A FILM TEST OF ACCURACY IN OBSERVING PEOPLE AND ITS CORRELATES

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ABSTRACT

A FILM TEST OF ACCURACY IN OBSERVING PEOPLE
AND ITS CORRELATES

by Ernest Bruni

A test of observation was developed, based on six five-minute filmed interviews with people. The final form of 120 four-choice items has two subtests to measure accuracy in observing appearance and conversation respectively. Half of the test is based on observing men and half on observing women. The test is improved over a former instrument developed by Harris (1962) in that it is shorter, requires less time, and the reliability coefficient of +.74 is higher.

Along with other instruments, the test was administered to 130 students to test the following five hypotheses; (1) Observation is a general ability, (2) Good observers are good judges of both groups and individuals, (3) Women are more accurate observers than men, (4) The correlates of good listening and looking are different, and (5) Good observers have constructive leadership attitudes.

The first hypothesis was supported by correlations that showed that good observers of men are good observers of women, and good listeners are also good observers of physical appearance.

The second hypothesis was also supported. Correlations between observing and inference tests were all positive and for men, all were significant. Non-significant correlations for women observers were concluded to be due to the small number of women in the sample.

For the third hypothesis, tests of difference between mean scores on observation for men and women observers showed that women in this sample are more accurate observers, but the differences are not significant and general conclusions cannot be drawn.

To test hypothesis four, the differences between correlations with appearance and conversation scores for each variable were calculated and tested for significance. Seven variables were found related to better listening than looking, among them, leadership attitudes and low interest in money.

The fifth hypothesis was not supported; no correlations between observation and tests measuring leadership attitudes were significantly different from zero.

Harris' conclusions that observation is an important variable related to judging people has been verified. An experimental training program and study of interpersonal attitudes were suggested for further research.

Approved Henry Clay Smith

Date April 1, 1953

A FILM TEST OF ACCURACY IN OBSERVING PEOPLE AND ITS CORRELATES

By

Ernest Bruni

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INTRODUCTION

Skill in observing people has long been assumed to be an essential attribute of the good judge of people. Harris (1962), in testing this assumption, developed a film test of observational accuracy and found that scores on it were related to the ability to make correct inferences about others. The purpose of the present study was to develop a more valid and analytic form of the observation test, to verify Harris' principle finding, and to test a series of hypotheses regarding the nature of accurate observation.

HISTORY

This discussion of history reviews the work of Harris, analyzes some of its limitations, and considers, more generally, the nature of the observation process.

The Measurement of Observational Accuracy

The many cues in interpersonal perception are all assumed to be more or less relevant to the understanding of the stimulus person. Most studies are designed to show the value of a specific set of cues to judgments of specific traits or feelings of the observed person. A different problem might be posed--whether the careful observation of many cues is relevant to a more global understanding of persons. Harris (1962) focused on this issue. He showed that the extent to which an observer remembered details of appearance, actions, and content of conversation of others was related to his ability to understand others.

Harris' measure of observation involved three kinds of cues; those of appearance, actions, and content of speech. These are the cues readily available for empirical investigation; they can be studied by questionnaire, and more

significantly, they are verifiable by objective criteria. Although other cues are assumed to be present and "observed," for the purpose of his study, observation was limited by definition to only three types of cues.

A study by Showel (1960) illustrates the essentials of a good test of observation. He tested infantry trainees for specific information they had observed and could recall about other trainees that they had known for six weeks. They were asked, for example, whether the other trainee had been on KP in the last week, and whether he had been on sick call. This was in essence a test of how accurately and how extensively they observed and recalled information heard and seen about others. Like Harris' study, the observations pertained to verifiable kinds of information, and exposure to cues was not a variable. Only information to which all were exposed was asked and consequently variations in observing available cues was reflected in the scores. Showel, incidentally, found these scores related to ratings of leadership potential.

Recall is an aspect of observation as measured in the studies by both Harris and Showel. It is necessary that awareness of a specific observation be sufficiently salient to be recalled fifteen to twenty minutes later when

the observer completes the questionnaire. Guilford (1929) notes that some persons tend to make interpretations of facial cues intuitively, and thus neither the cue nor its meaning reach a high level of awareness. However, in the measurement of observation there is an implicit differentiation between observations that reach awareness at the moment of perception but are not recalled a short time later, and those observations that are not only noted, but are recalled.

Observation, as it has been studied especially by Harris, involves noting and recalling specific details that can be verbally reported and empirically verified. The details involve the appearance, actions, and content of speech of the observed persons, and observational measures combine these into a total score.

Harris (1962) concluded that a number of techniques utilized in the study of social perception are not appropriate to the investigation of observation. It is necessary that each observer be exposed to the same array of stimulus cues, and that the cues be readily available to establish an objective basis for verification of the observer's reports. Still photos or tape recordings limit the amount of available cues; live presentation of the stimulus person creates difficulties in establishing objective criteria of what

cues actually are presented, and precise replicability is impossible.

The color and sound motion picture film produced by Cline (1960) and used by Harris solves most of these problems. Cline filmed five-minute interviews of three men and three women. The interviewer and general orientation of the interviews is identical. Harris showed the film to 70 students who were given questionnaires following the presentation. The first questionnaire was his Observation Accuracy Test. His observers were asked to respond to thirty "True" and "False" statements about each of the observed persons regarding how he had appeared, what actions and gestures he had made, and what he had said. The observation of the film by the experimenter and several judges was the criterion of correct responses, and the sum of correct responses was the score. The split-half reliability coefficient derived (using Spearman-Brown correction) was +.67. He also performed a factor analysis of his data and found a high level of communality among his six subtests of observation, which further substantiates his conclusion that observation is a general ability.

An Analysis of Observational Cues

The influence of physiognomy, facial patterns, speech and gestures upon observational and inferential accuracy have been the focus of study. Here we examine each of these areas of study in turn.

Physiognomy or the study of facial cues involves both structural features and expressive muscle patterns as sources of information about the stimulus person. Secord (1958) points out that some structural features are associated with stereotypes and that ready-made social judgments often occur when the cue is present. For example, a dark complexion is most frequently associated with the personality characteristics of the villain stereotype. He noted also that functional properties of a part of the face may be generalized by the observer into a characteristic of the person. Compressed lips, for example, may be taken as indication of a "tight lipped" person--one who talks very little.

Studies of expressive facial patterns have been equivocal. Buzby (1924) concluded that the eyes and upper part of the face are more relevant to the expression and correct judgment of emotions than the mouth, whereas Dunlap (1927) concluded the converse. Rump (1960) in a critique

and duplication of a study by Frijda (1958) showed that even general attitudes cannot be judged on the basis of facial expression, but that situational information (verbally communicated) was the significant cue source for judgments. Landis (in Jenness, 1932, p. 228) found that accurate judgment of emotions expressed in photos did not exceed chance.

Although these latter studies imply that facial expression has little value for the observer in understanding the subject as an individual or as member of a group, Jenness (1932) noted that all of the studies used still photographs and that a photograph of swiftly moving musculature is not an adequate portrayal of the expression of emotion. Changes in tension and relaxation are also significant. Furthermore, all of the studies dealt with detailed judgments about affective qualities momentarily communicated by expressive patterns and have not shown the relationship of the observation of these cues to global inferences about the person observed. In general, it still seems possible that physiognomy gives information that allows the observer to make more accurate judgments about the affective state of the person observed.

The bulk of information about a person is communicated by vocal speech. The content of speech is basic, but the

"good listener" obtains additional information from a number of other cues. Disorganization of speech, for example, was demonstrated by Gynther (1957) to be due to stress and anxiety. Using a communication efficiency score (ratio of relevant to irrelevant thoughts in responses to questions), he found that both chronically anxious subjects and normal subjects in a stress interview became disorganized and used fragmentary speech significantly more than did controls. It seems theoretically possible to rate subjects as to experienced anxiety or stress simply on the basis of observed disturbance in verbal communication.

