McCullers group originally became interested in attempting to isolate the components of beauty as a result of one of the items on the Stanford-Binet Intelligence Scale. On this item a child is asked to look at two line drawings of women and to indicate which is pretty and which is ugly. The choice is not a difficult one, even for very young children. The "pretty" woman has fine delicate features, and a neatly coiffed hair style; the "ugly" woman has a large nose and mouth and unkempt hair. The question that intrigued McCullers and his associates was whether the Stanford-Binet item reflected a general cultural conception of beauty, and if so, whether it was common to young children and most ethnic groups. Although the two line drawings both depict white women, the features of the ugly woman could be described as more negroid than those of the pretty women. It was possible, therefore, that blacks might hold a different conception of beauty than whites. A cursory review of the facial features of attractive blacks (e.g., TV and motion picture stars) suggests, on the other hand, that blacks and whites may share a common cultural conception of physical attractiveness, i.e., pretty blacks and whites may differ in skin color and hairstyle but are often similar in the structure of basic facial features. The main questions

47

then were whether large noses and mouths, which cannot easily be modified, help make a person ugly, and whether blacks and whites share this conception of beauty.

Research with American Blacks and Whites[1]

In an initial experiment, black and white university students were given prepared forms and asked to sketch a good looking and an ugly male and female face in full face view within 2 x 2 inch square spaces provided on the data sheets. Subjects were also asked to list several characteristics about each face that contributed to its relative attractiveness. A number of measurements of the facial characteristics of each face were made and analyzed statistically. Such things as length and breadth of face, absolute and proportional size of the nose and mouth, the distance between the eyes and the chin length were included in the analysis. Ugly faces were significantly shorter and had more distance between the eyes than the good looking faces. Also, significantly wider and longer noses were drawn on the ugly pictures for both races. While this initial study provided partial answers to the original questions, some methodological problems made the results difficult to interpret. In spite of instructions to draw faces about 2 inches high, the actual drawings varied considerably in size. There was also a surprising tendency for some black subjects to draw black faces as good looking and white faces as ugly.

A second study was conducted similar to the first but

with added methodological improvements. Subjects again were black
and white university students. The black data were collected by
a black experimenter and white data by a white experimenter in hopes
that this might reduce the racial bias noted in the first experiment.
Also, the subjects were asked to draw faces of males and females
of the same age and race as themselves. An egg shaped oval was pre-
sketched on the forms to insure uniformity of face size. Measure-
ments of the length and width of the nose and length and thickness
of the mouth were analyzed statistically. It was found that both
blacks and whites drew significantly longer and broader features
on the ugly faces than on the pretty faces. In addition, blacks
drew larger noses and mouths on both pretty and ugly faces than
whites, and both blacks and whites drew men with broader features
than women.

The results of these first two studies suggested that blacks
and whites do share a common conception of physical beauty in which
larger, broader features are seen as less attractive. The next step
was to see if these results could be replicated across a wider range
of subjects. Accordingly, data were collected from American Indians
and several groups of foreign students.

Cross Cultural, Subcultural and Developmental Data[2]

The first study with foreign students compared the drawings
of English-speaking Iranians with Iranians who did not speak English.
The aim of this study was to determine if different results would
be obtained when the task was presented in English than when presented

in the native Iranian language. For the English-speaking group,
the data forms and instructions were identical to those used in the
second study with blacks and whites. For the native language group
all aspects of the task utilized the Iranian language -- the written
and oral instructions, labels for the ovals, subjects' responses
etc. Measurements of the nose and mouth were made and analyzed as
before. Results revealed that there were no differences between the
two language groups on any of the four measures of nose length, nose
width, mouth thickness, or mouth width. However, ugly faces were
drawn with significantly larger noses and mouths on each of these
measures.

The results were consistent with what had been found with
black and white Americans. From these data it appeared that it would
be possible to use the English language to work with other groups
of foreign students, so long as the students had an adequate grasp
of English.

Data were then collected from groups of east Indian, Chinese,
and black African students at the University of Oklahoma using the
same English language materials and procedures as before. Drawings
were also collected from American Indians by a female American Indian
student. Except for an extremely slight reversal for the east Indian
group on the width of mouth measure, all groups consistently drew
larger and wider noses, and thicker and wider mouths on the ugly
faces than on the pretty faces. Most of these differences were
statistically significant.

Even though many of the foreign students had been in this

country only a short time, it might have been possible that even a
brief exposure to American society could have influenced their con-
ception of beauty. Also, although the data were collected by an
Iranian graduate student in psychology, the foreign-student subjects
might have tried to respond in a way that would have been acceptable
to an American conception of beauty, even if their own conception
of beauty had not changed. For these reasons, additional drawings
were collected from Saudi Arabian students living in and attending
a university in Saudi Arabia. The data were collected by a Saudi
Arabian experimenter and all aspects of the task, both written and
oral employed the Arabic language. Consistent with previous findings,
Saudi Arabians drew longer and wider noses and thicker and wider mouths
on the ugly faces than on the pretty faces. Differences were highly
statistically significant on each of these measures.

Other Methodological Approaches

Preliminary data have been gathered using several different
methodological approaches to assessing the role of feature size in
facial attractiveness. For example, instead of drawing attractive
and unattractive faces, the subject may be asked to judge the attractive-
ness of pairs of faces. An Identi-Kit,[3] which was originally
developed for use in identifying criminal suspects, was used to pre-
pare the stimuli. With the Identi-Kit a composite face may be con-
structed from a number of transparent overlays containing different
eyes, hair, noses, etc. The Kit allows selected features to be varied
systematically while other characteristics are held constant. A

series of faces were presented to the subjects who then indicated which face was the better looking of the two. Some data have been collected with black and white university students. At an overall level, faces with smaller features were picked more often as attractive than those with the larger features. This preference for small noses and mouths was strongest in white males, weaker in black males and white females, and nonexistent in black females. The black females exhibited a reversal from the general trend in that they actually had a greater preference for larger than smaller features.

Banilivy (Note 4), in an unpublished Masters Thesis, used a somewhat different methodological approach with preschool children. The children were presented with pairs of faces that differed only in the size of the nose and mouth. The faces were pen and ink drawings of popular characters such as a cowboy, nurse, fireman, etc. Many children at this age were not able to detect or could not verbalize the critical way in which the pictures differed. However, those children who were able to identify the nose and mouth difference tended to pick the face with the smaller features as preferred. A second study was conducted in which the experimenter first ensured that the child was able to verbalize the nose/mouth difference prior to indicating preferences. Under these conditions, the children showed a clear preference for the smaller featured face.

CONCLUSIONS AND IMPLICATIONS FOR RESEARCH

The research on physical attractiveness to date shows quite
clearly that a physical attractiveness stereotype does exist.
Attractive individuals are expected to differ from unattractive ones
in a variety of ways with the attractive individual always being seen
in a more socially desirable light. It also appears that, at least
in field experiments, attractive individuals are treated much more
positively in a variety of situations than unattractive individuals.
Whether these differential expectations and treatments of attractive
and unattractive persons results in any real differences between the
two groups is a question that has not yet been satisfactorily
answered. Obviously, more research is needed on this topic before
a definitive statement can be made.

The drawings studies, aimed at determining the constituents
of facial beauty, show convincingly that whites, blacks, and a
number of groups of foreign students prefer, in their drawings,
smaller featured faces. There is a possibility, however, that these
results represent an artifact of methodology rather than the true
conceptions of beauty of the subjects. If, for example, unattractive-
ness is a distortion of the standard face, as Taylor and Thompson
(1955) suggest, it may be that it is simply easier to distort in
the larger rather than in the smaller direction when drawing a face.
For this reason, the role of feature size in facial attractiveness
should be further investigated using methodologies which eliminate
the possible drawing artifact.

REFERENCE NOTES

1. Bersheid, E., Walster, E., & Campbell, R. Grow old along with
        me. Unpublished manuscript, 1972. Mimeograph copies
        available from the authors.

2. McCullers, J. C., & Staat, J. Draw an Ugly Man: An inquiry
        into the dimensions of physical attractiveness. Paper
        presented at the meeting of the American Psychological
        Association, New Orleans, 1974.

3. McCullers, J. C. & Staat, J. Draw an Ugly Man: Some cross-
        cultural, subcultural, and developmental data. In R. J.
        Pelligrini (Chair.) The Perception of people: Inter-
        personal evaluation and the attraction response. Symposium
        presented at the meeting, of the Western Psychological
        Association, Sacramento, California, April, 1975.

4. Banilivy, M. Elements of physical attractiveness: A developmental
        approach. Unpublished Masters Thesis, 1976.

54

REFERENCES

Adams, G. R., & Huston, T. L. Social perception of middle-aged
persons varying in physical attractiveness. Developmental
Psychology, 1975, 11, 657-658.

Aronson, E. Some antecedents of interpersonal attraction. In W. J.
Arnold & D. Levine (Eds.), Nebraska Symposium on Motivation,
Lincoln, Nebraska: University of Nebraska Press, 1969,
143-177.

Athanasiou, R., & Greene, P. Physical attractiveness and helping
behavior. Proceedings from the meeting of the American
Psychological Association, 1973, 8, 289-290.

Bar-Tal, D., & Saxe, L. Perceptions of similarly and dissimilarly
attractive couples and individuals. Journal of Personality
and Social Psychology, 1976, 33, 772-781.

Benson, P. L., Karabenick, S. A., & Lerner, R. M. Pretty pleases:
The effects of physical attractiveness, race, and sex
on receiving help. Journal of Experimental Social Psychology,
1976, 12, 409-415.

Berscheid, E., & Walster, E. Physical attractiveness. In Leonard
Berkowitz (Ed.) Advances in Experimental Social Psychology.
Vol. 7, New York: Academic Press, 1974.

Cavior, N., & Dokecki, P. R. Physical attractiveness, perceived
        attitude similarity, and academic achievement as con-
        tributors to interpersonal attraction, Developmental
        Psychology, 1973, 9, 44-54.

Clifford, M. M. Physical attractiveness and academic performance.
        Child Study Journal, 1975, 5, 201-209.

Clifford, M. M., & Walster, E. The effect of physical attractiveness
        on teacher expectations. Sociology of Education, 1973,
        46, 248-258.

Curran, J. P. Correlates of physical attractiveness and interpersonal
        attraction in the dating situation. Social Behavior and
        Personality, 1973, 1, 153-157.

Dion, K. K. Children's physical attractiveness and sex as determinants
        of adult punitiveness. Developmental Psychology, 1974,
        10, 772-778.

Dion, K. K. Young Children's stereotyping of facial attractiveness.
        Developmental Psychology, 1973, 9, 183-188.

Dion, K. K. Physical attractiveness and the evaluation of children's
        transgressions. Journal of Personality and Social
        Psychology, 1972, 24, 207-213.

Dion, K. K., & Berscheid, E. Physical attractiveness and peer per-
        ception. Sociometry, 1974, 37, 1-12.

Dion, K. K., Berscheid, E., & Walster, E. What is beautiful is
        good. Journal of Personality and Social Psychology,
        1972, 24, 285-290.

Dipboye, R. L., Fromkin, H. L., & Wiback, K. Relative importance
        of applicant sex, attractiveness & scholastic standing
        in evaluation of job application resumes. Journal
        of Applied Psychology, 1975, 60, 39-43.

Efran, M. G. The effect of physical appearance on the judgment
        of guilt, interpersonal attraction, and the severity
        of recommended punishment in a simulated jury task.
        Journal of Research in Personality, 1974, 8, 45-54.

Glasgow, R. E., & Arkowitz, H. The behavioral assessment of
        male and female social competence in dyadic heterosexual
        interactions. Behavior Therapy, 1975, 6, 488-498.

Hochberg, J. E. Perception. Englewood Cliffs, New Jersey: Prentice-
        Hall, 1964.

Izzett, R. R., & Leginski, W. Group discussion and the influence
        of defendant characteristics in a simulated jury setting.
        Journal of Social Psychology, 1974, 93, 271-299.

Jackson, D. N., & Minton, H. L. A forced-choice adjective preference
        scale for personality assessment. Psychological Reports,
        1963, 12, 515-520.

