

Person perception through facial photographs: effects of glasses, hair, and beard on judgments of occupation and personal qualities

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Abstract

Thirty-two photographs of male faces, four for each combination of the presence and absence of glasses, hair, and beard, were rated by 75 judges on 23 scales, assessing the typicality for 15 occupations as well as eight personal qualities. The effects of facial attributes on ratings formed characteristic profiles for the different scales. The pattern of correlations between facial attributes and factor scores from a factor analysis of the ratings indicates that the judges associated wearing glasses with intellectualism and goodness, being bald with idealism, and wearing a beard with unconventionality and goodness. In two further experiments, judges were to identify each of three faces with one of three or four occupations; the results confirmed the operativeness of the profiles from the rating experiment.

GENERAL INTRODUCTION

'The field of person perception is somewhat like an oceanographic chart—it contains some small islands of sophistication amid vast seas of ignorance' (Hastorf, Schneider and Polefka, 1970, p. vii). This study is limited to the island of judgments based on facial attributes as seen in photographs: what effects do the presence or absence of glasses, hair, and beard, and their various combinations, have on judgments of personal qualities as well as on attributions of occupations?

It has long been demonstrated that people use physical attributes to assess enduring as well as transient properties of other people. Usually this occurs in social settings

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much richer than looking at facial photographs. The latter are nevertheless important: it is from such photographs (e.g. newspictures) we usually become familiar with artists, leaders in politics or business, etc. Bull and Hawkes (1982) give realistic examples that attest to the importance of facial looks in political life. In facial photographs, three conspicuous and usually quite permanent attributes (besides eyes, facial expressions, etc.) are glasses, cranial hair, and beard. These attributes are important also from another viewpoint: Patterson and Baddeley (1977) found that changing them, one factor at a time or in combination, impaired facial recognition.

Warr and Knapper (1968) pointed out that the basic structure of the face can easily be altered by adding, for example, a beard, a new hairstyle, or glasses. They also suggested that 'inputs about facial characteristics might be especially important in indirect person perception—when fewer additional cues are available' (p. 301).

Bull and Rumsey (1988) review a large number of studies of the extensive social effects of one property of a face that depends on physical characteristics: its attractiveness.

Glasses generally increase perceived intelligence (Boshier, 1975; Brunswik, 1939; Saito, 1978; Thornton, 1943, 1944). Argyle and McHenry (1971) also found this effect though it dissipated when the target person was seen talking for five minutes. Edwards (1987) and Terry and Kroger (1976) found that glasses decreased attractiveness ratings. Studies by Elman (1977), Harris, Harris and Bochner (1982), Mainz and Lueck (1968), and Saito (1978), indicate that glasses are associated with intellectual virtues, with a hint of introversion.

Wearing a *beard* tends to increase judgments of qualities usually attributed to men, such as masculinity, aggressiveness, dominance, strength, and self-confidence (Addison, 1989; Kenny and Fletcher, 1973; Pancer and Meindl, 1978; Pellegrini, 1973; Reed and Blunk, 1990; Roll and Verinis, 1971). In a study by Wood (1986), putting on a false beard and taking a look in the mirror increased self-perceived masculinity. Freedman (1969) hypothesized that beardedness was adaptive in human evolution, and suggested that 'beards make men more appealing to women and perhaps help love to blossom. They give men more status in the eyes of other men and may increase the social distance between two men' (p. 38). Pellegrini (1973) found that the more hair on a man's face, the more he was perceived as liberal and nonconforming.

Few studies have dealt with *cranial hair* versus baldness. In Roll and Verinis's (1971) study a bald man was rated low on value scales but high on potency scales. Cash (1990) found that male pattern baldness caused lower ratings of physical and social attractiveness, personal likability, and life success, higher ratings of intelligence, and overestimates of age. Hankins, McKinnie and Bailey (1979) found no effects of hair/baldness on job-related attributes.

Attributes as cues

In judging, for example, a person's occupation or personal qualities in the absence of relevant information, perceivers probably employ the same principles as in judging other environmental variables (Postman and Tolman, 1959), using cues with apparent ecological validity, and giving them weights according to the strength of the previously learned cue-variable associations, which ideally should depend on the corresponding ecological correlations (validities). In social perception, however, perceivers tend

to overgeneralize these associations to related cues and judged variables on the basis of implicit personality theories (Zebrowitz, 1990).