The vocal component of speech also communicates the emotional state of the speaker. Davitz and Davitz (1959, 1959a) have shown, for example, that feeling can be communicated by content-free speech. Subjects recited the alphabet ten times, each time in such a way as to portray a specific emotional state (anger, sympathy, etc.). The feelings were identified by listeners beyond chance expectancy. The authors conclude that ". . . within any given speech community there are more or less stereotyped formal aspects of speech associated with the expression of particular feelings" (1959, p. 7). Thus, the good listener must be alert to cues in vocal tone, volume, rate, and melodic aspects as well

as semantic organization and content.

Gestures and variations in motility are the "language of the body"--considered especially in the clinical interview as sources of essential information about the observed person. No systematic studies of gestures have been done. Observations by Freud (1951), Deutsch (1947, 1952), and Needles (1959) all emphasize the symbolic meaning of gestures and symptomatic acts, and they imply that much can be inferred about a person by noting such actions and gestures. Deutsch states: "The correlation of psychological (verbal) with postural expression shows . . . the defenses and the repressed emotions are readily reflected in bodily behavior" (1947, p. 211). Excessive anxiety or inhibition regarding a specific topic, for example, is readily observed in variations in motility and posture.

In natural interpersonal situations, the observer must both combine and selectively attend to significant cues within the total array. Beier and Stumpf (1959) studied the additive effect of four types of cues on judgments of four personality characteristics. Judges first heard the subject's voice, after which they were allowed to see his gestures, then his face and then they were given brief social interaction in a question and answer form.

After each cue situation, judgments were made concerning intelligence, affective tone, sociability and productivity of the observed person. As exposure time increased, judgments became more positive. There was a variation in evaluations as a function of the quantity of cues and time.

These studies point out a variety of cues involved in observation of persons, many of which are included in Harris' measure. Appearance and action cues include physiognomic features and patterns, gestures, and grooming, and the conversation category delimits vocal cues that are readily measured. These two resultant categories, used in the present study, include a broad area of cues in observation while they also allow a two-fold differentiation and measurement of observation.

The Correlates of Observational Accuracy

Empirical studies show that a number of factors are related, directly or indirectly, to observational accuracy.

Interpersonal sensitivity has been demonstrated to be related to observation. A second questionnaire administered in Harris' study was an Inference Accuracy Test designed to measure understanding of the observed person by the judge. A variety of tests and questions had been

administered earlier to each observed interviewee (in the films), and also to friends and relatives of each interviewee. The accuracy with which each observing judge answered the questions just as the interviewee had answered them or as his friends had rated him, was used as a measure of his interpersonal sensitivity. Harris emphasized that the responses were inferred; that is, the correct answers could not be directly observed in the film.

Harris found that judges who made accurate observations tended also to make accurate inferences. He concluded that there is a relationship between observation and interpersonal sensitivity, but he noted also that three of six correlations measuring this relationship were not significant--indicating that observation accuracy is not the only determinant of inference accuracy.

Group sensitivity or accuracy of predicting typical stereotype responses was also studied by Harris. Using measures of stereotype accuracy previously developed, he found accurate observers of men were accurate on the psychologist stereotype questionnaire. Subjects who were accurate on the women stereotype test were also accurate observers of both men and women. Kogan and Shelton (1960) demonstrated the tendency of judges to fit observed persons into stereotypes

on the basis of information available--that is, information observed by the judge. Sherif (1935) also noted with verbal material that stereotype awareness in judges affects perception of the objective stimulus. Whatever the precise nature of the interaction, observation is related to stereotyping and to stereotype sensitivity.

Sex differences have been noted in both observation and inferential judgments. Jenness (1932) reported that women are better than men in judging emotional expression in photos. Women students did better than men in social memory tasks in research by Witryol and Kaess (1957). Using both photos and actual presentation of persons, women were better able to recall the names of each person presented. The authors reasoned that the variation is due to greater social facility demanded of the female sex role and concomitant development of better social skills.

In the previously mentioned study of infantry trainees by Showel (1960), observation accuracy was related to ratings of leadership potential. The more observant a trainee, the higher was his rating by fellow trainees and officers as a potential leader.

It was pointed out by Murray (1933) that emotional state of the judge can influence "apperception"--the

interpretation of the cues observed. Kogan and Shelton (1960) also noted that the information that judges selected and utilized in inferences was partly determined by relevance of the information to themselves. For example, college students are themselves concerned about choosing an occupation; consequently, they used information about the occupation of an individual more readily than less personally relevant information. Conceivably, accuracy of observing stimulus cues is affected by any number of such personal factors.

PROBLEM

The objectives of the present study were to develop a more reliable and analytical test of observation than that of Harris, to investigate the relationship between observation and both group and interpersonal sensitivity, and to determine the correlates of good listening and looking.

Hypotheses Tested

1. Observation is a general ability. Although limited to the film-test situation, Harris demonstrated that observation is a dimension that can be measured with some reliability and that a factor analysis revealed an observation factor. Two further tests of the generality hypothesis were undertaken in the present study: (a) Good observers of men are good observers of women, and (b) Good listeners are good observers of physical appearance.

2. Good observers are good judges of both individuals and groups. This hypothesis is a replication-test of Harris' study which obtained positive results. The judgment tests were revised so that the individual inference tests are everywhere free of the group sensitivity component, and

the group sensitivity test was expanded.

3. Women are more accurate observers than men. Women have been demonstrated to be better at interpreting photos and in remembering faces. Assuming that recall and skill in these social tasks is part of observation, the hypothesis tests a broader area of difference between men and women observers.

4. The correlates of good listening and looking are different. While the literature provides no evidence for different determinants of looking and listening, an exploratory hypothesis seemed warranted.

5. Good observers have constructive leadership attitudes. Showel found leadership ratings were correlated with accuracy of observation in natural settings. In further exploration of this conclusion, the test of the hypothesis here was assumed to determine whether attitudes empirically shown to be characteristics of good leaders are related to observation in a film situation.

METHOD AND PROCEDURE

In the first phase of this study, a new instrument for the measurement of observation was developed, based on an earlier test used by Harris (1962) developed from color-sound films produced by Cline (1960). The revised test of observation was then included in a battery of measures administered to a group of college students. Some of the instruments used were measures of abilities and factors postulated to be related to observation, while others were included in an effort to probe for relationships that would suggest hypotheses for future investigation.

Subjects

The subjects for the major phase of the study were 130 students in an Industrial Psychology class at Michigan State University during the Spring, 1963, term. All subjects had previously taken at least one psychology course. Table 1 provides information about the subjects. Students from two classes in Educational Psychology at a level approximately equivalent to that of the main experimental group were subjects during the development of the test.

Table 1. Age and sex of subjects.

Age	Male	Female	Total
Under 20	15	8	23
20 - 24	79	11	90
Over 24	16	1	17
Total	110	20	130

The Measurement of Observation

The test of observation was developed specifically to derive two independent subtest scores measuring respectively (a) the extent and accuracy of observing cues of appearance and action; (b) the extent and accuracy of observing the content of conversation. The appearance subtest (a) includes observation of both physical features and actions, while the conversation subtest (b) is limited to information in speech. The total observation score is the appearance — and conversation scores combined. In contrast, Harris' test had furnished one score only, and chance error by loading with either type of observation was not controlled.

The format of the test was altered to increase the reliability. Four answer choices were provided instead of

the "True" and "False" items used before, thereby increasing choices and power while reducing the total number of items and the administration time.

The films used in the study have been described above. The three films of male interviewees were administered as a series, and the three films of female interviewees formed a second series. Both the test development and final testing are based on these two separate series of three films each.