Kaats, G. R., & Davis, K. E. The dynamics of sexual behavior
        of college students. Journal of Marriage and the Family,
        1970, 32, 390-399.

Landy, D., & Sigall, H. Beauty is talent: Task evaluation as
        a function of the performer's physical attractiveness.
        Journal of Personality and Social Psychology, 1974,
        29, 299-304.

Lindzey, G. Morphology and behavior. In G. Lindzey & C. S.

   Hall (Eds.), Theories of Personality: Primary Sources

   and Research. New York: Wiley, 1965.

Mathes, E. W., & Kahn, A. Physical attractiveness, happiness,

   neuroticism, and self-esteem. Journal of Psychology,

   1975, 90, 27-30.

McCullers, J. C., & Staat, J. C. Draw an ugly man: An inquiry

   into the dimensions of physical attractiveness. Per-

   sonality and Social Psychology Bulletin, 1974, 1, 33-

   35.

Miller, A. C. Role of physical attractiveness in impression

   formation. Psychonomic Science, 1970, 19, 241-243.

Mills, J., & Aronson, E. Opinion change as a function of the

   communicator's attractiveness and desire to influence.

   Journal of Personality and Social Psychology, 1965,

   1, 173-177.

Minahan, N. Relationships among self-perceived physical attractive-

   ness, body shape, and personality of teenage girls.

   Dissertation Abstracts International, 1971, 32, 1249-

   1250.

Nemeth, C. & Sosis, R. H. A simulated jury study: Characteristics

   of the defendant and the jurors. Journal of Social

   Psychology, 1973, 90, 221-229.

Reynolds, D. E. & Sanders, M. S. Effect of defendant attractiveness,

   age and injury on the severity of sentence. Journal

   of Social Psychology, 1975, 96, 149-150.

Ross, M. B. & Salvia, J. Effect of attractiveness and sex on

  teacher willingness to recommend special class place-

  ment of children and teacher judgment of future school

  behavior. American Journal of Mental Deficiency,

  1975, 80, 96-98.

Seligman, C., Paschall, N. & Takata, G. Effects of physical

  attractiveness on attribution of responsibility. Canadian

  Journal of Behavioural Science, 1974, 6, 290-296.

Sigall, H. & Landy, D. Radiating beauty: Effects of having

  a physically attractive partner on person perception.

  Journal of Personality and Social Psychology, 1973,

  28, 218-224.

Sigall, H. & Ostrove, N. Beautiful but dangerous: Effect of

  offender attractiveness and nature of the crime on

  juridic judgment. Journal of Personality and Social

  Psychology, 1975, 31, 410-414.

Sigall, H., Page, R. & Brown, A. C. Effort expenditure as a

  function of evaluation and evaluator attractiveness.

  Representative Research in Social Psychology, 1971,

  2, 19-25.

Singer, J. E. The use of manipulative strategies: Machiavellianism

  and attractiveness. Sociometry, 1964, 27, 128-150.

Strobe, W., Insko, C. A., Thompson, V. D. & Layton, B. D. Effects

  of physical attractiveness, attitude similarity, and

  sex on various aspects of interpersonal attraction.

  Journal of Personality and Social Psychology, 1971,

<u>18</u>, 79-91.

Taylor, C. & Thompson, G. G. Age trends in preferences for certain

facial proportions. <u>Child Development</u>, 1955, <u>26</u>, 97-

102.

Terry, R. L., & Davis, J. S. Components of facial attractiveness.

<u>Perceptual and Motor Skills</u>, 1976, <u>42</u>, 918.

Walster, E., Aronson, V., Abraham, D., & Rottman, L. Importance

of physical attractiveness in dating behavior. <u>Journal</u>

<u>of Personality & Social Psychology</u>, 1966, <u>4</u>, 508-516.

West, S. G., & Brown, T. J. Physical attractiveness, the severity

of the emergency, and helping: a field experiment

and interpersonal simulation. <u>Journal of Experimental</u>

<u>Social Psychology</u>, 1975, <u>11</u>, 531-538.

FOOTNOTES

1. A preliminary report of the data discussed in this section was
presented at the Annual Convention of the American Psychological
Association, New Orleans, 1974, (McCullers & Staat, Note 2), sub-
sequently summarized in McCullers and Staat (1974). Judy Blackwell,
John Haller, and Marianne Hunnicutt assisted in collecting the drawings
by the white students. Angela Thomas collected the drawings by the
black students.

2. A preliminary report of the data discussed in this section was
presented in a symposium at the Annual Convention of the Western
Psychological Association, Sacramento, California, 1975 (McCullers
& Staat, Note 3). Debbie Spheeris collected the American Indian
data, Suleiman Shaman collected the Saudi Arabian data, and Mansour
Banilivy collected the African, Iranian, Chinese, Indian and children's
data. Judy Blackwell assisted in the preparation of the line drawings
in the experiment with children.

3. The Identi-Kit is manufactured by the Identi-Kit Company, a Bangor
Punta Company, Santa Ana, California. Copyright 1960, Townsend
Company.

APPENDIX B

STATISTICAL TESTS

EXPERIMENT I

SUMMARY TABLE FOR 2 (SEX OF SUBJECT) X

2 (ATTRACTIVENESS OF FACE):

NOSE MEASURES, MALE FACE

Source	M.S.	df	$\underline{F}$	$\underline{P}$
A Sex	845.000	1	.1416	.7100
B Attractiveness	491724.750	1	82.8809	.0001
AB	1436.500	1	.2421	.6309
Error between	5968.672	38		
Error within	5932.906	38		

`

EXPERIMENT I

SUMMARY TABLE FOR 2 (SEX OF SUBJECT) X

2 (ATTRACTIVENESS OF FACE):

NOSE MEASURES, FEMALE FACE

Source	M.S.	df	F	P
A Sex	687.378	1	.6678	.5758
B Attractiveness	97475.688	1	125.0294	.0001
AB	3857.250	1	4.9476	.0303
Error between	1029.389	38		
Error within	779.622	38		

EXPERIMENT I

SUMMARY TABLE FOR 2 (SEX OF SUBJECT) X

2 (ATTRACTIVENESS OF FACE):

MOUTH MEASURES, MALE FACE

Source	M.S.	df	$\underline{F}$	$\underline{P}$
A Sex	441.799	1	.2525	.6176
B Attractiveness	28576.797	1	32.8120	.0001
AB	845.000	1	.9702	.6679
Error between	1683.052	38		
Error within	870.924	38		

EXPERIMENT I

SUMMARY TABLE FOR 2 (SEX OF SUBJECT) X

2 (ATTRACTIVENESS OF FACE):

MOUTH MEASURES, FEMALE FACE

Source	M.S.	df	$\underline{F}$	$\underline{P}$
A Sex	1920.799	1	1.8102	.1835
B Attractiveness	17287.199	1	10.2451	.0031
AB	217.797	1	.1291	.7218
Error between	1061.084	38		
Error within	1687.360	38		

66

EXPERIMENT IV

INTERCORRELATION MATRIX OF MEASUREMENTS OF MALES' FACES AND

MEAN RATINGS OF THE PHOTOGRAPHS OF THOSE

FACES BY MALE & FEMALE SUBJECTS

	FL[1]	FW[2]	NL[3]	PNL[4]	NW[5]	PNW[6]	ML[7]
Face Length	1.0000						
Face Width	0.2956	1.0000					
Nose Length	0.0803	0.1073	1.0000				
Proportional Nose Length	-0.4314	-0.0478	0.8643	1.0000			
Nose Width	0.2860	0.2411	0.0671	-0.0838	1.0000		
Proportional Nose Width	0.0705	-0.4755	-0.0158	-0.0497	0.7370	1.0000	
Mouth Length	0.1590	0.2033	0.1201	0.0312	0.1603	0.0024	1.0000
Proportional Mouth Length	-0.0642	-0.5059	0.0079	0.0408	-0.0586	0.2961	0.7183
Mouth Width	0.3205	-0.0299	-0.0455	-0.1996	0.3234	0.3183	0.0367
Proportional Mouth Width	0.1198	-0.0904	-0.0645	-0.1155	0.2822	0.3206	0.0113
Chin Length	0.3101	0.0832	0.1589	-0.0132	0.0343	-0.0199	-0.1179
$\overline{X}$ Male Rating	0.0524	-0.0752	-0.0618	-0.0907	-0.0859	-0.0207	0.0712
$\overline{X}$ Female Rating	0.0292	-0.0798	-0.0658	-0.0804	-0.0876	-0.0222	0.1134

EXPERIMENT IV (continued)

	PML^8	MW^9	PMW^{10}	CL^{11}	$\bar{X} MR^{12}$	$\bar{X} FR^{13}$
Proportional Mouth Length	1.0000					
Mouth Width	0.0446	1.0000				
Proportional Mouth Width	0.0639	0.9777	1.0000			
Chin Length	-0.1364	0.0524	-0.0063	1.0000		
$\bar{X}$ Male Rating	0.1138	-0.1337	-0.1502	0.0942	1.0000	
$\bar{X}$ Female Rating	0.1636	-0.0429	-0.0501	0.1224	0.9031	1.0000

[1]Face Length   [2]Face Width   [3]Nose Length   [4]Proportional Nose Length   [5]Nose Width   [6]Proportional Nose Width   [7]Mouth Length   [8]Proportional Mouth Length   [9]Mouth Width   [10]Proportional Mouth Width   [11]Chin Length   [12] $\bar{X}$ Male Rating   [13] $\bar{X}$ Female Rating

EXPERIMENT IV

INTERCORRELATION MATRIX OF MEASUREMENTS OF FEMALES' FACES

AND MEAN RATINGS OF THE PHOTOGRAPHS OF THOSE FACES

BY MALE AND FEMALE SUBJECTS

	FL^1	FW^2	NL^3	PNL^4	NW^5	PNW^6	ML^7
Face Length	1.0000						
Face Width	0.2357	1.0000					
Nose Length	0.1978	0.0077	1.0000				
Proportional Nose Length	-0.2648	-0.0986	0.8921	1.0000			
Nose Width	-0.0146	0.1209	-0.0490	-0.0425	1.0000		
Proportional Nose Width	-0.1580	-0.5420	-0.0406	0.0325	0.7653	1.0000	
Mouth Length	0.1456	0.3820	-0.0562	-0.1209	0.3502	0.0499	1.0000
Proportional Mouth Length	-0.0261	-0.3536	-0.0580	-0.0440	0.2692	0.4583	0.7274
Mouth Width	0.2686	0.1963	-0.0434	-0.1649	0.0230	-0.0936	0.0013
Proportional Mouth Width	0.0748	0.1560	-0.0824	-0.1138	0.0208	-0.0700	-0.0282
Chin Length	0.2468	0.1831	-0.0838	-0.2029	-0.0923	-0.1927	0.0310
$\overline{X}$ Male Rating	-0.0488	-0.1962	-0.0807	-0.0535	-0.1763	-0.0190	-0.3024
$\overline{X}$ Female Rating	-0.0873	-0.1088	-0.1012	-0.0584	-0.2113	-0.1044	-0.2295

69

EXPERIMENT IV (continued)

	PML^8	MW^9	PMW^{10}	CL^{11}	$\bar{X}\,MR^{12}$	$\bar{X}\,FR^{13}$
Proportional Mouth Length	1.0000					
Mouth Width	-0.1424	1.0000				
Proportional Mouth Width	-0.1429	0.9799	1.0000			
Chin Length	-0.1070	0.1683	0.1249	1.0000		
$\bar{X}$ Male Rating	-0.1627	0.0689	0.0852	-0.1155	1.0000	
$\bar{X}$ Female Rating	-0.1555	0.0554	0.0800	-0.0400	0.9000	1.0000

[1]Face Length   [2]Face Width   [3]Nose Length   [4]Proportional Nose Length [5]Nose Width   [6]Proportional Nose Width   [7]Mouth Length   [8]Proportional Mouth Length   [9]Mouth Width   [10]Proportional Mouth Width   [11]Chin Length [12]$\bar{X}$ Male Rating   [13]$\bar{X}$ Female Rating