The association of *glasses* with education and intelligence has some factual basis. The incidence of myopia, a major reason for public use of glasses, increases with intelligence (e.g. Benbow, 1986, 1988; Steinbach, 1980; Stewart-Brown, Haslum and Butler, 1985; Teasdale, Fuchs, and Goldschmidt, 1988; Williams, Sanderson, Share and Silva, 1988), school marks (Ashton, 1985), and educational level (Steinbach, 1980; Teasdale *et al.*, 1988). According to Lanyon and Giddings (1974) and Teasdale *et al.* (1988), reading and visual exploration of the near environment in childhood, which is associated with schoolwork as well as with intelligence, provokes myopia by causing an elongation of the eyeball. Others (Ashton, 1985; Steinbach, 1980) advocate a genetic coupling of myopia to intelligence. Before corrective devices were available, myopes were unfit for many practical occupations but not for those involving reading and writing; selective mating did the rest.

Another reason for wearing glasses is reading (mainly in people in intellectual occupations and with presbyopia). The willingness to wear glasses in public (and to wear glasses rather than contact lenses) is likely to depend on personality as well as occupation. Such associations may be observed and learned, resulting in the use of glasses as a cue with a certain ecological validity.

Baldness comes with age in men predisposed to it. Thus, it has some validity as a cue for age, and is used as such (Cash, 1990). Many bald men wear false hair; their doing so is dependent on personality traits (Franzoi, Anderson and Frommelt, 1990; Gosselin, 1984), making overt baldness a potential cue to personality, perhaps signalling self-confidence.

The acceptability of *beardedness*, and hence its incidence, is greater in 'liberal' settings (e.g. lecture rooms, laboratories, concert halls, artists' ateliers) than in 'conservative' ones (e.g. banks, courts, board rooms, military units) (*cf.* Pellegrini, 1973; Feinman and Gill, 1977). Wearing a beard or not probably also depends on the man's self image. Thus, also the beard cue should have some ecological validity.

In most previous studies, only one facial attribute has been varied, while a small number of qualities, varying from study to study, have been judged. Thus, the information gained from these studies is at best incomplete. If judges use facial attributes as cues, how do these cues function in combination? What a judge sees in a face is a *pattern* of attributes, and making this pattern the unit of study should yield more useful information. What patterns, then, do judges associate with what occupations and personal qualities, and what is the relative importance of the facial attributes? In Brunswik's theory (Postman and Tolman, 1959), cues optimally combine as a weighted sum, with the weight of each cue proportional to its ecological validity (its correlation with the distal stimulus variable). Accordingly, the effects of coexisting attributes should be additive and thus tend to cancel, if the attributes suggest opposite personal qualities. However, the cues may also interact: for instance, the presence or absence of one attribute might be so important that it eliminates any effects of other attributes. Most previous studies have varied only one facial attribute, and therefore could not assess possible interaction effects.

As proposed above, the use of facial attributes as cues partially derives from overgeneralization, on the basis of implicit personality theories, between attributes and between judged variables. If so, the connotations the judges attach to the attributes and to the judged variables should show up in the factor structure of the

judgments. Therefore, a multivariate approach, using a large number of judged occupations and personal qualities, is preferable. Again, this should yield information not available from previous studies, which have typically used very few judged variables.

Thus, in the present study we address two fundamental questions: (1) How are these facial attributes used and combined as cues to occupation and personal qualities? (2) What are the attributes' connotations for the judges?

EXPERIMENT 1

Using facial photographs, we combined the presence or absence of glasses, hair, and beard in a $2 \times 2 \times 2$ factorial design, and studied the impact of these combinations on subjects' assessments of a depicted man's occupation and personal qualities.

Method

Subjects

Eighty unpaid subjects participated. Five failed to complete the task, so their data were not analysed. Of the remaining 75 subjects (48 females, 27 males), 57 were first-year psychology students and 18 were mental health workers. The median age was 26 (range 18–52). Fifty-nine subjects were Swedish nationals; 16 were immigrants. As assessed from statements of parents' occupations, 27 subjects came from the upper, 41 from the middle, and 7 from the lower social class.

Materials

Facial photos Thirty-two photos were selected from large numbers of birthday photos of men aged 50. (The photos were published from January 1988 through July 1989 in two Stockholm newspapers). For each of the eight possible facial types, that is, combinations of glasses/no glasses, hair/no hair, and beard (and moustaches)/no beard (and no moustaches), four photos were selected. All depicted men had Swedish names and were Caucasian. The photos were selected by the authors, accepting only photos taken straight from the front, showing similar facial expression (fairly neutral) and similar structure (excluding faces too broad or too thin, or with too light or too dark complexion).