The original 240 items for the test were collected from four judges who observed the films a number of times, each time noting only those cues of observation that differentiate the interviewees. That is, items that were relevant (correct) for only one of the three interviewees were used. From the pool of items suggested, 90 appearance and 90 conversation items were chosen. Sixty additional items were developed that were considered plausible, but were inapplicable to any of the interviewees on the films. The 120 items for observing men and 120 for observing women were verified by reviewing the films two or more times. Consensus among the judges concerning the differentiating significance and clarity of each item was a prerequisite to inclusion in the test.

The preliminary test of observing was administered

to students in Educational Psychology. The appearance and conversation subtests of both tests (observing men and women) were scored separately. The most discriminating items from each test were chosen by the method of item analysis. The quartile of highest scorers and the quartile of lowest scorers were separated for an item count to determine the percentage of subjects in each group that correctly answered each item. The difference between these percentages was an index of item discriminability. The most discriminating items (17% or greater) were chosen for the final form of the test of 120 items, which is presented in Appendix A. An equal number of items was chosen for each answer category (1 to 4) for each test.

The odd-even reliability coefficient corrected for test length was calculated for each test and subtest. Those for each test are reported in Table 2. Total test reliability is +.74, an increase over the reliability of +.67 reported for the original test, although the revised test is shorter by 60 items. The test of observing women has considerably lower reliability than that of men; no comparison data is available on Haris' test.

The internal consistency of the conversation subtest is appreciably higher than that of the appearance subtest,

Table 2. Corrected odd-even reliability coefficients of the tests of observing men and women.

N = 130

Objects Observed	Reliability
The Men Test (60 four-choice items)	.68
The Women Test (60 four-choice items)	.57
Total (both films; 120 items)	.74

Table 3. Corrected odd-even reliability coefficients of the appearance and conversation subtests.

N = 130

Type of Observations	Reliability
The Appearance Test (60 four-choice items)	.49
The Conversation Test (60 four-choice items)	.73
Total Test (120 items)	.74

but both are satisfactory for the purpose of the present investigation. Listening to men is the most consistent subtest, while appearance of women is the least reliable.

The Measurement of Interpersonal Sensitivity

The test of Inference Accuracy developed by Harris (1962) described above was revised by Grossman (1963), and the revised instrument was used to measure the interpersonal sensitivity of the subjects. The test measures the ability of the judge to make accurate inferences about the interviewees--to predict how the interviewee would respond to specific test items. The criterion of accuracy is the responses of the interviewee himself. The test consists of 60 items concerning the male interviewees and 60 items concerning the female interviewees. Grossman introduced alterations in order to eliminate sources of error due to rating bias, assumed similarity between judge and stimulus person, and the effect of stereotype accuracy.

The Measurement of Group Sensitivity

Zavala (1960) developed a test of stereotype accuracy that has been revised by both Silkiner (1962) and Johnson (1963). Johnson's test of Group Sensitivity is an attempt to measure the understanding of individuals of group norms, and of differences between groups. The format of the test forces the judge to make differential choices between two criterion groups for each item. He must determine not only

whether an item is typical of a particular group, but he must also determine whether it is more typical of one group than another. Scores are based on actual responses of each group. There are four sub-scales in the test used in this study, the first two consisting of 30 items and the last two of 45 each:

Men-Women Stereotype: the criterion groups were business and professional men and a large sample of women.

Young-Old Stereotype: the criterion groups were 15 and 55 years old.

Executive-Unskilled Stereotype: the criterion groups were business and professional men and unskilled male employees.

Psychologist-Non-psychologist Stereotype: the criterion groups were male psychologists and other business and professional men.

The Measurement of Empathic Drive

A test developed by Mullin (1962) defines and measures empathic drive in terms of the degree to which individuals tend to respond to others in terms of their internal psychological states, that is, their thoughts and feelings, as

contrasted to physical, actional, and character level of response.

The Measurement of Level and Spread of Rating

A test was devised to measure rating tendencies. On the basis of brief, ambiguous sketches, subjects were to rate three persons on a number of favorable qualities. The mean rating of each judge is a measure of his generosity (level) in rating others, and the variance is a measure of the variability (spread) tendency of his ratings.

The Measurement of Leadership Attitudes

Consideration and Initiation of Structure are subscales of a leadership attitudes questionnaire developed by Dore (1960). The first measures employee-centered versus work-centered attitudes. The second measures the subject's opinion about whether a leader should continue to behave like other members of the group, or whether he should play a different role.

Other Measures and Information

A variety of other information and measures were included: Age, sex and class in college; curriculum, or

the student's area of major study rated on a five-point scale based on the amount of scientific training received; psychology credits, course grade, and grade point average received at Michigan State University; scores on the quantitative, linguistic, and total tests of the American Council on Education College Entrance Examination; social economic status based on the education level of parents; and psychological distance--a rating by the subjects as to the degree of similarity of their own attitudes to those of the interviewees.

Twenty-two personality scales developed by H. C. Smith were included. A description and reliability coefficient of each scale is tabulated in Appendix B.

General Procedure

All measures were derived from 130 students regularly enrolled in an Industrial Psychology course which normally is composed of more men than women. Tests were administered during class time, and class discussion and testing (for grades) was done later during the term. Motivation to participate was partially contingent on motivation for grades. All subjects both observed the films and completed tests in the identical order; the men film preceded the women film by five days.

All measures and information were intercorrelated by use of the Michigan State University Integral Computer. A table of all items correlated with the observation test for each of the subject samples (male, female and total) respectively is presented in Appendix C.

The pool of 750 items comprising the personality scales were studied by the method of item analysis in order to extract those items that are related to observation. The high and low quartiles of scorers on the total observation test were used as criterion groups, and the percentage of scorers in each group that answered the item correctly were tabulated. The product-moment correlation of each item with scores on the observation test was estimated (see Walker and Lev, 1953, p. 275). The coefficient is an index of the usefulness of each item to discriminate high scorers on the observation test. Seventy-five most discriminating items are given in Appendix D. Although no single item is expected to indicate clear differences between high and low observation test scorers, the pool of items derived may suggest hypotheses for investigation.

RESULTS

The evaluation of the data relevant to each hypothesis is tabulated and reported in detail below.

Hypothesis 1: Observation is a general ability.

The hypothesis states that a good observer of one thing is also a good observer of different things. This hypothesis was tested in the present study first by determining if accurate observers of one type of people (men) are accurate observers of another type of people (women), and second, by testing whether good observers of one kind (appearance) are good observers of another kind (conversation). Correlations for the first test are given in Table 4.

Table 4. Correlations between observation of men and observation of women.

Observers	Correlation Across Sexes
Male (N = 110)	.37*** (.60)
Female (N = 20)	.43 (.69)
Total (N = 130)	.38*** (.62)

***Significant at .001 level.

For men observers the correlation between observing men and women is highly significant; for women the correlation is even larger, but does not reach significance because of the small sample size. Because of the low reliability of the observation and other tests, the empirical relationships clearly show a minimum rather than a maximum estimate of the relationship. The figures in parentheses are coefficients corrected for attenuation--the measure of the true relationship probably lies between these two estimates. The hypothesis is supported by the first test applied: Men who are good observers of men tend also to be good observers of women. It can be less confidently concluded that women who are good observers of men also tend to be good observers of women.

A second test of the hypothesis is to determine if observers of appearance are also accurate observers of conversation. The correlations between conversation and appearance scores are given in Table 5; all are positive and significant. The hypothesis is supported in that people are consistent in these two types of observation. The good listener is also an alert observer. In general, there is strong substantiation for the hypothesis that observation is a general ability.

Table 5. Correlations between accurate listening and observation of appearance

Observers	Correlation Across Types of Observation	
Male (N = 110)	.28**	(.47)
Female (N = 20)	.50*	(.83)
Total (N = 130)	.32***	(.54)

*Significant at .05 level.
**Significant at .01 level.
***Significant at .001 level.

Hypothesis 2: Good observers are good judges of both individuals and groups.