EXPERIMENT IV

INTERCORRELATION MATRIX OF MEASUREMENTS OF 10 HIGHEST AND 10
LOWEST RATED MALE FACES, AS RATED BY MALE SUBJECTS, AND
MEAN ATTRACTIVENESS RATINGS OF THE PHOTOGRAPHS OF THOSE
FACES BY MALE & FEMALE SUBJECTS

	FL^1	FW^2	NL^3	PNL^4	NW^5	PNW^6	ML^7
Face Length	1.0000						
Face Width	0.3478	1.0000					
Nose Length	-0.2592	-0.0389	1.0000				
Proportional Nose Length	-0.6972	-0.2074	0.8720	1.0000			
Nose Width	0.2319	0.3271	-0.1077	-0.1934	1.0000		
Proportional Nose Width	-0.0223	-0.4607	-0.0707	-0.0347	0.6849	1.0000	
Mouth Length	0.1760	0.3315	-0.0089	-0.0850	0.0964	-0.1593	1.0000
Proportional Mouth Length	-0.0991	-0.5390	-0.0221	0.0439	-0.1702	0.2585	0.6077
Mouth Width	0.2549	-0.0033	-0.0010	-0.1324	0.2242	0.2225	-0.2066
Proportional Mouth Width	0.0718	-0.0615	0.0378	-0.0116	0.1897	0.2298	-0.2405
Chin Length	0.1932	-0.2200	0.1492	0.0090	-0.0539	0.1400	-0.5777
$\bar{X}$ Male Rating	0.1102	-0.2220	0.0357	-0.0403	-0.2192	-0.0235	0.1263
$\bar{X}$ Female Rating	0.1777	-0.1925	-0.0109	-0.1089	-0.1541	0.0172	0.0671

EXPERIMENT IV (continued)

	PML[8]	MW[9]	PMW[10]	CL[11]	$\overline{X}$ MR[12]	$\overline{X}$ FR[13]
Proportional Mouth Length	1.0000					
Mouth Width	−0.1292	1.0000				
Proportional Mouth Width	−0.1128	0.9810	1.0000			
Chin Length	−0.3216	0.2472	0.2307	1.0000		
$\overline{X}$ Male Rating	0.3000	−0.1361	−0.1625	0.1058	1.0000	
$\overline{X}$ Female Rating	0.2264	−0.0424	−0.0790	0.1682	0.9837	1.0000

[1]Face Length [2]Face Width [3]Nose Length [4]Proportional Nose Length
[5]Nose Width [6]Proportional Nose Width [7]Mouth Length [8]Proportional
Mouth Length [9]Mouth Width [10]Proportional Mouth Width [11]Chin Length
[12] $\overline{X}$ Male Rating [13] $\overline{X}$ Female Rating

EXPERIMENT IV

INTERCORRELATION MATRIX OF MEASUREMENTS OF 10 HIGHEST
AND 10 LOWEST RATED MALE FACES, AS RATED BY FEMALE
SUBJECTS, AND MEAN ATTRACTIVENESS RATINGS OF THE
PHOTOGRAPHS OF THOSE FACES BY MALE AND
FEMALE SUBJECTS

	FL[1]	FW[2]	NL[3]	PNL[4]	NW[5]	PNW[6]	ML[7]
Face Length	1.0000						
Face Width	0.2443	1.0000					
Nose Length	-0.1629	0.1114	1.0000				
Proportional Nose Length	-0.7117	-0.0673	0.8073	1.0000			
Nose Width	0.1488	0.3938	0.1861	0.0526	1.0000		
Proportional Nose Width	-0.0207	-0.4187	0.0927	0.0889	0.6670	1.0000	
Mouth Length	0.0472	0.4989	-0.2197	-0.1902	-0.0102	-0.4019	1.0000
Proportional Mouth Length	-0.2173	-0.5192	-0.3175	-0.1045	-0.4862	-0.0602	0.3983
Mouth Width	0.3089	0.0228	0.0969	-0.1126	0.3969	0.3884	-0.1199
Proportional Mouth Width	0.1304	-0.0114	0.1259	0.0146	0.3985	0.4128	-0.1196
Chin Length	0.1290	-0.3192	0.3868	0.1969	-0.1432	0.1358	-0.5258
$\overline{X}$ Male Rating	0.2568	-0.0942	-0.0728	-0.2260	-0.1479	-0.0556	0.1701
$\overline{X}$ Female Rating	0.2656	-0.0896	-0.1610	-0.2933	-0.1204	-0.0306	0.2107

73

EXPERIMENT IV (continued)

	PML[8]	MW[9]	PMW[10]	CL[11]	$\overline{X}$ MR[12]	$\overline{X}$ FR[13]
Proportional Mouth Length	1.0000					
Mouth Width	-0.2235	1.0000				
Proportional Mouth Width	-0.1941	0.9814	1.0000			
Chin Length	-0.1411	0.0872	0.0743	1.0000		
$\overline{X}$ Male Rating	0.2635	-0.0315	-0.0836	0.2356	1.0000	
$\overline{X}$ Female Rating	0.3014	0.0187	-0.0342	0.1841	0.9691	1.0000

[1]Face Length [2]Face Width [3]Nose Length [4]Proportional Nose Length [5]Nose Width [6]Proportional Nose Width [7]Mouth Length [8]Proportional Mouth Length [9]Mouth Width [10]Proportional Mouth Width [11]Chin Length [12] $\overline{X}$ Male Rating [13] $\overline{X}$ Female Rating

EXPERIMENT IV

INTERCORRELATION MATRIX OF MEASUREMENTS OF 10 HIGHEST AND LOWEST
RATED FEMALE FACES, AS RATED BY MALE SUBJECTS, AND MEAN
ATTRACTIVENESS RATINGS OF THE PHOTOGRAPHS OF
THOSE FACES BY MALE AND FEMALE SUBJECTS

	FL^1	FW^2	NL^3	PNL^4	NW^5	PNW^6	ML^7
Face Length	1.0000						
Face Width	0.5235	1.0000					
Nose Length	0.3520	-0.0136	1.0000				
Proportional Nose Length	-0.1031	-0.2608	0.8935	1.0000			
Nose Width	0.2082	0.3693	-0.1643	-0.2668	1.0000		
Proportional Nose Width	-0.3032	-0.5982	-0.1277	0.0120	0.5207	1.0000	
Mouth Length	0.2735	0.2918	0.0365	-0.1006	0.4429	0.1205	1.0000
Proportional Mouth Length	-0.2405	-0.6248	0.0380	0.1445	0.0513	0.6268	0.5614
Mouth Width	-0.1039	0.0854	-0.1148	-0.0576	-0.0684	-0.1403	-0.3291
Proportional Mouth Width	-0.3619	-0.0647	-0.1913	-0.0162	-0.1344	-0.0588	-0.3803
Chin Length	0.1500	0.1994	-0.4153	-0.5297	0.1373	-0.0879	0.2520
$\bar{X}$ Male Rating	-0.0076	-0.2705	-0.0553	-0.0484	-0.4106	-0.0923	-0.7517
$\bar{X}$ Female Rating	-0.0629	-0.2311	-0.1946	-0.1748	-0.4599	-0.1699	-0.6850

EXPERIMENT IV (continued)

	PML[8]	MW[9]	PMW[10]	CL[11]	$\bar{X}$ MR[12]	$\bar{X}$ FR[13]
Proportional Mouth Length	1.0000					
Mouth Width	-0.3503	1.0000				
Proportional Mouth Width	-0.2593	0.9636	1.0000			
Chin Length	0.0135	0.0169	-0.0179	1.0000		
$\bar{X}$ Male Rating	-0.3693	0.3850	0.3654	-0.2659	1.0000	
$\bar{X}$ Female Rating	-0.3507	0.3660	0.3643	-0.1354	0.9305	1.0000

[1]Face Length [2]Face Width [3]Nose Length [4]Proportional Nose Length [5]Nose Width [6]Proportional Nose Width [7]Mouth Length [8]Proportional Mouth Length [9]Mouth Width [10]Proportional Mouth Width [1]Chin Length [12] $\bar{X}$ Male Rating [13] $\bar{X}$ Female Rating

EXPERIMENT IV

INTERCORRELATION MATRIX OF MEASUREMENTS OF 10 HIGHEST AND 10

LOWEST RATED FEMALE FACES, AS RATED BY FEMALE SUBJECTS,

AND MEAN ATTRACTIVENESS RATINGS OF THE PHOTOGRAPHS

OF THOSE FACES BY MALE AND FEMALE SUBJECTS

	FL[1]	FW[2]	NL[3]	PNL[4]	NW[5]	PNW[6]	ML[7]
Face Length	1.0000						
Face Width	0.4622	1.0000					
Nose Length	0.3506	-0.1006	1.0000				
Proportional Nose Length	-0.1114	-0.3269	0.8907	1.0000			
Nose Width	0.1890	0.2412	-0.1853	-0.2833	1.0000		
Proportional Nose Width	-0.2813	-0.7092	-0.0570	0.0763	0.5094	1.0000	
Mouth Length	0.4375	0.2384	0.0761	-0.1311	0.2161	-0.0502	1.0000
Proportional Mouth Length	0.0281	-0.5187	0.1202	0.1111	0.0316	0.4885	0.7042
Mouth Width	0.0343	0.2005	-0.2094	-0.2248	0.0153	-0.1654	0.0542
Proportional Mouth Width	-0.1764	0.0981	-0.2673	-0.1844	-0.0345	-0.1098	-0.0436
Chin Length	0.2825	0.4203	-0.0714	-0.2112	0.1848	-0.2270	-0.0394
$\bar{X}$ Male Rating	-0.2552	-0.3156	-0.1591	-0.0513	-0.5457	-0.1121	-0.5747
$\bar{X}$ Female Rating	-0.2345	-0.2923	-0.1391	-0.0401	-0.4576	-0.1333	-0.6123

77

EXPERIMENT IV (continued)

	PML[8]	MW[9]	PMW[10]	CL[11]	X̄ MR[12]	X̄ FR[13]
Proportional Mouth Length	1.0000					
Mouth Width	−0.1047	1.0000				
Proportional Mouth Width	−0.1126	0.9766	1.0000			
Chin Length	−0.3514	0.3265	0.2669	1.0000		
X̄ Male Rating	−0.2736	0.1079	0.1665	−0.0045	1.0000	
X̄ Female Rating	−0.3258	0.0531	0.1090	−0.0107	0.9859	1.0000

[1]Face Length [2]Face Width [3]Nose Length [4]Proportional Nose Length
[5]Nose Width [6]Proportional Nose Width [7]Mouth Length [8]Proportional
Mouth Length [9]Mouth Width [10]Proportional Mouth Width [11]Chin Length
[12] X̄ Male Rating [13] X̄ Female Rating

EXPERIMENT IV

INTERCORRELATION MATRIX OF MEASUREMENTS OF THE 10 MALE FACES WITH
THE LARGEST AND THE 10 MALE FACES WITH THE SMALLEST NOSE, AND
MEAN ATTRACTIVENESS RATINGS OF THE PHOTOGRAPHS OF THOSE
FACES BY MALE AND FEMALE SUBJECTS

	FL^1	FW^2	NL^3	PNL^4	NW^5	PNW^6	ML^7
Face Length	1.0000						
Face Width	0.4862	1.0000					
Nose Length	0.4758	0.2680	1.0000				
Proportional Nose Length	0.1648	0.1180	0.9455	1.0000			
Nose Width	0.4577	0.4596	0.5640	0.4646	1.0000		
Proportional Nose Width	0.2559	-0.0066	0.4853	0.4530	0.8843	1.0000	
Mouth Length	0.4819	0.2305	0.4187	0.2956	0.4996	0.4398	1.0000
Proportional Mouth Length	0.0417	-0.4764	0.1453	0.1516	0.0032	0.2472	0.6711
Mouth Width	0.0125	0.3856	0.1925	0.2150	0.6372	0.5126	0.2899
Proportional Mouth Width	-0.1990	0.2717	0.0909	0.1793	0.5353	0.4594	0.1937
Chin Length	0.4903	0.1975	0.4841	0.3663	0.2112	0.1374	0.1500
$\bar{X}$ Male Rating	0.0110	-0.2495	-0.2745	-0.3135	-0.4464	-0.3831	0.1839
$\bar{X}$ Female Rating	0.0427	-0.3177	-0.2384	-0.2826	-0.4448	-0.3442	0.1815