Judgment scales Using six-point scales subjects judged the stimulus person's typicality for 15 occupations, as well as the truthfulness of eight statements regarding his personal qualities. (Three pilot studies were done to guide the choice of statements. All text was in Swedish). The statements finally selected were intended to represent major occupational types, as well as socially important personal qualities which it may seem reasonable to attempt to judge from looks only.

Procedure

The subjects were given booklets with photocopies (about 20×30 mm) of the 32 facial photos in random order (a unique order for each subject). The photos

were trimmed to display only the face and no clothing. Below each picture was a statement concerning an occupation or personal quality. Occupation statements were 'This man looks like a typical . . .' (PHYSICIAN, PROFESSOR, ENGINEER, MANAGING DIRECTOR, FACTORY WORKER, ARTIST, PASTOR, COLONEL, POLITICIAN, DIPLOMAT, PSYCHOLOGIST, FARMER, SALESMAN, BANK CLERK). The personal quality statements, each followed by an illustrative example, were as follows:

This man looks HONEST. If I would meet him in an airport and he would volunteer to watch my trunk while I went to the toilet, I would not hesitate to let him do so.

This man looks INTELLIGENT. He can e.g., understand a complicated argument or quickly solve a difficult problem.

This man looks HELPFUL. If e.g., the pharmacy is just about to close at the same time I have to make an important call, he will certainly be willing to go and get my prescription filled.

This man is GOOD-LOOKING. If he would participate in a beauty contest for men of his age, he would have a fair chance.

This man looks like having LEADERSHIP QUALITIES. He would surely be suitable as, e.g., the president of a big company or the leader of a political party.

This man looks CONGENIAL. If e.g., I would arrange a party, I would be glad to invite him.

This man looks SUSPECT. If I were e.g., a bank or customs clerk, I would check him extra carefully.

This man looks MASCULINE. He appears to be a 'real man'.

Each statement was followed by a row of numerals from 1 (labelled 'not true at all') to 6 ('completely true'), subjects being instructed to circle the appropriate numeral. The subjects had no information on the depicted men (they were instructed to report if they thought they recognized any of them, which never occurred). On average, completing the booklet took about 90 min.

Results

For each of the eight facial types, the mean rating over the four faces was computed for each scale and each subject. Table 1 gives the mean rating for each scale and standard deviation over the facial types, as well as the deviation from this mean for each facial type. As can be expected, the judgments showed end effects, the distributions being slightly skewed towards the centre of the scale and standard deviations being lowest for the scales with lowest means. However, in our judgment these effects were not large enough to warrant sacrificing the usual parametric statistics by treating the data as ordinal.

For each scale, the Pearson correlation over all faces was computed between the mean rating over all subjects and each facial attribute (0/1 coded). Table 2 shows these correlations, along with the sum (for each scale) and mean (for each attribute) of their squares and the summarized ANOVA results (see below). Because the three facial attributes under study are uncorrelated in the set of stimulus faces, the sum of squared correlations for each scale can be interpreted as a coefficient of determination, indicating the proportion of interface variability in the scale that can be

Table 1. Experiment 1: mean rating and standard deviation for each scale over the facial types; deviation of each facial type from the scale mean