This hypothesis was tested by considering (1) the relation of the scores on observation to the test of interpersonal sensitivity, (2) the relation of the observation test to the test of group sensitivity, and (3) the relation of the observation test to the composite scores of both these tests.

Correlations between observation scores and interpersonal sensitivity are reported in Table 6. The correlation between observation of men and interpersonal sensitivity is significant at the .01 level, whereas the relationship between sensitivity and observation of women is positive but lower

Table 6. Correlations between observation and interpersonal sensitivity scores and group sensitivity scores and interpersonal and group sensitivity combined.

N = 130

Objects Observed	Interpersonal Sensitivity	Group Sensitivity	Total Sensitivity
Men	.23** (.38)	.21* (.32)	.31***
Women	.16 (.36)	.12 (.20)	.20*
Total (both films)	.21* (.34)	.22**(.34)	.30***

*Significant at .05 level.
**Significant at .01 level.
***Significant at .001 level.

and not significant. The data regarding group sensitivity are almost identical to those of interpersonal sensitivity. Comparison of figures indicates in both cases a significant correlation between observation and both aspects of sensitivity with regard to men as objects, but the relationship for female objects is not satistically reliable. Correlations between general sensitivity and observation are all positive and significant. The hypothesis is supported by all of the data, although the substantiation is most reliable for observation of men. Good observers are good judges of both groups and individuals.

Hypothesis 3: Women are more accurate observers than men.

The difference between men and women on average scores on (1) the appearance, (2) conversation, and (3) total observation tests were compared to test this hypothesis.

Table 7 shows the critical ratios of three tests of the hypothesis that women are more accurate observers than men. Tests of the difference between the means of both subtests and total scores for men and women fail to indicate statistically significant variation. In all cases the differences are in the expected direction, implying a tendency for women to be better than men in all measures of observation.

Table 7. Comparison of means for the test of observation.

Observation	Male Observers N = 110	Female Observers N = 20	Diff.	CR
Appearance	33.80	34.70	1.90	1.63 ns
Conversation	39.75	42.00	2.25	1.14 ns
Total	73.55	76.75	3.20	1.53 ns

Hypothesis 4: The correlates of good listening and looking are different.

It was the purpose of the present study to demonstrate the similarity between looking and listening--that good lookers

are good listeners--but all the variance is not accounted for in the coefficients testing these relationships. While the history gives no evidence that looking and listening have different determinants, it seemed worthwhile to test the hypothesis that listening and looking have some different correlates. In testing for these differences for 68 variables, the differences between the correlations with appearance and conversation were determined. Table 8 shows those variables for which the difference between the correlations with appearance and conversation is significant at the .05 level. As compared with accuracy in looking, good listening is found in younger observers; it is related to less interest in money, more considerate and constructive leadership attitudes, and greater interpersonal and general sensitivity. Listening and looking are apparently different with regard to these correlates, but conclusions cannot be drawn with a high level of confidence. Of 68 comparisons, 3.4 would be expected by chance at the 5 percent level, consequently, the seven that were found must be considered with caution.

Hypothesis 5: Good observers have constructive leadership attitudes.

Leadership attitudes were measured by the Consideration and Initiation of Structure scales. The first is concerned

Table 8. Variables that differentiate between good listening and looking.

Variable	Correlations: Appearance	Correlations: Conversation	Diff.	CR
1. Economic values	.01	-.25	-.26	2.60*
2. Consideration and Structuring	-.08	.16	.24	2.38*
3. General Sensitivity	.12	.35	.23	2.37*
4. Initiation of Structure	-.12	.11	.23	2.27*
5. Age of Observer	.04	-.17	.21	2.07*
6. Class of Observer	.11	-.09	-.20	1.96*
7. Interpersonal Sensitivity	.07	.26	.19	1.96*

*Significant at .05 level.

with leaders' personal interest in workers; the second with the leader's differential role. None of the correlations that indicate a relationship between observation and these tests was significantly different from zero. It cannot be concluded that good observers have constructive leadership attitudes.

Item Analysis of Personality Scales

None of the twenty-two personality measures was significantly correlated with observation. Although no salient personality trait appears related to observation, a number of items within the scales were found to differentiate between good and poor observers. From 750 items in the scales, 75 were extracted. The seven most discriminating items (.05 level or better) are given in Table 9 with the total list of 75 items in Appendix D. However, thirty-seven items from such a pool would be expected to be significant at the five percent level or lower. Consequently, little confidence can be placed in these items without cross-validation.

Table 9. Items from the personality scales that differentiate good observers from poor observers.

Item	Answer of Good Observer	Correlation With Observation
1. I like calling friends by nicknames	True	.49
2. Compared to your own self-respect, the respect of others means very little.	True	.48
3. I am not affected by flattery.	False	.48
4. I believe that everyone's intentions are good.	False	.45
5. I like looking at shop windows.	False	.44
6. I am very intense about the things which interest me most	True	.43
7. I enjoy helping people with their personal problems	False	.40

DISCUSSION

The results of the tests of five hypotheses concerned with observation are summarized in Table 10.

Table 10. Level of demonstrated support for each hypothesis.

Hypothesis	Results
1. Observation is a general ability.	+ +
2. Good observers are good judges	+ +
3. Women are more accurate observers than men.	+
4. Correlates of good listening and looking are different.	+
5. Good observers have constructive leadership attitudes.	0

+ + Strong support.
+ Weak support.
0 No support.

The observation test appears to be an improvement over the earlier form used by Harris. The revised instrument has greater internal consistency with fewer items, it is administered in less time, and it has distinguished appearance and conversation components of observation.

However, while the reliability of the conversation subtest and the total test are adequate for research purposes, the appearance subtest requires improvement.

To verify Harris' conclusion that observation is a dimension that can be measured, the present study further tested the hypothesis that observation is a general ability. The hypothesis was strongly substantiated again: good observers of men are good observers of women, and good listeners are good lookers. Although both Haris' conclusions and these are based on observation of films, the extension of the scope of evidence here is suggestive of wider application, for example, to observation of actual persons.

In general, good observers appear to be good judges of individuals and groups, but the relationship is strongly substantiated only for observation of men. This contradicts Harris' results, which showed good observers of women were accurate in inferences about both women and men. However, the low correlations with observation of women here reported probably are due to the relatively low reliability of the test of observing women compounded with the low reliability of the inference test ($r = +.36$) reported by Grossman (1963).

The relationship established between observation and judging suggests that training judges to become better

observers may result in better judging. Since observing is independent of intelligence, or specific personality dimensions, improving observation ability does not require gross personality changes. There seem to be no severe hindrances to training any judge to be a better observer. A direct experimental training program could test this hypothesis, and could clarify the nature of the relation of observation to judging.

The lack of significant mean score differences between men and women contrasts with reports by both Witryol and Kaess (1957) and Jenness (1932). Although women in this sample did consistently better in appearance, conversation, and total scores, because the differences are not significant, conclusions cannot be generalized. The small size of the female group along with possible sampling bias in the small number of women who select an Industrial Psychology course renders generalization precarious.

People who differ in looking and listening accuracy are different in other significant ways. The results of the study show that better listening is correlated with younger age, less concern with money, higher interpersonal sensitivity, and greater consideration for others--that is, high leadership potential. This latter characteristic is surprising in view of the lack of support found for the hypothesis that

good observers have constructive leadership attitudes. Showel (1960) reported that ratings of leadership qualities are correlated with observation; the present study failed to confirm his results. Leadership potential is related to better listening than looking, but it is not related to good observing per se.

In general, the major finding in regard to personality and observational accuracy was that personality traits have little if any relationship to observation. Although no relationship was found between good observing and twenty-two personality scales studied, a number of items within the scales did differentiate good observers. Of the seven items significantly related to good observing, five refer to interpersonal attitudes. One may be categorized as "friendly," but three are of an unfriendly and suspicious quality; one connotes interpersonal immaturity, and three suggest withdrawal from persons. Generally, it is suggested that the good observer has negative feelings toward others. These speculations imply that both good observing and better listening than looking are related to interpersonal attitudes. Follow-up study might profitably focus on such attitudes in relation to observation rather than intra-personality dimensions.