79

EXPERIMENT IV (continued)

	PML[8]	MW[9]	PMW[10]	CL[11]	$\bar{X}$ MR[12]	$\bar{X}$ FR[13]
Proportional Mouth Length	1.0000					
Mouth Width	-0.1181	1.0000				
Proportional Mouth Width	-0.1179	0.9769	1.0000			
Chin Length	0.0233	-0.3209	-0.4140	1.0000		
$\bar{X}$ Male Rating	0.3487	-0.1063	-0.1078	-0.2190	1.0000	
$\bar{X}$ Female Rating	0.4178	-0.1318	-0.1402	-0.2128	0.9434	1.0000

[1]Face Length [2]Face Width [3]Nose Length [4]Proportional Nose Length
[5]Nose Width [6]Proportional Nose Width [7]Mouth Length [8]Proportional
Mouth Length [9]Mouth Width [10]Proportional Mouth Width [11]Chin Length
[12]$\bar{X}$ Male Rating [13]$\bar{X}$ Female Rating

EXPERIMENT IV

INTERCORRELATION MATRIX OF MEASUREMENTS OF THE 10 MALE FACES WITH
THE LARGEST AND THE 10 MALE FACES WITH THE SMALLEST MOUTH, AND
MEAN ATTRACTIVENESS RATINGS OF THE PHOTOGRAPHS OF THOSE
FACES BY MALE AND FEMALE SUBJECTS

	FL^1	FW^2	NL^3	PNL^4	NW^5	PNW^6	ML^7
Face Length	1.0000						
Face Width	0.0235	1.0000					
Nose Length	−0.3889	0.0267	1.0000				
Proportional Nose Length	−0.6994	0.0216	0.9292	1.0000			
Nose Width	0.2844	0.3692	0.0500	−0.0777	1.0000		
Proportional Nose Width	0.3053	−0.2301	0.0298	−0.1062	0.8178	1.0000	
Mouth Length	−0.1288	0.3165	0.1606	0.1778	0.2833	0.0846	1.0000
Proportional Mouth Length	−0.1819	−0.3339	0.0309	0.0897	−0.1240	0.0527	0.6976
Mouth Width	0.6070	−0.0281	−0.0544	−0.2903	0.5046	0.5497	0.2591
Proportional Mouth Width	0.5206	−0.0088	−0.0110	−0.2228	0.5234	0.5542	0.3088
Chin Length	0.3311	−0.3578	−0.2309	−0.3194	0.0654	0.2906	−0.5022
$\bar{X}$ Male Rating	−0.2613	−0.1642	0.2307	0.2817	0.1997	0.3119	0.1690
$\bar{X}$ Female Rating	−0.0338	−0.0999	0.1792	0.1528	0.1991	0.2754	0.1086

EXPERIMENT IV (continued)

	PML^8	MW^9	PMW^{10}	CL^{11}	$\overline{X}\ MR^{12}$	$\overline{X}\ FR^{13}$
Proportional Mouth Length	1.0000					
Mouth Width	0.2111	1.0000				
Proportional Mouth Width	0.2496	0.9938	1.0000			
Chin Length	-0.1743	0.2572	0.2302	1.0000		
$\overline{X}$ Male Rating	0.2791	-0.0912	-0.0724	-0.1020	1.0000	
$\overline{X}$ Female Rating	0.2436	0.1181	0.1223	0.1067	0.9175	1.0000

[1]Face Length [2]Face Width [3]Nose Length [4]Proportional Nose Length
[5]Nose Width [6]Proportional Nose Width [7]Mouth Length [8]Proportional
Mouth Length [9]Mouth Width [10]Proportional Mouth Width [11]Chin Length
[12] $\overline{X}$ Male Rating [13] $\overline{X}$ Female Rating

EXPERIMENT IV

INTERCORRELATION MATRIX OF MEASUREMENTS OF THE 10 FEMALE FACES
WITH THE LARGEST AND THE 10 FEMALE FACES WITH THE SMALLEST
NOSE, AND MEAN ATTRACTIVENESS RATINGS OF THE PHOTO-
GRAPHS OF THOSE FACES BY MALE
AND FEMALE SUBJECTS

	FL^1	FW^2	NL^3	PNL^4	NW^5	PNW^6	ML^7
Face Length	1.0000						
Face Width	0.2529	1.0000					
Nose Length	-0.4805	-0.0437	1.0000				
Proportional Nose Length	0.1957	-0.1430	0.9536	1.0000			
Nose Width	0.2191	0.2702	0.5677	0.5540	1.0000		
Proportional Nose Width	0.1162	-0.1136	0.6074	0.6369	0.9248	1.0000	
Mouth Length	0.2158	0.4612	0.0852	0.0162	0.3592	0.1965	1.0000
Proportional Mouth Length	0.1016	0.0061	0.1213	0.0987	0.2721	0.2873	0.8894
Mouth Width	0.2303	0.1437	-0.0323	-0.1232	0.0181	-0.0367	-0.2952
Proportional Mouth Width	0.0368	0.1002	-0.1357	-0.1726	-0.0292	-0.0662	-0.3456
Chin Length	0.0475	0.0190	-0.1873	-0.2356	-0.5399	-0.5769	-0.1278
$\bar{X}$ Male Rating	-0.2122	-0.0913	-0.2393	-0.1824	-0.3153	-0.2857	-0.3638
$\bar{X}$ Female Rating	-0.4690	-0.0114	-0.5069	-0.4008	-0.3704	-0.3700	-0.0990

EXPERIMENT IV (continued)

	PML^8	MW^9	PMW^{10}	CL^{11}	$\overline{X} MR^{12}$	$\overline{X} FR^{13}$
Proportional Mouth Length	1.0000					
Mouth Width	-0.4148	1.0000				
Proportional Mouth Width	-0.4471	0.9806	1.0000			
Chin Length	-0.1627	0.0418	0.0301	1.0000		
$\overline{X}$ Male Rating	-0.3615	0.1279	0.1757	-0.0450	1.0000	
$\overline{X}$ Female Rating	-0.1045	0.0786	0.1758	0.1122	0.7998	1.0000

[1]Face Length [2]Face Width [3]Nose Length [4]Proportional Nose Length [5]Nose Width [6]Proportional Nose Width [7]Mouth Length [8]Proportional Mouth Length [9]Mouth Width [10]Proportional Mouth Width [11]Chin Length [12] $\overline{X}$ Male Rating [13] $\overline{X}$ Female Rating

EXPERIMENT IV

INTERCORRELATION MATRIX OF MEASUREMENTS OF THE 10 FEMALE

FACES WITH THE LARGEST AND THE 10 FEMALE FACES WITH

THE SMALLEST MOUTH, AND MEAN ATTRACTIVENESS

RATINGS OF THE PHOTOGRAPHS OF THOSE FACES

BY MALE & FEMALE SUBJECTS

	FL^1	FW^2	NL^3	PNL^4	NW^5	PNW^6	ML^7
Face Length	1.000						
Face Width	0.4021	1.0000					
Nose Length	0.0604	-0.1314	1.0000				
Proportional Nose Length	-0.4583	-0.3181	0.8585	1.0000			
Nose Width	0.0802	0.4028	0.0455	-0.0067	1.0000		
Proportional Nose Width	-0.2769	-0.4966	0.1564	0.2717	0.5940	1.0000	
Mouth Length	0.5920	0.4555	0.0578	-0.2467	0.3329	-0.0895	1.0000
Proportional Mouth Length	0.2777	-0.3874	0.1716	0.0114	-0.0056	0.3313	0.6425
Mouth Width	0.3680	0.3676	-0.0540	-0.2203	0.0715	-0.2464	0.2561
Proportional Mouth Width	0.2565	0.3258	-0.0484	-0.1570	0.0573	-0.2230	0.1944
Chin Length	0.4508	0.2755	0.0843	-0.1522	-0.2853	-0.5235	0.4158
$\bar{X}$ Male Rating	-0.4189	-0.0036	-0.1260	0.1116	-0.2091	-0.1996	-0.4079
$\bar{X}$ Female Rating	-0.4159	-0.1324	-0.1160	0.1169	-0.2868	-0.1587	-0.4286

EXPERIMENT IV (continued)

	PML[8]	MW[9]	PMW[10]	CL[11]	$\bar{X}$ MR[12]	$\bar{X}$ FR[13]
Proportional Mouth Length	1.0000					
Mouth Width	−0.0470	1.0000				
Proportional Mouth Width	−0.0763	0.9923	1.0000			
Chin Length	0.2083	−0.0089	−0.0563	1.0000		
$\bar{X}$ Male Rating	−0.4443	0.1894	0.2525	−0.3502	1.0000	
$\bar{X}$ Female Rating	−0.3588	0.1415	0.2041	−0.3566	−.9310	1.0000

[1]Face Length   [2]Face Width   [3]Nose Length   [4]Proportional Nose Length
[5]Nose Width   [6]Proportional Nose Width   [7]Mouth Length   [8]Proportional
Mouth Length   [9]Mouth Width   [10]Proportional Mouth Width   [11]Chin Length
[12] $\bar{X}$ Male Rating   [13] $\bar{X}$ Female Rating

APPENDIX C

INSTRUCTIONS

The instructions for Experiment I were as follows:

This is an experiment on facial attractiveness. Your task is to construct attractive and unattractive faces using these materials. As you can see there are several hairstyles, noses, eyes, etc. You simply examine all the facial characteristics and choose the ones you want to construct the faces. Let me show you a few things about the materials and how they may be used. You may place the features in any order you wish, e.g., if a certain feature appears to be too dark or prominent, you can lighten it by placing it at the back of the stack. You are free to experiment with the characteristics. That is, if you select a feature and discover you don't like it after you have put it on the face, you can replace it and select another. You will build an attractive and an unattractive male and female face. You will have 10 minutes to work on each face. Do you have any questions?

The instructions for Experiment II were as follows:

This is an experiment on facial attractiveness. Pairs
of faces will be projected on the screen in front of you. Your task
is to look at the faces and to decide which of the two faces is the
more attractive. The faces will be projected for 5 seconds, so you
will have to decide which one is the most attractive fairly quickly.
When you have decided mark your answer on the data sheet. You will
notice that each number on the data sheet has an A or a B beside
it. These letters correspond to the A and B you see on the screen.
The faces will be projected under the A and B. If you think face
A is the most attractive, circle A on your answer sheet. If you
think face B is the most attractive circle B on your answer sheet.
You will have 5 seconds to record your answer before the next pair
of faces comes on. Males are always compared with other males; females
with other females. None of these faces are extremely beautiful,
none of them are grotesquely ugly. You will have to make a relative
judgement of attractiveness. You may also notice that there are
similarities in some of the faces. Don't let this bother you.

I will call out the slide number occasionally so that you
can make sure you are on the correct number on your data sheet.

Do you have any questions?

The instructions for Experiment III were as follows:

This is an experiment on facial attractiveness. Pairs of faces will be projected on the screen in front of you. Your task is to look at the faces and to decide which of the two faces is the more attractive. The faces will be projected for a very, very brief period of time. You will have to pay close attention to the screen in order to see the faces at all. When you have decided which face is the more attractive mark your answer on the data sheet. You will notice that each number on the data sheet has an A or a B beside it. These letters correspond to the A and B you see on the screen. The faces will be projected under the A and B. If you think face A is the most attractive, circle A on your answer sheet. If you think face B is the most attractive, circle B on your answer sheet. You will have 5 seconds to record your answer before the next pair of faces comes on. Males are always compared with other males; females with other females. You may notice some similarities in the faces; don't let this bother you.

I will call out the slide number occasionally so that you can make sure you are on the correct number on your data sheet. I want to emphasize again that the faces will be presented only very briefly. Pay close attention, and decide which is the most attractive.