	<i>ghb</i>	<i>Ghb</i>	<i>gHb</i>	<i>ghB</i>	<i>gHB</i>	<i>GhB</i>	<i>GHb</i>	<i>GHB</i>	<i>M</i>	<i>S.D.</i>
1. Physician	-0.25	0.56	-0.72	-0.16	-0.25	0.37	0.11	0.33	3.18	0.42
2. Lawyer	-0.04	0.80	-0.16	-0.26	-0.25	-0.10	0.08	-0.10	2.90	0.34
3. Professor	-0.31	0.37	-1.04	0.16	-0.27	0.92	-0.38	0.53	3.07	0.62
4. Engineer	-0.29	0.05	-0.32	0.03	0.26	0.10	-0.12	0.27	3.36	0.23
5. Managing director	0.18	0.56	-0.16	-0.12	-0.08	-0.10	-0.30	0.03	2.96	0.27
6. Factory worker	0.35	-0.49	0.55	0.16	0.36	-0.36	-0.25	-0.34	2.58	0.40
7. Artist	-0.35	-0.62	-0.43	0.39	0.45	0.11	0.13	0.28	2.32	0.41
8. Pastor	0.06	0.18	-0.55	-0.07	-0.08	0.50	-0.43	0.41	2.80	0.37
9. Colonel	1.01	0.30	0.03	0.14	-0.18	-0.46	-0.51	-0.35	2.47	0.50
10. Politician	-0.03	0.51	0.02	-0.14	-0.18	-0.09	-0.04	-0.06	2.77	0.22
11. Diplomat	0.11	0.69	-0.10	-0.08	-0.23	-0.26	0.08	-0.19	2.38	0.31
12. Psychologist	-0.55	-0.18	-0.77	0.10	0.14	0.56	0.24	0.47	2.83	0.47
13. Farmer	0.42	-0.43	0.55	0.13	0.45	-0.26	-0.61	-0.28	2.50	0.45
14. Salesman	-0.24	-0.25	0.59	-0.08	0.17	-0.29	0.25	-0.16	2.57	0.31
15. Bank clerk	-0.19	0.27	0.03	-0.22	0.00	-0.10	0.29	-0.11	2.60	0.19
16. Trustworthy	-0.40	0.13	-0.48	-0.12	0.24	0.42	-0.08	0.32	2.95	0.33
17. Intelligent	-0.29	0.31	-0.48	0.01	-0.08	0.23	0.02	0.25	3.45	0.28
18. Helpful	-0.27	0.00	-0.38	-0.10	0.26	0.36	-0.06	0.18	2.99	0.26
19. Good-looking	-0.33	-0.14	-0.04	-0.02	0.41	-0.21	0.15	0.17	2.23	0.24
20. Leadership	0.03	0.44	-0.28	-0.03	-0.05	-0.01	-0.16	0.09	3.02	0.21
21. Congenial	-0.34	-0.10	-0.44	-0.05	0.40	0.32	0.05	0.18	2.79	0.30
22. Suspect	0.40	-0.17	0.40	0.15	-0.18	-0.34	-0.03	-0.23	2.40	0.29
23. Masculine	0.02	-0.09	0.01	0.13	0.30	-0.31	-0.14	0.11	2.68	0.19

Uppercase (*G H B*) and lowercase (*g h b*) letters indicate the presence and absence of glasses, hair, and beard.

predicted from the variability in the attributes. The mean squared correlations for the attributes indicate their overall importance in determining the judgments.

Table 2 indicates that in terms of correlations the ratings depend substantially on the facial attributes under study. The profiles of correlations also differ greatly between the scales, which may be interpreted to be the result of stereotyping. The determination coefficients for some of the occupation scales (e.g. professor and factory worker) are quite high, indicating that most of the between-faces variability in scale values is due to the attributes under study. For instance, a face rated high on professor tends to have glasses and a beard, but no hair; one rated high on factory worker tends to have no glasses. Similar results were obtained for the personal quality scales. Generally, glasses and/or beard tend to give a positive evaluation of the depicted man. Hair tends to enhance ratings of good-looking and masculine. A man with glasses but no hair gets high ratings for leadership and for managing director. The profiles for helpful, trustworthy, and congenial fit with that of psychologist (a profile with glasses and a beard), whereas the profile for suspect is the converse: no glasses and no beard.

As evidenced by the mean squared correlations, glasses, followed by beard, were the attributes of greatest importance in influencing the judgments, whereas hair was less important.

The fact that the photographs were of men aged 50 is likely to have made it easier for the subjects to imagine the men as having all of the occupations mentioned,

Table 2. Experiment 1: product moment correlations between group mean ratings and 0/1 coded physical attributes. Sum of squared correlations for each scale. Summary of ANOVA results for effects of facial attributes on ratings