SUMMARY

A test of observation was developed, based on six five-minute filmed interviews with people. The final form of 120 four-choice items has two subtests to measure accuracy in observing appearance and conversation respectively. Half of the test is based on observing men and half on observing women. The test is improved over a former instrument developed by Harris (1962) in that it is shorter, requires less time, and the reliability coefficient of +.74 is higher.

Along with other instruments, the test was administered to 130 students to test the following five hypotheses; (1) Observation is a general ability, (2) Good observers are good judges of both groups and individuals, (3) Women are more accurate observers than men, (4) The correlates of good listening and looking are different, and (5) Good observers have constructive leadership attitudes.

The first hypothesis was supported by correlations that showed that good observers of men are good observers of women, and good listeners are also good observers of physical appearance.

The second hypothesis was also supported. Correlations between observing and inference tests were all positive and for men, all were significant. Non-significant correlations for women observers were concluded to be due to the small number of women in the sample.

For the third hypothesis, tests of differences between mean scores on observation for men and women observers showed that women in this sample are more accurate observers, but the differences are not significant and general conclusions cannot be drawn.

To test hypothesis four, the differences between correlations with appearance and conversation scores for each variable were calculated and tested for significance. Seven variables were found related to better listening than looking, among them, leadership attitudes and low interest in money.

The fifth hypothesis was not supported; no correlations between observation and tests measuring leadership attitudes were significantly different from zero.

Harris' conclusions that observation is an important variable related to judging people has been verified. An experimental training program and study of interpersonal attitudes were suggested for further research.

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APPENDIX A

EB. BG/HS
February, 1963

THE JUDGMENT OF MEN

GENERAL DIRECTIONS:

This is a test of your ability to judge men. You are going to see five-minute filmed interviews with three men: Mr. G, Mr. W., and Mr. Z. When the film is over you will be asked to answer questions about what they looked like and said and also to answer questions about how they rated themselves and what their friends think of them. That is, the test is divided into two parts:

Part I. Observational Accuracy
Part II. Inference Accuracy

Instructions For Part I

This part of the test is concerned with the appearance, actions, and conversation of the three men. The statements in the test are of the following kinds:

He had a red hat
He smiled frequently
He said he liked to play chess

Answer the questions by using spaces 1, 2, 3, and 4 on the separate answer sheet:

Mark "1" if you think the correct answer is Mr. G. (the man in the first interview)
Mark "2" if you think the correct answer is Mr. W. (the man in the second interview)
Mark "3" if you think the correct answer is Mr. Z. (the man in the third interview)
Mark "4" if you think the statement applies to none of the three men.

Do all the items and try not to leave any blank.

DO NOT TURN THIS PAGE UNTIL THE FILM IS FINISHED
INSTRUCTIONS FOR PART 2 FOLLOW PART I

PART I

OBSERVATIONAL ACCURACY

Appearance and Actions

The first thirty statements refer to the appearance and actions of the men. REMEMBER to use "1" for Mr. G., "2" for Mr. W., "3" for Mr. Z., and "4" for statements that refer to none of the men.

		Answers
1.	He smiled frequently.	3
2.	He kept wringing his hands.	4
3.	His shirt and jacket were the same color.	1
4.	He left quickly.	2
5.	He shook the interviewer's hand when he entered.	4
6.	He wore a knit white pullover shirt.	3
7.	He wore a wedding ring.	4
8.	He sat far back from the table.	3
9.	He gave a quick smile upon leaving.	2
10.	He put his left hand to his chin.	2
11.	He had a rather high forehead.	1
12.	He did not change his facial expression.	1
13.	His eyes appeared to be red.	3
14.	He had a nervous stutter.	4
15.	His elbows were on the table.	2
16.	He folded a piece of paper.	1
17.	He had a very soft voice.	3
18.	He moved his chair forward	4
19.	His hands were in his lap most of the time.	3
20.	He sat sideways to the interviewer.	3
21.	He was wearing a shiny belt.	3
22.	There was a birthmark on his upper lip.	2
23.	He wore a tan sport jacket.	3
24.	He needed to shave.	2
25.	He covered his mouth.	2
26.	There was a pen or pencil in his hand.	2
27.	He had a pen clipped to his shirt.	4
28.	His hair was parted on the right.	4
29.	He wore a turtle-neck sweater.	4
30.	He did not shift his body at all during the interview.	1

(over)

Conversation

The following statements refer to what the interviewees said. Remember to use "1" for Mr. G, "2" for Mr. W, "3" for Mr. Z, and "4" for none of them.

He said that:

		Answers
31.	He did not want to talk about himself.	2
32.	He would sometimes go to a person who lied about him.	1
33.	Being in movies makes him nervous.	4
34.	He is not very athletic.	2
35.	People don't need religion.	4
36.	He has been in home movies.	1
37.	He keeps his emotions in check.	2
38.	He never attends church.	4
39.	He likes dancing.	1
40.	He likes being married.	4
41.	Moral teachings are important to most people.	2
42.	He would get "sore" if someone lied about him.	3
43.	People need a basic belief.	1
44.	It is good to get along with people.	1
45.	He likes music.	2
46.	He is an average person.	1
47.	He likes to "play around."	1
48.	He wouldn't like it if his brother took his car.	3
49.	Religion is not a major issue to him.	1
50.	He said that people have a big conscience.	3
51.	Religion keeps him from things he feels like doing.	3
52.	He never goes to parties.	4
53.	He has few friends.	2
54.	Only a mean or big thing makes him lose his temper.	3
55.	He gets along well with intimate friends.	2
56.	Religion is important to him.	3
57.	He said that he doesn't mind being in movies.	3
58.	It is important to have a hobby.	4
59.	He likes summer sports.	4
60.	He is disturbed at the way people get after parties.	3

EB. BG/HS
February, 1963

THE JUDGMENT OF WOMEN

GENERAL DIRECTIONS:

This is a test of your ability to judge women. You are going to see five-minute filmed interviews with three women: Mrs. D., Mrs. N., and Mrs. P. When the film is over you will be asked to answer questions about what they looked like and said and also to answer questions about how they rated themselves and what their friends think of them. That is, the test is divided into two parts:

Part I. Observational Accuracy
Part II. Inference Accuracy

Instructions for Part I.

This part of the test is concerned with the appearance, actions, and conversation of the three women. The statements in the test are of the following kinds:

She had a red hat
She smiled frequently
She said she liked to play tennis

Answer the questions by using spaces 1, 2, 3, and 4 on the separate answer sheet:

Mark "1" if you think the correct answer is Mrs. D. (the woman in the first interview)
Mark "2" if you think the correct answer is Mrs. N. (the woman in the second interview)
Mark "3" if you think the correct answer is Mrs. P. (the woman in the third interview)
Mark "4" if you think the statement applies to none of the three women.

Please answer all the statements, leaving none blank.

DO NOT TURN THIS PAGE UNTIL THE FILM IS FINISHED

Instructions for Part II follow Part I

PART I
OBSERVATIONAL ACCURACY

Appearance and Actions

The first sixty statements refer to the appearance and actions of the women. REMEMBER to use "1" for Mrs. D., "2" for Mrs. N., "3" for Mrs. P. and "4" for statements that refer to none of the women.