Do you have any questions?

90

The instructions for Experiment IV were as follows:

You will be shown a series of photographic slides of male
and female university students like yourself. Your task is to look
at the faces and to rate the physical attractiveness of each face.
At the top of your data sheet you will see an attractiveness scale.
On this scale the numbers range from 1 (corresponding to very un-
attractive) to 9 (very attractive). The mid point of the scale
(number 5) corresponds to a face that in your opinion is neither
attractive nor unattractive. The other numbers of the scale indicate
intermediate degrees of attractiveness or unattractiveness. Thus
number 4 would indicate that the rated face is only slightly un-
attractive and so on. When you are rating a face, decide on its
attractiveness and circle the number on the scale that is closest
to your own conception of the physical attractiveness of the face.
In the past, people have rated the faces across the entire scale.

You will notice that the data sheet is divided into sets
of male and female faces. There are 10 photographs in each set.
I will tell you the set number and sex of the faces before each new
set begins. It is important to remember that we will not necessarily
start with set 1 so pay close attention to the set number. The
picture numbers on your data sheets correspond to numbers the in-
dividuals are holding in the slides. Make sure that you are rating
the correct photograph by checking the picture number on the data
sheet with the number up on the screen.

We don't expect that you will know anyone in the slides
since these were taken elsewhere but if you think that you do recognize

91

someone please write the number and the name of the person at the bottom of the sheet.

Also please remember when you are rating the photographs to circle the number on the scale and make sure that the set number is correct.

Any questions?

APPENDIX D

ILLUSTRATIONS
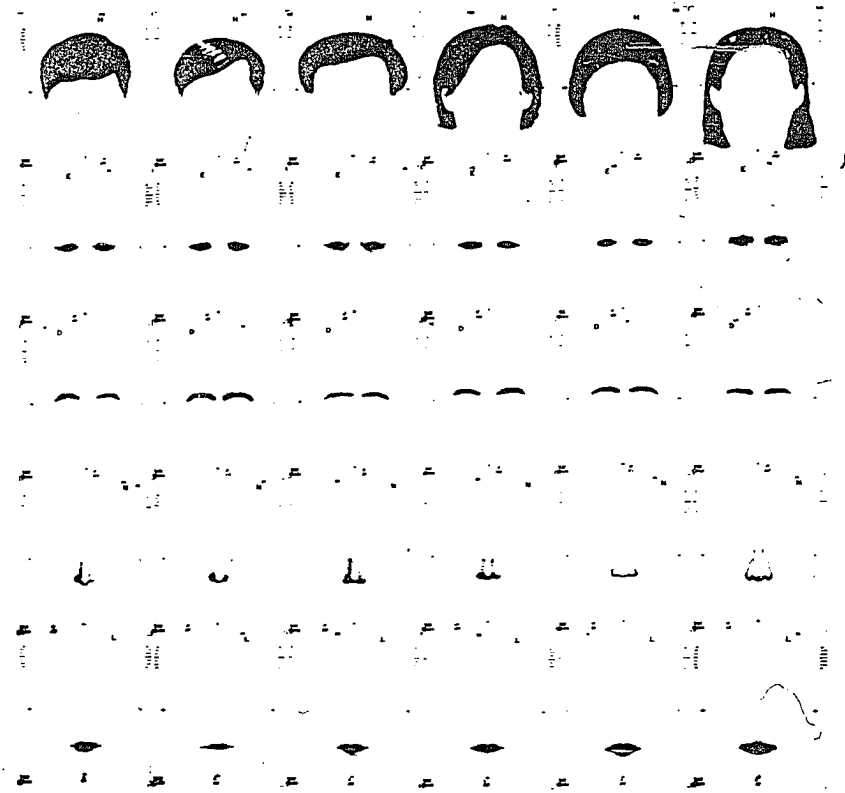
EXPERIMENT I: MALE FACIAL CHARACTERISTICS
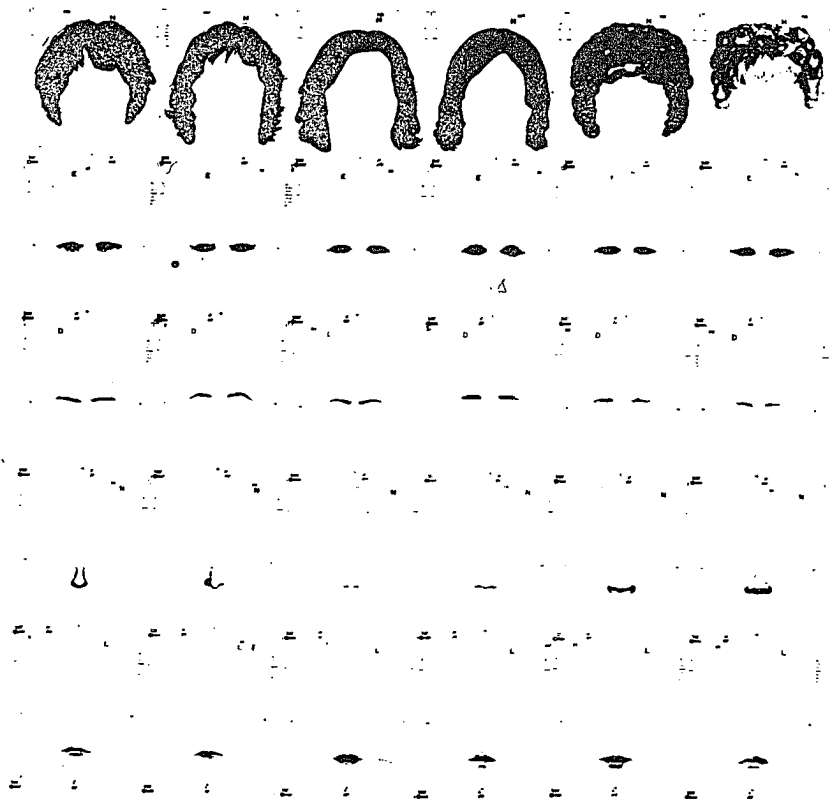
EXPERIMENT I: FEMALE FACIAL CHARACTERISTICS

APPENDIX E

RAW DATA

EXPERIMENT I

LENGTHS AND WIDTHS IN MILLIMETERS OF SMALL, MEDIUM,

AND LARGE NOSES AND MOUTHS

Male Features

	Noses Identi-Kit	Code #	Length	Width	LXW*
Small		36	23	14.5	333.5
		37	24	14	336
Medium		28	22	17.5	385
		29	20	17.5	350
Large		15	19	20.5	389.5
		16	28	21	588
	Mouths				
Small		.01	20	4	80
		14	25	4	100
Medium		28	20	5.5	110
		29	24	6	144
Large		.05	25	8	200
		16	25	7	175

*
Length x width

97

EXPERIMENT I (continued)

Female Faces

	Noses Identi-Kit	Code #	Length	Width	LXW
Small		35	20.5	13	266.5
		36	23	14.5	333.5
Medium		11	20	16	320
		13	20	17	340
Large		.07	18	21	378
		32	18	20	360
	Mouths				
Small		.03	20	5	100
		35	21	4.5	94.5
Medium		.07	18	7.5	135
		20	20	7	140
Large		24	20	8.5	170
		25	22	9	198

IDENTI-KIT CODE NUMBERS AND SIZES OF NOSES USED BY EACH

SUBJECT TO CONSTRUCT ATTRACTIVE AND

UNATTRACTIVE MALE AND FEMALE FACES

		Male Faces				Female Faces			
		Attractive		Unattractive		Attractive		Unattractive	
		Code #	LXW*	Code #	LXW	Code #	LXW	Code #	LXW
Subject #									
	1	37	336	16	588	35	266.5	07	378
	2	37	336	16	588	35	266.5	07	378
	3	28	385	16	588	35	266.5	36	333.5
	4	37	336	16	588	35	266.5	07	378
	5	36	333.5	15	389	35	266.5	32	360
	6	36	333.5	15	389	35	266.5	32	360
	7	36	333.5	15	389	36	333.5	07	378
Male Subjects	8	37	336	15	389	35	266.5	35	266.5
	9	37	336	16	588	35	266.5	07	378
	10	37	336	16	588	35	266.5	32	360
	11	37	336	16	588	35	266.5	13	340
	12	36	333.5	28	385	35	266.5	11	320
	13	37	336	15	389	35	266.5	07	378
	14	37	336	16	588	35	266.5	07	378
	15	28	385	36	333.5	35	266.5	07	378
	16	36	333.5	15	389	35	266.5	32	360
	17	36	333.5	16	588	11	320	07	378
	18	37	336	16	588	35	266.5	36	333.6
	19	37	336	16	588	35	266.5	07	378
	20	37	336	16	588	36	333.5	07	378

*Length X width of nose

EXPERIMENT I (continued)

	Code #	LXW*	Code #	LXW	Code #	LXW	Code #	LXW
Subject #								
1	36	333.5	16	588	35	266.5	13	340
2	36	333.5	15	389	36	333.5	07	378
3	37	336	29	350	35	266.5	36	333.5
4	37	336	16	588	35	266.5	07	378
5	28	385	15	389	35	266.5	32	360
6	37	336	20	350	35	266.5	36	333.5
7	36	333.5	16	588	35	266.5	07	378
8	37	336	15	389	36	333.5	35	266.5
9	36	333.5	28	385	35	266.5	36	333.5
10	36	333.5	29	350	35	266.5	32	360
11	36	333.5	16	588	35	266.5	07	378
12	29	350	16	588	36	333.5	32	360
13	29	350	16	588	11	320	32	360
14	28	385	16	588	13	340	36	333.5
15	37	336	15	389	36	333.5	32	360
16	37	336	16	588	36	333.5	07	378
17	37	336	29	350	35	266.5	35	266.5
18	36	333.5	16	588	35	266.5	07	378
19	37	336	16	588	36	333.5	07	378
20	29	350	16	588	11	320	07	378

Female Subjects (rows 7–14)

100

IDENTI-KIT CODE NUMBERS AND SIZES OF MOUTHS USED BY EACH

SUBJECT TO CONSTRUCT ATTRACTIVE AND

UNATTRACTIVE MALE AND FEMALE FACES

		Male Faces				Female Faces			
		Attractive		Unattractive		Attractive		Unattractive	
		Code #	LXW*	Code #	LXW	Code #	LXW	Code #	LXW
	Subject								
	1	01	80	14	100	07	135	07	135
	2	28	110	05	200	03	100	07	135
	3	29	144	05	200	35	94.5	25	198
	4	05	200	16	175	03	100	25	198
	5	29	144	01	80	20	140	25	198
	6	01	80	16	175	07	135	25	198
Male Subjects	7	29	144	16	175	07	135	20	140
	8	29	144	05	200	35	94.5	25	198
	9	28	110	14	100	03	100	35	94.5
	10	01	80	14	100	07	135	25	198
	11	28	110	16	175	03	100	20	140
	12	28	110	05	200	07	135	07	135
	13	29	144	16	175	35	94.5	35	94.5
	14	29	144	05	200	35	94.5	25	198
	15	28	110	14	100	03	100	25	198
	16	28	110	14	100	03	100	35	94.5
	17	28	110	14	100	35	94.5	07	135
	18	28	110	16	175	07	135	20	140
	19	28	110	05	200	24	170	35	94.5
	20	28	110	14	100	24	170	35	94.5

*
Length X width of mouth

EXPERIMENT I (continued)

	Subject	Code #	LXW*	Code #	LXW	Code #	LXW	Code #	LXW
	1	29	144	16	175	03	100	25	198
	2	29	144	16	175	24	170	20	140
	3	29	144	16	175	07	135	35	94.5
	4	28	110	16	175	03	100	25	198
	5	29	144	14	100	07	135	25	198
	6	29	144	16	175	24	170	25	198
Female Subjects	7	28	110	05	200	07	135	25	198
	8	28	110	16	175	24	170	35	94.5
	9	28	110	16	175	03	100	25	198
	10	29	144	16	175	24	170	25	198
	11	01	80	28	110	03	100	24	170
	12	05	200	16	175	24	170	35	94.5
	13	01	80	14	100	24	170	24	170
	14	01	80	14	100	03	100	35	94.5
	15	29	144	05	200	03	100	24	170
	16	28	110	05	200	35	94.5	25	198
	17	01	80	16	175	03	100	03	100
	18	14	100	16	175	07	135	24	170
	19	01	80	16	175	03	100	24	170
	20	28	110	29	144	24	170	35	94.5