	Correlations				ANOVA results						
	<i>G</i>	<i>H</i>	<i>B</i>	ΣR^2	<i>G</i>	<i>H</i>	<i>B</i>	<i>GH</i>	<i>GB</i>	<i>HB</i>	<i>GHB</i>
1. Physician	66	-25	14	51	+	-	0	0	-	+	0
2. Lawyer	35	-21	-35	45	+	-	-	-	-	+	*
3. Professor	55	-44	52	77	+	-	+	0	0	+	0
4. Engineer	24	07	51	32	+	0	+	0	0	+	0
5. Managing director	11	-32	-17	14	0	-	0	0	0	-	*
6. Factory worker	-73	17	-09	57	-	+	0	0	0	0	0
7. Artist	-04	21	58	38	0	+	+	+	-	0	*
8. Pastor	39	-39	45	50	+	-	+	0	+	+	0
9. Colonel	-43	-42	-35	48	-	-	-	+	0	+	0
10. Politician	26	-20	-37	24	+	0	-	-	0	+	*
11. Diplomat	19	-27	-47	32	0	-	-	0	-	+	*
12. Psychologist	52	04	61	65	+	0	+	0	-	0	*
13. Farmer	-76	06	03	58	-	0	0	-	+	0	0
14. Salesman	-31	59	-24	51	-	+	-	0	0	-	0
15. Bank clerk	27	16	-31	20	+	0	-	-	-	0	0
16. Trustworthy	42	-01	46	39	+	0	+	-	0	+	0
17. Intelligent	52	-17	26	37	+	-	+	0	-	0	0
18. Helpful	25	00	37	20	+	0	+	-	0	0	*
19. Good-looking	-02	49	26	31	0	+	+	0	-	0	0
20. Leadership	22	-28	-01	13	+	-	0	0	0	+	*
21. Congenial	24	10	46	28	+	0	+	0	-	0	*
22. Suspect	-44	-02	-34	31	-	0	-	+	+	0	0
23. Masculine	-37	22	17	21	-	+	0	0	-	+	*
	Mean R^2				No. of significant effects						
	19	07	13	38	19	14	17	9	13	13	10

Uppercase (*G H B*) and lowercase (*g h b*) letters indicate the presence and absence of glasses, hair, and beard. ANOVA effects significant at $p < 0.01$ or higher are indicated by + or - according to the direction of the effect (main effects and two-way interactions) or by * (three-way interactions); nonsignificant effects are indicated by 0.

and emphasized the stereotypical profiles. However, in particular as regards the personal qualities to be judged, the facial attributes might carry slightly different connotations if belonging to men of other ages, in particular, younger. For example, in younger men, baldness may be interpreted as premature rather than as a sign of age and intelligence.

For a more detailed analysis of the effects of the facial attributes under study, including their interactions, the rating data were subjected to ANOVAs, the results of which are summarized in the right part of Table 2. Most of the main effects are significant, and in each of these cases the table indicates the direction of change in the scale value due to adding the attribute. In addition, most two-way, and a few three-way interactions are significant, indicating that the use of the attributes as cues is sometimes not quite compensatory. In Table 2, the direction of each significant interaction is given. Using the notation $G =$ beard, $g =$ no beard; $H =$ hair, $h =$ no hair; $B =$ beard, $b =$ no beard, denoting each mean scale value by the letter combination of the condition where it appears, and defining gb as $(ghb + gHb)/2$, etc., the GB interaction effect $I(GB)$ is computed as the difference between

the effects of changing g to G for B and for b faces, $(GB-gB)-(Gb-gb)$, analogously as $(GB-Gb)-(gB-gb)$, or as $(GB-gb)-(Gb-gb)-(gB-gb)$. Three-way interaction effects are harder to characterize, and those which were statistically significant are marked with asterisks. A closer look at Table 1 shows that for some scales the presence of an attribute becomes a sufficient condition for low or high ratings: for diplomat, bearded faces get low ratings; glasses and hair matter only for cleanshaven faces. For factory worker, glasses give low ratings; hair matters mainly for faces without glasses. For intelligent, glassed faces get high ratings; having a beard matters only for glassless faces, and then compensates for the lack of glasses. For other scales (characterized by significant GHB interactions), only one facial type gets high ratings. Thus, the Ghb type outdoes the others for lawyer, managing director, politician, diplomat, and leadership.

The factor analytic method was used to help interpret the results through assessing the fundamental dimensions underlying the judged variables, and the relations of those dimensions with the manipulated facial attributes. Thus, from the correlations (over all faces) between the means (over all subjects) for the 23 scales, five factors (accounting for 36.7 per cent, 25.6 per cent, 11.0 per cent, 8.2 per cent, and 7.5 per cent of the variance; in total 89.0 per cent) were extracted by the maximum likelihood method and oblimin rotated [the four largest correlations between factors being: I-IV (-0.39); II-IV (-0.20); I-V (0.18); III-IV (-0.18)]. From their loadings (pattern coefficients) on the scales, one interpretation of the factors [all bipolar except III; positive pole mentioned first; highest loadings given] is: (I) good-bad (helpful 0.97; trustworthy 0.96; congenial 0.88; pastor 0.57; suspect -1.01), (II) conventional-unconventional (politician 0.87; managing director 0.82; lawyer 0.81; artist -0.96), (III) masculine (masculine 1.00; good-looking 0.76), (IV) nonintellectual-intellectual (farmer 1.03; factory worker 0.89; psychologist -0.56; intelligent -0.54; physician -0.48; professor -0.47), and (V) idealistic-materialistic (pastor 0.65; professor 0.58; colonel 0.43; salesman -0.87; bank clerk -0.46).