		Answers
1.	She wore short sleeves.	1
2.	She wore a necklace	4
3.	She faced the camera directly.	1
4.	Her hair was messy and uncombed.	1
5.	She wore a ring on her right hand.	2
6.	She smiled very infrequently.	2
7.	Her hands were below the table.	3
8.	She clenched her fingers.	1
9.	She had very thin eyebrows.	3
10.	She straightened her glasses.	4
11.	She leaned back in her chair.	1
12.	Her hair was turned under on the ends.	3
13.	She had a long thin neck.	1
14.	She had to clear her throat.	4
15.	She spoke slowly and softly.	2
16.	Her coat had a button undone.	3
17.	She looked down as she left.	3
18.	She nervously tugged at her collar.	4
19.	She wore shiny silver earrings.	3
20.	Her ring had a dark colored stone.	2
21.	Her watch had a gold strap on it.	4
22.	She wore no lipstick.	4
23.	She had waves in her hair.	2
24.	She used no hand gestures at all.	3
25.	She took something from the table as she left.	2
26.	She gestured with both hands.	1
27.	She carried no purse.	3
28.	She wore no earrings.	1
29.	She put her gloves on the table.	4
30.	She sat sideways to the interviewer.	2

(over)

Conversation

The remaining statements refer to what the interviewees said. Remember to use "1" for Mrs. D., "2" for Mrs. N., "3" for Mrs. P., and "4" for none of them.

SHE SAID THAT:

		Answer
31.	She wished she had more patience.	2
32.	She reads a great deal.	4
33.	She expects people to be inconsiderate.	1
34.	She has few friends.	4
35.	Religion makes people better.	2
36.	In her spare time she works in her home.	4
37.	It is a problem for her to put up with 10 other employees.	2
38.	Religion is something to cling to and depend on.	1
39.	She loses her temper when she's tired and nervous.	3
40.	She thinks religious persons don't lose their temper.	4
41.	Religion should be the greatest thing in the home.	3
42.	She has no time for hobbies.	4
43.	She would give money for mentally disturbed people.	3
44.	She never gets finished with housework.	1
45.	She thinks she is quite a hard worker.	3
46.	She loses her temper often.	2
47.	She would laugh off a lie told about her.	3
48.	Religion should be "over 50% of one's life."	2
49.	One of her handicaps is lack of time to do what she wants to do.	2
50.	She thinks there is good in everyone.	4
51.	She tends to control her temper too much.	1
52.	Her work is in the field of religion.	2
53.	Remembering names is her greatest problem.	3
54.	She can't control her temper.	4
55.	The inconsiderateness of people makes her lose her temper.	1
56.	A lie would make her mad.	1
57.	Her greatest problem is neglecting her family.	4
58.	She likes to do things that are creative.	1
59.	She agreed that she is "very busy."	2
60.	Religion is important in her home.	3

APPENDIX B

DESCRIPTION OF PERSONALITY SCALES[1]

Scale	Reliability	Description
1. Activity	.79	An attempt to determine the general activity level of the individual.
2. Sensory awareness	.63	The degree to which an individual is aware of his surroundings via his sense organs.
3. Sexuality	.80	Interest in members of the opposite sex and activities pertaining thereto.
4. Expressiveness	.86	The relative amount of freedom or restraint the individual displays in expressing emotion.
5. Self confidence	.87	How the individual evaluates his own worth, adequacy, and competence.
6. Dominance	.87	Measures degree of dominance through items related to dominance feelings, behavior, and leadership.
7. Calmness	.87	The degree to which individuals become emotionally involved in situations and with others.

[1]Developed by H. C. Smith, described in Hershey, 1958.

Scale	Reliability	Description
8. Optimism	.81	The general pattern of responses to situations; is it pessimistic or optimistic.
9. Emotional control	.87	What are the individual's reactions to emotional emergencies and to frustrating situations.
10. Religious scepticism	.90	Measures the intensity and confidence of the individual's belief in God, in the supernatural, and in divine intervention.
11. Liberalism	.75	Degree of liberalism and conservatism the individual displays in relation to a number of issues.
12. Nonconformity	.77	Attempts to differentiate conformists from nonconformists.
13. Introversion	.80	The degree to which a person is inward or outward oriented in his perception of the environment.
14. Breadth of Interest	.82	An attempt to measure an individual's self-extension through determining the number of likes in such areas as occupations, school subjects, amusements, activities, and types of people.
15. Artistic values	.92	Measure of interest in form and harmony, beauty, and aesthetic activities.

Scale	Reliability	Description
16. Ambition	.77	Whether the individual desires to do things as rapidly and as well as possible; whether he makes intense, prolonged and repeated efforts; whether he enjoys competition.
17. Organization	.91	Attempts to measure some aspects of Cattell's "positive vs. immature dependent character," e.g., consistently ordered vs. relaxed; conscientious vs. undependable, etc.
18. Economic values	.81	Whether the individual is primarily interested in what is useful; pre-occupied with affairs of the business world.
19. Gregarious	.87	Measures need for affiliation, not to be confused with sociability, which implies social skill, social values, etc.
20. Suppression	.75	An unpublished scale measuring the extent to which a person will admit unfavorable thoughts and actions. Items are similar to MMPI L scale.
21. Scientific values	.86	Relative degree of interest in scientific endeavors and scientific method.
22. Warmth	.71	The degree to which an individual likes, accepts, and approves, feels close to and wants to help others.

APPENDIX C

Correlations of observation with other variables. Total sample N = 130.

Variable		Men Film App (1)	Men Film Con (2)	Men Film Tot (3)	Women Film App (7)	Women Film Con (8)	Women Film Tot (9)	Composite App (13)	Composite Con (14)	Composite Tot (15)
Men-Observation										
Appearance	(1)	--	--	--	210	262	294	745	249	577
Conversation	(2)	171	--	--	101	323	269	172	790	630
Total	(3)	648	778	--	219	390	382	539	693	765
Men-Inference										
2nd person	(4)	083	169	196	-077	153	054	-002	182	123
3rd person	(5)	-035	205	157	056	234	185	017	270	192
Total	(6)	037	236	227	-021	242	144	008	282	196
Women-Observation										
Appearance	(7)	210	101	219	--	--	--	809	251	615
Conversation	(8)	262	323	390	299	--	--	361	819	753
Total	(9)	294	269	382	786	825	--	713	679	852
Women-Inference										
2nd person	(10)	071	179	215	086	185	169	102	211	201
3rd person	(11)	090	-015	-004	-020	-002	-014	041	-008	018
Total	(12)	101	104	133	042	113	098	090	128	138
Composite-Obs.										
Appearance	(13)	745	172	539	809	361	713	--	--	--
Conversation	(14)	249	790	693	251	819	679	321	--	--
Total	(15)	577	630	765	615	753	852	767	854	--
Total Inference										
2nd person	(16)	097	220	259	005	211	140	062	248	204
3rd person	(17)	044	118	096	020	146	107	040	164	134
Total	(18)	091	216	230	015	226	155	065	261	214
Stereotype										
Men-Women	(19)	030	-058	-037	101	118	136	087	043	078
Young-Old	(20)	109	164	170	-019	130	073	053	181	153
Exec.-Unskilled	(21)	152	218	228	008	094	066	097	185	180