EXPERIMENT II

FREQUENCY OF CHOICE OF EACH NOSE—MOUTH

COMBINATION IN EACH OF THE SIX

FACIAL COMPARISONS

	SS–SL		SS–LS		SS–LL		SL–LS		SL–LL		LS–LL	
1.	3	5	8	0	8	0	8	0	8	0	5	3
2.	5	3	7	1	8	0	8	0	8	0	3	5
3.	7	1	7	1	8	0	8	0	6	2	7	1
4.	4	4	8	0	8	0	7	1	7	1	6	2
5.	6	2	8	0	7	1	5	3	6	2	4	4
6.	5	3	7	1	6	2	6	2	6	2	7	1
7.	6	2	6	2	8	0	8	0	8	0	7	1
8.	3	5	7	1	4	4	5	3	7	1	2	6
9.	5	3	5	3	7	1	7	1	7	1	5	3
10.	4	4	8	0	8	0	8	0	8	0	6	2
11.	5	3	8	0	7	1	8	0	8	0	2	6
12.	4	4	8	0	8	0	7	1	7	1	6	2
13.	3	5	8	0	7	1	7	1	6	2	5	3
14.	6	2	7	1	6	2	8	0	7	1	3	5
15.	6	2	7	1	8	0	8	0	8	0	5	3
16.	5	3	8	0	8	0	5	3	7	1	6	2
17.	3	5	8	0	8	0	8	0	8	0	6	2
18.	6	2	7	1	8	0	7	1	7	1	6	2
19.	6	2	8	0	8	0	8	0	8	0	6	2
20.	3	5	8	0	8	0	5	3	6	2	4	4

Male Subjects

EXPERIMENT II (coninued)

	SS-SL		SS-LS		SS-LL		SL-LS		SL-LL		LS-LL	
1.	6	2	8	0	8	0	8	0	7	1	4	4
2.	5	3	8	0	8	0	8	0	8	0	4	4
3.	3	5	8	0	8	0	7	1	8	0	3	5
4.	7	1	7	1	8	0	6	2	7	1	7	1
5.	6	2	7	1	7	1	8	0	7	1	6	2
6.	1	7	6	2	4	4	3	5	4	4	3	5
7.	4	4	7	1	7	1	7	1	7	1	5	3
8.	4	4	6	2	4	4	4	4	5	3	6	2
9.	7	1	7	1	6	2	7	1	6	2	4	4
10.	6	2	8	0	8	0	8	0	8	0	4	4
11.	5	3	8	0	8	0	6	2	8	0	5	3
12.	2	6	6	2	8	0	8	0	6	2	1	7
13.	7	1	7	1	8	0	8	0	7	1	5	3
14.	3	5	8	0	7	1	5	3	6	2	2	6
15.	5	3	6	2	7	1	8	0	5	3	5	3
16.	2	6	7	1	7	1	6	2	7	1	7	1
17.	6	2	8	0	8	0	8	0	8	0	7	1
18.	4	4	7	1	8	0	8	0	8	0	4	4
19.	3	5	8	0	8	0	8	0	8	0	4	4
20.	4	4	6	2	8	0	5	3	6	2	4	4

Female Subjects

104

FREQUENCY OF CHOICE OF EACH NOSE-MOUTH

COMBINATION IN EACH OF THE SIX

FACIAL COMPARISONS

	SS-SL		SS-LS		SS-LL		SL-LS		SL-LL		LS-LL	
1.	6	2	5	3	8	0	4	4	6	2	6	2
2.	6	2	6	2	8	0	5	3	8	0	5	3
3.	5	3	8	0	8	0	8	0	8	0	3	5
4.	5	3	8	0	8	0	8	0	8	0	4	4
5.	6	2	8	0	8	0	6	2	8	0	5	3
6.	7	1	6	2	7	1	5	3	7	1	7	1
7.	5	3	7	1	7	1	8	0	7	1	1	7
8.	5	3	8	0	8	0	8	0	8	0	5	3
9.	4	4	7	1	8	0	8	0	8	0	5	3
10.	7	1	8	0	8	0	7	1	6	2	1	7
11.	7	1	8	0	8	0	8	0	5	3	3	5
12.	6	2	8	0	8	0	8	0	7	1	4	4
13.	2	6	6	2	6	2	7	1	5	3	5	3
14.	5	3	7	1	8	0	5	3	6	2	4	4
15.	6	2	5	3	7	1	8	0	6	2	3	5
16.	5	3	7	1	7	1	8	0	7	1	4	4
17.	4	4	8	0	7	1	7	1	6	2	4	4
18.	2	6	8	0	8	0	3	5	4	4	2	6
19.	5	3	8	0	8	0	8	0	8	0	4	4
20.	4	4	8	0	8	0	8	0	8	0	3	5

Male Subjects

EXPERIMENT III (continued)

	SS-SL		SS-LS		SS-LL		SL-LS		SL-LL		LS-LL	
1.	6	2	8	0	8	0	8	0	8	0	5	3
2.	7	1	8	0	8	0	8	0	8	0	5	3
3.	4	4	6	2	6	2	6	2	6	2	4	4
4.	5	3	6	2	7	1	4	4	5	3	6	2
5.	5	3	6	2	7	1	4	4	6	2	2	6
6.	4	4	7	1	8	0	8	0	8	0	4	4
7.	4	4	8	0	8	0	8	0	8	0	5	3
8.	3	5	7	1	7	1	8	0	7	1	3	5
9.	5	3	6	2	7	1	7	1	8	0	3	5
10.	4	4	8	0	8	0	8	0	8	0	3	5
11.	7	1	7	1	8	0	5	3	6	2	8	0
12.	3	5	8	0	7	1	7	1	7	1	3	5
13.	4	4	7	1	8	0	8	0	8	0	3	5
14.	5	3	6	2	7	1	6	2	5	3	2	6
15.	3	5	6	2	7	1	8	0	6	2	5	3
16.	3	5	8	0	8	0	8	0	8	0	6	2
17.	5	3	7	1	8	0	8	0	7	1	4	4
18.	4	4	7	1	8	0	7	1	7	1	4	4
19.	3	5	6	2	6	2	7	1	6	2	2	6
20.	5	3	5	3	8	0	8	0	7	1	2	6

Female Subjects

EXPERIMENT IV

MEASUREMENTS OF MALES' FACES AND MEAN ATTRACTIVENESS

RATINGS OF THE PHOTOGRAPHS OF THOSE FACES BY

MALE AND FEMALE SUBJECTS

	FL^1	FW^2	NL^3	PNL^4	NW^5	PNW^6	ML^7	PML^8	MW^9	PMW^{10}	CL^{11}	$m\,\bar{X}^{12}$	$f\,\bar{X}^{13}$
1.	23.5	12.5	4.9	.2085	3.4	.2720	4.8	.3840	1.4	.0596	4.4	5.25	5.40
2.	24.4	12.0	4.2	.1721	3.6	.3000	5.0	.4167	1.9	.0779	4.1	3.05	3.20
3.	21.8	12.0	4.9	.2248	3.5	.2917	4.5	.3750	1.7	.0780	4.2	4.50	4.50
4.	25.3	12.0	5.0	.1976	3.6	.3000	4.2	.3500	2.1	.0830	3.6	3.75	3.90
5.	22.2	12.8	5.0	.2252	3.6	.2812	4.6	.3594	1.6	.0721	4.0	3.90	2.55
6.	23.6	11.0	4.9	.2076	3.6	.3273	4.8	.4364	1.5	.0636	3.4	4.35	3.50
7.	23.6	13.5	5.1	.2161	3.9	.2889	4.5	.3333	2.1	.0890	3.8	2.30	1.95
8.	24.8	13.3	4.8	.1935	3.3	.2481	4.8	.3609	2.1	.0847	4.6	4.60	4.40
9.	23.7	12.3	5.1	.2152	3.1	.2520	4.8	.3902	1.8	.0759	4.0	3.30	2.35
10.	24.3	10.9	4.8	.1975	3.3	.3028	4.9	.4495	2.1	.0864	4.0	4.15	3.65
11.	23.0	12.1	5.5	.2391	3.6	.2975	5.2	.4298	2.0	.0870	3.5	4.45	4.79
12.	23.3	12.2	4.8	.2060	3.4	.2787	5.0	.4098	2.1	.0901	4.0	4.15	4.55
13.	22.1	12.0	4.4	.1991	3.1	.2583	4.3	.3583	1.5	.0679	3.4	3.40	3.35
14.	21.5	10.9	4.7	.2186	2.9	.2660	4.5	.4128	1.4	.0837	3.6	5.80	5.45
15.	22.5	12.4	4.5	.2000	3.2	.2581	5.2	.4194	1.4	.0622	3.9	5.25	5.65
16.	21.5	11.9	4.8	.2232	3.3	.2773	4.2	.3529	1.5	.0670	3.4	1.75	1.70
17.	21.8	11.8	5.0	.2294	3.3	.2797	5.1	.4322	1.7	.0780	3.9	4.25	5.30
18.	24.0	11.6	5.2	.2167	3.6	.3103	4.8	.4138	1.9	.0792	3.6	4.70	5.25
19.	21.5	12.5	5.2	.2419	3.1	.2480	4.8	.3840	1.2	.0558	3.5	4.50	4.85
20.	24.4	12.1	4.9	.2008	3.6	.2075	4.7	.3884	2.0	.0820	3.8	5.15	5.00
21.	22.7	11.0	4.7	.2070	3.0	.2727	4.1	.3727	1.1	.0484	4.1	2.75	2.35
22.	23.9	10.6	4.8	.2008	3.5	.3302	4.4	.4151	2.0	.0837	3.5	4.35	3.50
23.	22.2	11.4	5.2	.2342	3.3	.2895	5.2	.4561	1.1	.0495	2.9	5.90	5.25
24.	24.6	13.0	4.8	.1951	3.8	.2923	4.8	.3692	2.0	.0813	4.3	5.10	4.68
25.	23.5	11.1	4.6	.1957	3.4	.3063	4.0	.3604	1.5	.0638	3.1	4.80	4.35
26.	22.3	11.7	4.9	.2197	3.2	.2735	4.9	.4188	1.1	.0493	3.1	4.00	2.90
27.	23.6	12.0	5.1	.2161	3.4	.2583	4.8	.4000	1.5	.0636	4.0	5.40	5.25
28.	23.7	10.9	5.2	.2194	3.3	.3028	4.7	.4312	1.7	.0717	4.2	4.30	4.60
29.	24.1	12.0	5.3	.2199	4.1	.3417	5.0	.4167	1.8	.0747	4.1	3.80	3.20
30.	22.6	11.6	4.5	.1991	3.3	.2845	4.5	.3879	1.1	.0487	3.8	3.26	2.70
31.	21.9	11.1	4.8	.2192	3.1	.2793	4.9	.4414	1.5	.06853	6	4.15	4.60
32.	24.1	11.3	4.5	.1867	3.2	.2832	5.4	.4779	2.4	.0996	4.0	3.50	4.00
33.	22.6	12.1	5.1	.2257	3.1	.2562	5.2	.4298	1.6	.0708	3.9	3.70	3.40
34.	23.4	10.4	4.6	.1966	3.2	.3077	4.9	.4712	2.0	.0855	4.0	4.45	3.90
35.	23.0	11.1	4.7	.2043	3.5	.3153	4.6	.4144	2.2	.0956	3.4	3.70	3.40
36.	22.2	11.0	4.5	.2027	2.8	.2545	4.7	.4273	1.2	.0540	3.9	5.15	5.60
37.	24.1	12.4	4.4	.1826	3.2	.2581	4.6	.3710	1.7	.0705	5.0	3.50	2.65
38.	23.6	12.1	5.1	.2161	3.8	.3140	4.8	.3967	2.0	.0847	4.5	4.10	3.95