The scores of each face on the factors were estimated by the regression method, and their dependence on the three 0/1 coded attributes glasses, hair, and beard was ANOVA analysed. As indicated by those main effects that reached statistical significance ($p < 0.05$ or higher), wearing *glasses* was associated, in the minds of our subjects (giving direction and significance level of effect), with being intellectual (factor IV-, $p < 0.001$) and good (factor I+, $p < 0.05$), being *bald* with being idealistic (factor V-, $p < 0.001$), and wearing a *beard* with being unconventional (factor II-, $p < 0.01$), good (factor I+, $p < 0.01$), and idealistic (factor V+, $p < 0.01$). For factor V, two of the interaction effects (both with positive sign) were significant: HB ($p < 0.001$) and GB ($p < 0.05$). The latter effects suggest that a beard compensates for the negative effect of hair on judged idealism, and in combination with glasses has a positive effect on it.

It has been said that in person perception 'what is beautiful is good' (Dion, Berscheid and Walster, 1972). In our data, the correlations of the good-looking scale over the 32 faces with the other personal quality scales (simple correlation; partial correlation controlling for glasses, hair, and beard) are: trustworthy (0.36; 0.39); intelligent (0.48; 0.78); helpful (0.32; 0.31); leadership (0.44; 0.75); congenial (0.56; 0.56); suspect (-0.26; -0.25); masculine (0.77; 0.83). However, the loading of good-looking on factor I is a modest 0.29, whereas the loading on factor V is -0.43. This seems to modify the connotation of good-looking in the direction of 'materialistic', which

is in line with the meta-analysis of Eagly, Ashmore, Makhijani and Longo (1991). (Eagly *et al.* used the term 'vain').

EXPERIMENT 2

Experiment 1 quite strikingly demonstrated the existence of stereotypical face profiles associated with occupations and personal qualities. Therefore, it was thought of interest to view the phenomenon from a different angle: providing observers with photos that match some of the profiles was expected to lead to attributions that can be predicted from the results of Experiment 1.

Method

Subjects

Eighty-nine first-year psychology students (23 males and 66 females) volunteered to participate.

Stimulus material

This was a pilot study for the televised Experiment 3; three facial photographs were made by Swedish Television, TV2, with the intent to fit some of the occupation profiles that emerged from Experiment 1. Face A had much hair, no beard or moustache, and no glasses; face B had glasses, a beard and a moustache, and no hair; face C had hair, no beard but a moustache, and no glasses. Guided by the results of Experiment 1 (and, for face C, informal observations) it was predicted that the majority of the observers would judge the three faces to be those of, in order, a salesman, a professor, and an artist.

Procedure

The subjects were presented with the three facial photos and the names of four occupations (salesman, professor, artist and criminal), and were instructed to look at each face and then, without much deliberation, circle the occupation they thought the person might have. They were informed that their first impression of each face was of primary interest. The subjects were not informed of the age or identity of the men in the photographs, all of whom were actually employees of Swedish Television, TV2. The total time the experiment took for each subject (including instruction etc.) was about 5 minutes.

Results

As Table 3 shows, 65 per cent of the subjects chose face A as that of a salesman, 54 per cent chose face B as that of a professor, and 48 per cent chose face C as that of an artist. The attribution pattern salesman-professor-artist was the most common one (28 per cent), followed by salesman-professor-criminal (8 per cent). These results are in line with the predictions and thus confirm the existence of the

Table 3. Experiments 2-3. Frequencies of occupation attributions for each face

Face	Salesman	Professor	Artist	Criminal	Total subjects
Experiment 2					
A	58 (65%)	0 (0%)	14 (16%)	17 (19%)	89
B	30 (34%)	48 (54%)	5 (5%)	6 (7%)	89
C	14 (16%)	21 (24%)	43 (48%)	11 (12%)	89
Experiment 3					
A	34 (67%)	6 (12%)	11 (22%)	—	51
B	7 (13%)	39 (75%)	6 (12%)	—	52
C	10 (20%)	5 (10%)	36 (71%)	—	51

stereotypical face profiles generated in the rating experiment, and demonstrate their having an effect on a different kind of behaviour.