Psych.-Non-Psych	(22)	220	047	132	-060	151	063	092	120	133
Total	(23)	224	160	213	-020	211	124	121	226	221
Total Stereotype and Inference Acc.	(24)	192	272	307	-000	306	198	115	346	300
Empatic Drive-										
Psychological	(25)	-112	-142	-159	-069	062	-001	-115	-058	-102
Physiological	(26)	109	047	075	026	-097	-047	084	-039	020
Sociological	(27)	-030	133	115	018	052	044	-006	148	096
Level of Rating	(28)	103	024	128	178	328	318	183	225	253
Spread of Rating	(29)	-116	-001	-080	012	-101	-059	-062	-055	-072
Perceptual flexibility										
Embedded figures	(30)	210	066	156	066	098	103	171	099	161
Space Test	(31)	097	030	023	-024	-029	-032	042	001	021
Nelson Revision	(32)	-007	-050	-057	084	057	087	053	005	033
Total	(33)	+134	021	055	055	054	068	118	046	095
Age	(34)	058	-091	-028	005	-172	-108	038	-165	-091
Class	(35)	117	-039	-001	056	-104	-034	109	-085	002
Curriculum	(36)	-081	061	-016	050	-020	016	-015	042	019
Psych. Credits	(37)	003	011	028	047	104	095	033	075	069
Grade Point Ave.	(38)	043	038	071	103	152	159	096	133	143
ACE - Quantitative	(39)	099	-000	019	-076	110	026	007	093	067
Linguistic	(40)	082	072	068	-030	088	039	029	110	090
Total	(41)	100	060	057	-103	110	010	-010	125	079
Social-Econ. Status	(42)	063	016	061	002	206	135	039	135	113
Sex	(43)	-057	100	054	145	129	170	065	132	128
Psychological Distance	(44)	-009	-020	-083	110	-046	035	070	-030	018
Course Grade	(45)	169	141	227	-011	183	112	094	206	192
Pulse Rate	(46)	092	051	078	149	086	144	157	086	142
Consideration	(47)	-011	032	+000	058	111	106	033	097	084
Initiation of Structure	(48)	-004	120	081	-172	053	-067	-120	107	007
Activity	(49)	013	048	-012	-036	-060	-060	-017	-030	-029
Sexuality	(50)	-002	-099	-071	-048	-045	-057	-034	-064	-063
Expressiveness	(51)	-003	-105	-065	028	003	019	017	-051	-024
Self Confidence	(52)	-043	043	-028	002	-189	-121	-024	-101	-082

Total sample - Continued.

Variable		Men Film App (1)	Men Film Con (2)	Men Film Tot (3)	Women Film App (7)	Women Film Con (8)	Women Film Tot (9)	Composite App (13)	Composite Con (14)	Composite Tot (15)
Dominance	(53)	-158	009	-104	-025	-083	-069	-112	-023	-076
Total Boldness	(54)	-062	-029	-085	-015	-117	-085	-048	-081	-081
Calmness	(55)	-024	122	062	-076	-031	-066	-066	042	-009
Optimism	(56)	047	149	096	-112	-026	-083	-048	051	008
Emotional Control	(57)	-050	187	046	064	050	071	014	141	103
Total Stability	(58)	-015	192	084	-048	-002	-030	-042	100	043
Religious Scepticism	(59)	101	193	202	022	081	065	075	163	151
Liberalism	(60)	112	090	094	-021	182	106	053	187	156
Nonconformity	(61)	011	039	032	-122	-081	-125	-077	-027	-060
Total liberalism	(62)	101	156	160	-038	078	029	035	148	119
Sensory Awareness	(63)	-025	075	039	106	104	130	057	119	113
Introversion	(64)	-074	118	082	-041	-004	-027	-073	088	021
Breadth of Interest	(65)	-063	094	033	-006	-188	-125	-041	-054	-059
Artistic values	(66)	-087	-016	-035	011	-020	-006	-045	-000	-023
Total awareness	(67)	-098	097	038	014	-077	-042	-050	031	-005
Ambition	(68)	-104	080	-005	-011	-101	-072	-070	003	-035
Organization	(69)	-087	-003	-103	067	-034	017	-007	-008	-009
Total Ambition	(70)	-107	036	-070	039	-071	-023	-038	-003	-023
Economic values	(71)	-014	-151	-116	031	-240	-137	013	-248	-161
Gregariousness	(72)	010	-199	-163	-087	+054	-017	-054	-094	-093
Total Thing-Person	(73)	-001	-233	-186	-045	-101	-092	-031	-213	-162
Suppression	(74)	-037	023	-005	086	-034	029	037	-026	002
Scientific values	(75)	-196	092	-049	-088	-113	-125	-178	008	-093
Warmth	(76)	-022	009	004	033	049	051	009	027	024
Consideration and Initiation of Structure	(77)	-007	118	065	-104	131	023	-075	161	068

Correlations of observation with other variables. Men sample N = 110.

Variable		Men Film App (1)	Men Film Con (2)	Men Film Tot (3)	Women Film App (7)	Women Film Con (8)	Women Film Tot (8)	Composite App (13)	Composite Con (14)	Composite Tot (15)
Men-Observation										
Appearance	(1)	--	--	--	256	304	356	764	287	616
Conversation	(2)	194	--	--	015	299	211	125	785	616
Total	(3)	630	790	--	180	393	371	494	708	763
Men-Inference										
2nd person	(4)	172	179	254	-093	208	086	040	220	175
3rd person	(5)	-008	153	144	-010	244	159	-012	247	166
Total	(6)	118	217	266	-072	291	154	022	301	222
Women-Observation										
Appearance	(7)	256	015	180	--	--	--	819	171	566
Conversation	(8)	304	299	393	249	--	--	347	806	751
Total	(9)	356	211	371	756	822	--	716	645	841
Women-Inference										
2nd person	(10)	130	134	216	026	165	127	094	174	173
3rd person	(11)	095	-034	-026	028	029	026	075	-000	041
Total	(12)	141	-062	119	034	122	102	106	109	134
Composite Obser										
Appearance	(13)	764	125	494	819	347	716	--	--	--
Conversation	(14)	287	785	708	171	806	645	284	--	--
Total	(15)	616	616	763	566	751	841	744	852	--
Total Inference										
2nd person	(16)	189	196	295	-042	234	133	084	248	218
3rd person	(17)	065	067	068	015	170	123	049	149	131
Total	(18)	166	172	239	-021	256	161	085	253	223
Stereotype										
Men-Women	(19)	038	-118	-083	074	121	126	072	010	046
Young-Old	(20)	146	160	180	-036	119	060	062	174	155
Exec.-Unskilled	(21)	197	211	240	-006	108	070	113	190	194
Psych.-Non-Psych	(22)	297	034	152	-053	173	086	141	125	164

Total	(23)	284	135	215	-024	223	136	152	219	236
Total Stereotype and Inference Acc.	(24)	280	228	316	-031	338	210	145	340	316
Empathic Drive-										
Psychological	(25)	-119	-146	-163	-021	084	044	-085	-051	-081
Physiological	(26)	122	040	+069	-038	-128	-109	047	-062	-017
Sociological	(27)	-035	163	143	066	066	083	023	181	139
Level of Rating	(28)	117	-038	095	+158	293	291	175	168	213
Spread of Rating	(29)	-065	-004	-050	033	-130	-068	-017	-073	-060
Perceptual flexibility										
Embedded figures	(30)	239	+084	181	096	135	148	206	132	204
Space Test	(31)	067	061	023	-049	-025	-046	007	021	+018
Nelson Revision	(32)	034	-074	-060	-021	-021	-026	006	-056	-036
Total	(33)	151	036	069	015	041	036	099	046	086
Age	(34)	039	-090	-036	010	-160	-103	029	-159	-095
Class	(35)	060	-040	-040	-005	-120	-078	039	-096	-045
Curriculum	(36)	-090	033	-040	009	-079	-048	-048	-007	-031
Psych. Credits	(37)	-005	-018	-006	044	066	018	-033	+037	008
Grade Point Ave.	(38)	016	-053	-007	028	124	100	028	066	061
ACE - Quantitative	(39)	047	010	-010	-082	138	045	-027	119	068
Linguistic	(40)	038	-017	-030	-115	059	-028	-054	043	001
Total	(41)	029	013	-024	-144	129	002	-079	111	035
Social-Econ. Status	(42)	070	003	052	-046	136	064	010	086	066
Sex	(43)	000	000	000	000	000	000	000	000	000
Psychological Distance	(44)	026	-050	-097	101	-088	000	083	-070	-004
Course Grade	(45)	165	095	190	-144	155	020	002	164	115
Pulse Rate	(46)	025	056	045	053	097	097	050	096	094
Consideration	(47)	-037	003	-038	052	101	099	013	077	061
Initiation of Structure	(48)	018	141	111	-150	139	006	-089	172	071
Activity	(49)	051	125	056	136	-037	055	121	026	084
Sexuality	(50)	007	-055	-024	152	046	120	105	021	072
Expressiveness	(51)	052	-160	-077	009	-028	-013	037	-101	-051
Self Confidence	(52)	-094	065	-040	064	-222	-112	-013	-108	-083
Dominance	(53)	-078	019	-050	047	-101	-041	-015	-024	-025
Total Boldness	(54)	-023	-004	-046	125	-122	-009	070	-069	-010

Men sample - Continued.