	FL[1]	FW[2]	NL[3]	PNL[4]	NW[5]	PNW[6]	ML[7]	PML[8]	MW[9]	PMW[10]	CL[11]	m $\bar{X}$[12]	f $\bar{X}$[13]
39.	23.8	11.3	4.4	.1849	3.6	.3186	5.5	.4867	1.4	.0588	4.5	3.90	3.30
40.	23.9	11.6	4.6	.1925	3.7	.3190	4.8	.4138	1.9	.0795	4.1	4.30	4.25
41.	22.2	11.3	4.7	.2117	3.3	.2920	4.5	.3982	1.3	.0586	4.0	4.55	3.95
42.	23.2	11.9	4.8	.2069	3.1	.2605	4.7	.3950	1.7	.0733	3.1	4.70	3.95
43.	23.8	11.2	5.2	.2185	3.3	.2946	4.5	.4018	1.9	.0798	4.7	5.75	5.75
44.	23.1	11.6	5.1	.2208	3.1	.2672	5.0	.4310	1.2	.0519	3.9	4.30	3.60
45.	21.6	10.9	5.0	.2315	3.3	.3028	4.7	.4312	1.7	.0787	3.1	3.50	2.60
46.	23.3	11.2	5.0	.2146	3.3	.2946	4.3	.3839	1.6	.0687	4.8	5.40	4.83
47.	21.9	10.6	4.9	.2237	2.9	.2736	4.4	.4151	1.5	.0685	4.0	3.10	2.30
48.	23.8	11.6	4.5	.1891	3.8	.3276	4.7	.4052	2.2	.0924	3.8	4.15	3.35
49.	23.3	11.9	4.9	.2103	3.2	.2689	4.2	.3529	1.8	.0772	3.9	4.35	3.65
50.	23.8	12.3	4.9	.2059	3.1	.2520	5.1	.4146	1.7	.0714	4.3	5.10	4.85
51.	23.7	11.7	4.8	.2025	3.6	.3077	4.6	.3932	2.1	.0886	4.5	4.00	4.35
52.	23.6	12.0	5.1	.2161	3.0	.2500	4.4	.3667	1.3	.0551	4.3	3.55	3.55
53.	24.2	12.6	5.2	.2149	3.6	.2857	5.3	.4206	1.6	.0661	4.2	4.05	4.25
54.	23.5	12.0	4.2	.1787	3.7	.3083	5.2	.4333	2.0	.0851	4.1	5.05	5.25
55.	24.9	12.5	5.2	.2088	3.1	.2480	5.1	.4080	1.7	.0683	4.5	3.80	4.20
56.	22.7	11.4	4.2	.1850	3.3	.2065	4.6	.4035	1.9	.0837	3.0	6.10	5.95
57.	23.7	11.9	5.0	.2110	3.4	.2857	5.3	.4454	1.9	.0802	4.3	4.00	4.50
58.	21.9	10.6	4.6	.2100	3.1	.2924	4.6	.4340	2.0	.0913	3.5	4.79	5.40
59.	23.0	12.5	4.7	.2046	3.4	.2720	4.3	.3440	2.2	.0956	4.7	5.75	6.55
60.	23.6	12.3	4.5	.1907	3.6	.2927	5.0	.4065	1.7	.0720	3.6	3.90	4.25
61.	24.0	11.9	4.6	.1917	3.3	.2773	4.5	.3782	1.7	.0708	4.9	5.25	4.60
62.	23.5	13.4	4.7	.2000	3.6	.2686	4.5	.3358	1.9	.0808	4.4	3.50	2.90
63.	24.1	13.0	4.8	.1992	3.0	.2308	4.9	.3769	1.8	.0747	4.0	6.10	5.85
64.	23.1	12.6	4.2	.1818	3.1	.2460	4.7	.3730	1.6	.0693	4.1	4.95	4.20
65.	22.0	11.0	4.5	.2045	3.4	.3091	4.2	.3818	1.5	.0682	4.2	5.05	5.25
66.	22.2	12.0	4.0	.1802	3.4	.2833	4.4	.3667	1.7	.0766	3.3	4.80	4.30
67.	22.9	11.2	4.7	.2052	3.4	.3036	4.5	.4018	1.7	.0742	4.0	5.05	5.60
68.	21.7	12.1	4.7	.2166	3.4	.2820	5.1	.4215	1.6	.0737	3.1	5.30	6.15
69.	23.3	10.9	4.8	.2060	3.4	.3119	4.2	.3853	1.6	.0687	4.8	5.90	6.00
70.	23.4	12.4	5.7	.2436	3.6	.2903	4.9	.3952	1.5	.0641	4.5	4.80	4.40
71.	24.6	12.9	4.2	.1707	3.4	.2636	4.8	.3721	1.1	.0447	3.6	2.55	2.55
72.	23.3	10.9	4.7	.2017	3.2	.2936	5.2	.4771	1.9	.0818	4.2	4.84	5.35
73.	24.8	10.8	4.5	.1814	3.6	.3333	4.3	.3981	2.5	.1008	4.1	5.50	5.95
74.	21.6	11.0	4.7	.2176	3.1	.2818	4.1	.3727	1.9	.0880	4.8	2.75	2.55
75.	21.5	11.4	4.7	.2186	3.9	.3421	4.6	.4035	2.0	.0930	3.7	1.75	1.75
76.	22.5	11.1	5.1	.2267	3.3	.2973	5.0	.4504	1.9	.0844	4.5	3.85	4.55
77.	23.0	12.5	4.2	.1826	3.2	.2560	4.8	.3840	1.8	.0783	3.5	5.10	4.90
78.	24.5	13.5	5.2	.2122	3.5	.2592	5.0	.3704	1.2	.0490	4.4	4.80	4.75
79.	24.2	12.0	4.5	.1860	3.3	.2750	4.6	.3833	2.5	.1033	3.5	2.25	2.55
80.	22.5	10.9	5.0	.2222	2.8	.2569	4.6	.4220	1.6	.0711	4.0	4.75	5.25
81.	23.0	11.6	4.9	.2130	3.5	.3017	4.0	.3448	1.6	.0696	1.3	4.50	3.95
82.	24.5	12.5	5.2	.2122	3.2	.2560	5.0	.4000	1.7	.0694	3.4	3.90	3.42
83.	22.5	12.0	5.2	.2311	3.5	.2917	5.2	.4333	2.0	.0889	3.6	3.65	3.42

EXPERIMENT IV (continued)

	FL[1]	FW[2]	NL[3]	PNL[4]	NW[5]	PNW[6]	ML[7]	PML[8]	MW[9]	PMW[10]	CL[11]	m $\bar{X}$[12]	f $\bar{X}$[13]
84.	23.2	11.9	4.6	.1983	3.5	.2941	5.0	.4202	1.7	.0733	4.1	4.80	4.95
85.	22.5	11.5	4.7	.2089	3.2	.2783	4.6	.4000	1.4	.0622	3.7	5.55	5.35
86.	23.8	11.9	5.1	.2143	3.3	.2773	4.9	.4118	1.4	.0588	3.9	4.70	4.63
87.	23.1	12.5	4.8	.2078	3.6	.2880	4.5	.3600	1.3	.0563	3.6	6.00	6.40
88.	23.1	12.8	4.8	.2078	3.2	.2500	4.4	.3438	1.7	.0736	4.0	4.85	4.70
89.	23.9	11.8	5.3	.2218	3.8	.3220	5.4	.4576	1.5	.0628	4.0	4.40	4.15
90.	22.7	12.6	4.8	.2114	3.3	.2619	4.9	.3889	2.0	.0881	3.3	2.00	2.05
91.	23.1	12.0	4.9	.2121	3.5	.2917	4.2	.3500	1.6	.0693	4.2	4.45	5.00
92.	23.1	11.4	5.4	.2338	3.1	.2719	4.4	.3860	2.2	.0952	4.1	2.50	2.58
93.	23.1	11.2	4.5	.1948	3.4	.3036	4.6	.4107	1.5	.0649	4.5	4.40	4.65
94.	22.7	11.7	4.3	.1894	3.4	.2906	4.5	.3846	1.6	.0705	3.2	3.75	3.95
95.	22.4	12.5	5.1	.2277	3.3	.2640	4.6	.3680	1.4	.0625	4.2	3.80	4.15
96.	24.5	11.7	5.2	.2122	3.4	.2906	4.8	.4102	2.3	.0939	3.8	4.05	4.25
97.	22.8	11.8	4.7	.2061	3.5	.2966	5.3	.4492	1.7	.0746	4.0	5.25	5.40
98.	23.4	11.4	3.8	.1624	3.3	.2895	4.9	.4298	1.5	.0641	3.9	5.10	5.60
99.	23.2	12.3	4.2	.1810	3.4	.2764	5.4	.4390	2.1	.0905	3.0	4.15	3.80
100.	22.4	12.1	4.8	.2143	4.0	.3306	5.3	.4380	2.2	.0982	3.6	4.25	3.85