EXPERIMENT 3

Method

Subjects

Fifty-three viewers of a youth programme in Swedish Television, TV2, participated.

Stimulus material

The same three facial photos as in Experiment 2 were used.

Procedure

The three photos were shown simultaneously in the TV frame for 70 seconds (from left to right: B, A, C). The viewers were invited to call the studio (the time allotted to this was about 25 minutes) and say which face they thought was that of a salesman, a professor, and an artist, respectively.

Results

The frequencies of face selections for each occupation are given in Table 3. They are in harmony with the predictions from Experiment 1: 67 per cent chose face A as a salesman; 75 per cent chose face B as a professor, and 71 per cent chose face C as an artist. Thus, once again the operativeness of the stereotypical face profiles was demonstrated.

GENERAL DISCUSSION

The results of the present study once more demonstrate that people are ready to infer occupations and personal qualities of others from a minimum of information. It seems that consistent, stereotypical profiles of facial attributes exist in our minds,

and that we use those profiles (in addition to, e.g., eyes and facial expressions) when making the inferences.

Much of our results may be summarized by saying that the subjects regarded highly educated—physicians, professors, pastors, psychologists, etc.—and intelligent men as tending to wear glasses and a beard, but no hair; the opposite kind of look was ascribed to factory workers, farmers, and salesmen. Likewise, the subjects associated wearing both hair and beard with the 'liberal' occupation of artist, as well as with being good-looking, masculine, and congenial; hairless faces were attributed to members of the 'establishment'—a colonel, diplomat, politician, lawyer, or managing director.

The facial type rated highest on salesman was the cleanshaven one with hair but no glasses. Attributing this look to salesmen may not be totally unfounded. However, this being the facial type with the lowest ratings on trustworthy, congenial, and intelligent, but the highest on suspect, it may not promote sales. Taking this as a prediction, it exemplifies one kind of study that should be done to investigate what impact different patterns of facial features may have on the perceiver's actual behaviour.

Our question concerning the mode of using the attributes as cues may be answered by saying that this depends on what is to be judged. The additive, compensatory model holds well in general; nevertheless for some scales the presence or absence of an attribute may lessen the importance of other cues.

CONCLUSION

'Few people consider that they are making judgments about others, and fewer still realize that they may be wrong about others much of the time' (Cook, 1971, p. 14). Cook stated that 'the subject's face, at rest, conveys a variety of information, mostly rather superficial ... The face does convey one essential piece of information—the identity of the person' (p. 67). Although some are sceptical, it is nevertheless generally believed (Hochberg, 1978) that one can judge a person's character from her/his face. The present study contributes to the body of findings that people do judge others from attributes displayed in facial photographs. In a stereotypical and quite consistent fashion the presence or absence of glasses, hair, and beard are used as cues to stimulus persons' occupation and personal qualities. As discussed above, a likely reason is that such cues in fact possess some validity. However, it does not follow that judgments based only on facial attributes in a photograph have any appreciable validity (*cf.* Hochberg, 1978; Warr and Knapper, 1968). The validity of the attributes is due to their helping to generate hypotheses about the other person, which are normally modified by other cues such as body posture, eyes, facial expression, speech, dress, etc. (As shown by Argyle and McHenry (1971) prolonged exposure to such cues may disconfirm the initial hypotheses). The hypotheses can then usually be tested in interaction with the other person.

It might be argued that facial attributes are utilized as cues only under circumstances such as these, where there is nothing else to base the judgments on, this making the present study quite irrelevant to 'real life'. However, as was pointed out in the Introduction, in real life we are all the time exposed to—and influenced by—facial pictures in, for example, newspapers. In the present study, modifying

cues and the opportunity of interacting with the stimulus person was disposed of, bringing to the surface the 'raw' hypotheses evoked by basic facial attributes. The ANOVAs demonstrated how these hypotheses combine, and the factor analysis outlined the stereotype space where mental representations of facial features, occupations, and personal qualities are jointly accommodated, apparently in an attempt to bring order into what might otherwise tend to chaos.

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