[1]Face Length   [2]Face Width   [3]Nose Length   [4]Proportional Nose Length

[5]Nose Width   [6]Proportional Nose Width   [7]Mouth Length   [8]Proportional

Mouth Length   [9]Mouth Width   [10]Proportional Mouth Width   [11]Chin Length

[12]$\bar{X}$ Male Rating   [13]$\bar{X}$ Female Rating

EXPERIMENT IV

MEASUREMENTS OF FEMALES' FACES AND MEAN ATTRACTIVENESS

SUBJECTS RATINGS OF THE PHOTOGRAPHS OF THOSE

FEMALES BY MALE AND FEMALE

	FL^1	FW^2	NL^3	PNL^4	NW^5	PNW^6	ML^7	PML^8	MW^9	PMW^{10}	CL^{11}	$m\ \overline{X}^{12}$	$f\ \overline{X}^{13}$
1.	21.0	11.0	4.1	.1952	3.0	.2727	4.0	.3636	1.1	.0524	2.9	5.68	6.55
2.	20.7	11.1	4.3	.2077	3.3	.2973	4.6	.4144	1.1	.0531	3.4	3.30	4.05
3.	21.9	11.1	5.0	.2283	3.0	.2703	4.3	.3874	2.0	.0913	3.6	3.90	4.45
4.	23.0	12.9	4.6	.2000	2.9	.2248	4.4	.3411	1.6	.0696	3.5	6.30	6.30
5.	20.4	10.3	4.7	.2304	2.9	.2816	3.5	.3398	1.5	.0735	4.1	6.05	6.65
6.	22.0	11.5	4.6	.2091	3.1	.2696	4.1	.3565	1.6	.0727	3.8	6.80	6.80
7.	21.1	12.5	4.6	.2180	3.2	.2560	4.8	.3840	1.7	.0806	4.0	3.80	4.90
8.	21.4	12.3	3.9	.1822	3.3	.2683	4.8	.3902	1.5	.0701	3.2	5.95	6.40
9.	21.4	11.5	5.1	.2383	3.1	.2696	4.7	.4087	0.7	.0327	4.0	4.05	4.00
10.	19.9	11.4	4.8	.2412	2.9	.2544	4.0	.3509	1.4	.0704	3.0	5.30	5.80
11.	20.6	12.2	4.2	.2039	3.1	.2541	4.8	.3934	1.7	.0825	3.4	5.20	5.10
12.	22.0	11.4	4.1	.1864	3.1	.2719	5.1	.4474	1.6	.0727	3.9	3.70	4.10
13.	20.4	11.9	4.0	.1961	2.9	.2437	4.2	.3529	1.4	.0686	3.5	4.15	3.90
14.	21.5	11.6	4.1	.1907	3.3	.2845	4.3	.3707	1.8	.0837	4.0	5.15	4.95
15.	21.6	11.7	4.6	.2130	3.3	.2820	4.2	.3590	1.6	.0741	3.0	4.65	4.35
16.	21.5	11.5	4.1	.1907	3.2	.2783	4.5	.3913	1.5	.0698	3.9	3.65	3.70
17.	20.3	11.7	4.2	.2069	3.0	.2564	4.4	.3761	1.5	.0739	4.0	3.95	4.05
18.	21.2	11.0	4.6	.2170	3.0	.2727	4.3	.3909	2.1	.0990	2.9	4.45	4.75
19.	19.7	10.9	4.6	.2335	2.8	.2569	4.1	.3761	2.1	.1066	3.5	6.45	6.70
20.	22.3	11.1	4.4	.1973	3.4	.3063	4.4	.3964	1.4	.0628	4.0	5.80	5.47
..21.	21.7	11.5	4.8	.2212	3.2	.2783	4.3	.3739	1.7	.0783	4.0	4.70	5.35
22.	20.9	10.5	4.1	.1962	2.5	.2381	4.1	.3905	1.1	.0526	4.1	4.10	4.85
23.	21.7	11.6	4.3	.9820	2.8	.2414	3.9	.3362	1.5	.0691	3.6	4.60	5.20
24.	22.9	12.0	4.5	.1965	3.4	.2833	5.1	.4250	1.6	.0699	3.1	3.65	3.95
25.	22.3	12.5	4.6	.2063	3.1	.2480	4.5	.3600	1.8	.0807	4.1	4.75	5.35
26.	21.8	10.4	4.7	.2156	2.9	.2788	4.2	.4038	1.8	.0826	3.3	5.15	5.95
27.	21.8	11.2	4.1	.1881	3.0	.2678	4.4	.3928	2.0	.0917	3.5	6.105	6.45
28.	21.4	12.0	4.3	.2009	2.6	.2167	4.5	.3750	1.7	.0794	3.8	6.05	6.75
29.	19.2	12.0	4.3	.2009	2.6	.2167	4.5	.3750	1.7	.0794	3.8	6.05	6.75
30.	22.2	12.2	4.1	.1847	3.0	.2459	4.9	.4016	1.8	.0811	3.9	3.84	4.25
31.	22.2	10.4	4.5	.2027	2.7	.2596	4.5	.4327	1.7	.0766	3.2	4.55	4.50
32.	21.0	10.9	4.3	.2048	2.6	.2385	3.4	.3119	1.9	.0905	3.9	5.45	5.00
33.	20.3	10.5	4.4	.2167	3.0	.2857	4.6	.4381	1.2	.0591	3.0	3.80	3.50
34.	22.0	13.2	4.2	.1909	3.1	.2348	4.5	.3409	2.0	.0909	4.0	3.60	3.30
35.	22.5	11.2	3.9	.1733	2.2	.1964	4.3	.3839	1.3	.0578	4.0	5.25	4.68
36.	22.5	11.4	4.9	.2178	3.1	.2719	4.2	.3684	1.8	.0800	4.6	4.50	4.10
37.	21.8	10.5	4.4	.2018	3.0	.2857	3.5	.3333	1.8	.0826	3.0	4.25	3.70
38.	21.7	10.0	4.0	.1843	3.6	.3600	4.4	.4400	2.0	.0922	3.8	4.50	4.10

	FL^1	FW^2	NL^3	PNL^4	NW^5	PNW^6	ML^7	PML^8	MW^9	PMW^{10}	CL^{11}	m $\overline{X}^{12}$	f $\overline{X}^{13}$
39.	21.7	11.1	5.1	.2350	2.8	.2522	4.0	.3604	1.4	.0645	3.4	5.05	4.50
40.	21.0	12.2	4.3	.2048	2.8	.2295	4.3	.3526	1.7	.0809	3.3	4.75	4.75
41.	22.0	11.7	5.0	.2273	2.9	.2479	4.1	.3504	1.7	.0773	3.3	4.85	5.70
42.	21.7	11.3	4.3	.1982	3.0	.2655	4.7	.4159	1.9	.0876	3.8	5.10	5.20
43.	22.0	10.9	4.4	.2000	2.6	.2385	3.5	.3211	1.8	.0818	3.8	4.60	3.90
44.	22.0	10.8	4.2	.1909	2.9	.2685	4.3	.3981	1.5	.0682	3.3	6.05	5.75
45.	21.5	10.5	4.5	.2093	3.1	.2952	4.4	.4190	1.5	.0698	3.3	5.30	5.30
46.	21.2	13.1	4.5	.2123	3.2	.2443	4.6	.3511	1.8	.0849	3.3	3.15	3.80
47.	19.5	11.2	4.0	.2051	3.1	.2768	4.0	.3571	0.9	.0461	3.0	5.05	4.60
48.	20.1	11.4	3.5	.1742	2.8	.2456	4.6	.4035	1.5	.0746	4.1	2.35	4.60
49.	20.5	11.7	4.1	.2000	3.2	.2735	4.6	.3932	1.7	.0829	4.0	3.25	2.94
50.	20.4	10.7	4.7	.2304	2.8	.2617	4.2	.3925	1.0	.0490	3.2	5.10	5.50
51.	20.5	11.6	4.6	.2244	2.9	.2500	4.7	.4052	1.5	.0732	3.3	4.40	4.15
52.	21.3	11.1	5.0	.2347	3.1	.2793	4.0	.3604	1.6	.0751	3.8	5.65	5.20
53.	22.0	11.7	5.2	.2367	3.0	.2564	4.7	.4017	1.6	.0727	3.6	3.35	3.25
54.	22.2	11.2	4.5	.2027	3.0	.2678	4.6	.4107	1.0	.0450	3.7	3.45	3.35
55.	21.7	11.2	4.3	.1982	2.9	.2589	4.4	.3928	1.8	.0829	3.5	4.65	4.95
56.	21.0	10.4	5.0	.2381	3.3	.3173	4.3	.4135	1.3	.0619	2.6	4.15	4.10
57.	21.4	11.2	4.4	.2056	2.9	.2589	3.8	.3393	1.5	.0701	3.7	3.65	3.50
58.	20.2	11.1	5.0	.2475	2.9	.2613	4.4	.3964	1.3	.0644	2.9	2.55	2.15
59.	20.6	11.4	4.0	.1942	3.0	.2632	4.1	.3596	1.9	.0922	3.3	3.70	3.50
60.	20.7	10.6	4.4	.2126	3.3	.3113	4.5	.4245	1.1	.0531	3.6	5.10	5.45
61.	22.4	11.6	4.4	.1964	2.7	.2328	4.1	.3534	1.3	.0580	3.0	5.75	5.85
62.	20.9	11.1	4.3	.2057	2.7	.2432	4.4	.3964	1.1	.0526	3.8	5.60	5.80
63.	22.2	12.6	5.0	.2252	2.7	.2143	4.1	.3254	2.0	.0901	4.0	4.40	4.50
64.	21.5	11.4	4.4	.2046	2.9	.2544	4.1	.3596	1.5	.0698	3.8	5.35	5.65
65.	20.5	11.4	4.6	.2244	2.9	.2544	3.8	.3333	1.6	.0780	3.3	6.75	7.20
66.	22.1	11.5	4.4	.1991	2.7	.2348	4.1	.3565	1.4	.0633	3.5	4.50	4.75
67.	21.5	11.0	4.7	.2186	2.9	.2636	4.5	.4091	1.6	.0744	3.8	4.95	5.00
68.	21.5	11.1	4.1	.1907	3.0	.2703	4.1	.3694	1.4	.0651	3.1	3.70	3.85
69.	21.3	12.8	4.3	.2019	3.2	.2500	4.3	.3350	1.2	.0563	3.8	2.80	2.95
70.	21.0	12.5	4.6	.2190	3.1	.2480	4.6	.3680	1.7	.0810	3.6	4.05	4.55
71.	21.7	11.5	4.7	.2166	3.3	.2870	4.0	.3478	1.2	.0553	3.2	4.40	3.95
72.	20.1	11.4	4.3	.2139	3.5	.3070	4.9	.4298	1.2	.0597	3.3	6.45	6.55
73.	19.4	10.1	4.0	.2062	3.0	.2970	4.4	.4356	1.4	.0722	3.3	6.45	6.55
74.	21.0	11.1	3.8	.1810	3.0	.2703	4.6	.4144	1.6	.0762	3.3	6.05	5.95
75.	21.1	12.7	4.4	.2085	3.1	.2441	4.9	.3858	1.9	.0900	3.4	6.05	6.20
76.	22.1	11.0	4.3	.1946	3.0	.2727	4.8	.4364	2.0	.0905	3.5	3.70	3.10
77.	21.9	11.0	4.7	.2146	3.0	.2727	4.8	.4364	1.5	.0685	3.3	4.75	4.10
78.	21.5	10.9	4.3	.2000	2.9	.2660	4.1	.3761	1.9	.0884	3.2	4.40	4.40
79.	21.1	11.6	4.5	.2133	3.0	.2586	3.9	.3362	1.3	.0616	3.5	5.95	5.65
80.	22.5	11.9	4.0	.1778	3.1	.2605	4.3	.3613	1.8	.0800	3.5	6.95	6.30
81.	22.2	11.6	4.1	.1847	3.4	.2931	4.5	.3879	1.7	.0766	3.1	4.50	4.30
82.	21.6	11.0	4.5	.2083	2.8	.2545	4.5	.4091	1.1	.0509	3.7	3.75	4.05
83.	21.7	10.7	5.3	.2442	3.0	.2804	4.4	.4112	1.5	.0691	3.6	3.55	3.40

	FL[1]	FW[2]	NL[3]	PNL[4]	NW[5]	PNW[6]	ML[7]	PML[8]	MW[9]	PMW[10]	CL[11]	m $\bar{X}$[12]	f $\bar{X}$[13]
84.	20.5	10.9	4.3	.2098	2.9	.2660	4.3	.3945	1.6	.0780	3.5	5.05	5.10
85.	22.5	12.0	4.1	.1822	3.1	.2583	4.6	.3833	1.5	.0667	3.8	3.50	4.70
86.	21.3	11.0	4.4	.2066	2.9	.2636	3.7	.3364	1.7	.0798	3.8	5.50	5.90
87.	22.5	12.1	4.4	.1956	2.8	.2314	4.5	.3719	2.0	.0889	3.6	5.25	5.50
88.	21.5	10.9	4.0	.1860	3.2	.2936	4.0	.3670	1.6	.0744	3.9	5.95	6.10
89.	21.6	10.9	4.3	.1991	2.9	.2660	4.0	.3670	1.9	.0880	3.9	5.20	5.15
90.	22.2	11.4	5.3	.2387	2.7	.2368	4.4	.3860	1.2	.0540	3.3	6.30	6.60
91.	22.6	12.5	4.5	.1991	2.8	.2240	4.6	.3680	1.7	.0752	4.0	3.85	4.25
92.	21.0	10.7	4.5	.2143	2.7	.2523	3.9	.3645	1.7	.0810	3.5	6.55	6.20
93.	19.7	11.1	3.9	.1980	2.7	.2432	4.0	.3604	1.4	.0711	3.6	6.90	6.75
94.	22.5	11.0	4.5	.2000	3.2	.2909	4.3	.3909	1.7	.0756	4.2	5.65	5.35
95.	21.5	11.5	4.1	.1907	3.1	.2696	4.8	.4174	1.8	.0837	3.6	5.05	4.80
96.	21.0	11.0	4.0	.1905	3.1	.2818	4.1	.3727	1.8	.0857	3.3	6.60	6.10
97.	21.6	11.2	4.9	.2268	3.0	.2678	4.5	.4018	1.9	.0880	4.0	4.10	4.35
98.	20.8	10.6	4.4	.2115	2.9	.2736	4.3	.4057	1.5	.0721	3.0	5.85	6.05
99.	20.6	11.3	4.2	.2039	3.3	.2920	4.2	.3717	1.4	.0680	4.1	3.95	4.32
100.	21.9	11.8	4.6	.2100	2.8	.2373	4.8	.4068	1.5	.0685	3.8	5.90	6.15

[1]Face Length [2]Face Width [3]Nose Length [4]Proportional Nose Length
[5]Nose Width [6]Proportional Nose Width [7]Mouth Length [8]Proportional
Mouth Length [9]Mouth Width [10]Proportional Mouth Width [11]Chin Length
[12]$\bar{X}$ Male Rating [13]$\bar{X}$ Female Rating