Variable		Men Film App (1)	Men Film Con (2)	Men Film Tot (3)	Women Film App (7)	Women Film Con (8)	Women Film Tot (9)	Composite App (13)	Composite Con (14)	Composite Tot (15)
Calmness	(55)	-023	-004	-046	125	-122	-009	070	-069	-010
Optimism	(56)	012	206	114	-016	003	-007	-004	102	069
Emotional Control	(57)	-082	204	036	040	020	+037	-022	134	081
Total Stability	(58)	-076	250	092	-028	006	-012	-064	139	062
Religious Scepticism	(59)	-015	174	129	066	066	083	035	144	119
Liberalism	(60)	053	087	051	016	211	152	042	206	166
Nonconformity	(61)	-005	034	018	-095	-091	-117	-066	-036	-061
Total Liberalism	(62)	013	144	010	012	079	060	016	143	108
Sensory Awareness	(63)	012	101	073	144	101	153	103	136	151
Introversion	(64)	-038	066	070	-065	-056	-076	-065	032	-013
Breadth of Interest	(65)	-057	106	048	051	-218	-117	000	-063	-044
Artistic values	(66)	-073	-051	-053	-022	-097	-078	-058	-062	-075
Total Awareness	(67)	-068	076	042	030	-142	-078	-020	-014	-021
Ambition	(68)	-110	070	-012	014	-070	-039	-056	020	-017
Organization	(69)	-131	-003	-132	095	-099	-012	-014	-044	-039
Total Ambition	(70)	-137	031	-092	068	-098	-026	-036	-020	-033
Economic Values	(71)	-002	-097	-065	131	-193	-053	+087	-192	-087
Gregariousness	(72)	018	-184	-155	-083	058	-010	-045	-086	-084
Total Thing-Person	(73)	012	-186	-147	013	-066	-037	016	-169	-109
Suppression	(74)	-070	005	-036	061	-069	-011	-001	-060	-042
Scientific Values	(75)	-233	106	-049	-083	-090	-110	-194	033	-082
Warmth	(76)	-110	001	-052	-007	067	041	-070	031	-016
Consideration and Initiation of Structure	(77)	-017	108	-053	-079	178	074	-063	185	095

Correlations of observation with other variables. Women sample N = 20.

Variable		Men Film App (1)	Men Film Con (2)	Men Film Tot (3)	Women Film App (7)	Women Film Con (8)	Women Film Tot (9)	Composite App (13)	Composite Con (14)	Composite Tot (15)
Men-Observation										
Appearance	(1)	--	--	--	102	130	135	709	142	491
Conversation	(2)	108	--	--	520	429	558	438	811	720
Total	(3)	798	684	--	387	347	430	782	589	792
Men-Inference										
2nd person	(4)	-297	080	-168	-043	-196	-134	-220	-084	-175
3rd person	(5)	-112	488	206	249	138	230	105	350	259
Total	(6)	-245	328	015	116	-040	050	-074	149	042
Women-Observation										
Appearance	(7)	102	520	387	--	--	--	774	577	786
Conversation	(8)	130	429	347	463	--	--	411	876	738
Total	(9)	135	558	430	875	834	--	706	838	892
Women-Inference										
2nd person	(10)	-181	465	170	306	203	301	101	379	289
3rd person	(11)	074	139	155	-288	-237	-309	-157	-080	-131
Total	(12)	-073	398	212	020	-017	003	-033	201	108
Composite Obser										
Appearance	(13)	709	438	782	774	411	706	--	--	--
Conversation	(14)	142	811	589	577	876	838	499	--	--
Total	(15)	491	720	792	786	738	892	869	862	--
Total Inference										
2nd person	(16)	-325	344	-016	157	-016	089	-095	173	052
3rd person	(17)	-036	461	259	-003	-053	-031	-025	212	109
Total	(18)	-234	497	141	102	-042	041	-077	238	098
Stereotype										
Men-Women	(19)	058	349	263	118	-079	030	120	135	152
Young-Old	(20)	-098	067	-014	-093	089	-009	-128	093	-013
Exec.-Unskilled	(21)	-023	304	175	074	048	072	038	193	137
Psych.-Non-Psych	(22)	-061	172	070	-043	119	038	-069	168	061

Total	(23)	-023	329	198	-023	137	060	-032	264	140
Total Stereotype and Inference Acc.	(24)	-181	560	225	064	045	065	-069	328	156
Empatic Drive-										
Psychological	(25)	-124	-009	-091	-314	-015	-203	-302	-014	-183
Physiological	(26)	079	042	084	283	022	188	251	037	169
Sociological	(27)	-008	-095	-072	-211	-029	-147	-155	-070	-136
Level of Rating	(28)	111	340	284	144	427	323	173	458	361
Spread of Rating	(29)	-381	128	-212	026	168	108	-225	177	-034
Perceptual flexibility										
Embedded Figures	(30)	020	084	060	081	018	060	070	057	071
Space Test	(31)	180	-011	105	255	125	227	296	075	206
Nelson Revision	(32)	-094	-015	-080	322	287	357	168	178	201
Total	(33)	025	019	016	354	251	357	266	172	249
Age	(34)	119	164	183	283	-038	155	276	063	197
Class	(35)	310	071	269	384	090	288	470	096	330
Curriculum	(36)	-045	238	105	206	275	278	117	305	241
Psych. Credits	(37)	065	049	075	230	166	234	205	133	196
Grade Point Ave.	(38)	191	544	470	330	214	322	355	429	454
ACE - Quantitative	(39)	280	137	303	144	198	198	280	202	286
Linguistic	(40)	441	632	701	181	052	141	409	370	447
Total	(41)	479	474	651	111	-003	067	384	250	372
Social-Econ. Status	(42)	130	-110	026	-004	427	231	080	218	169
Sex	(43)	-002	-001	000	-001	-000	-000	001	000	000
Psychological Distance	(44)	-143	046	-085	-021	042	010	-106	052	-036
Course Grade	(45)	224	457	452	586	309	533	557	444	587
Pulse Rate	(46)	272	076	232	463	095	340	501	102	346
Consideration	(47)	111	145	165	024	102	071	088	144	131
Initiation of Structure	(48)	-149	109	-036	-172	-303	-273	-216	-138	-202
Activity	(49)	-154	-330	-315	-602	-094	-426	-524	-236	-446
Sexuality	(50)	-171	-082	-185	-433	-111	-330	-416	-116	-316
Expressiveness	(51)	-206	167	-044	+007	+064	039	-127	131	005
Self Confidence	(52)	170	037	144	-166	213	013	-009	158	081
Dominance	(53)	-589	078	-382	-224	162	-051	-534	146	-226

Women sample - Continued.

Variable		Men Film App (1)	Men Film Con (2)	Men Film Tot (3)	Women Film App (7)	Women Film Con (8)	Women Film Tot (9)	Composite App (13)	Composite Con (14)	Composite Tot (15)
Total Boldness	(54)	-285	-027	-227	-393	065	-209	-460	028	-255
Calmness	(55)	257	-205	054	123	-009	072	251	-115	075
Optimism	(56)	219	-273	-003	-589	-163	-456	-278	-251	-310
Emotional Control	(57)	116	077	135	248	318	328	249	247	289
Total Stability	(58)	276	-183	087	-048	072	009	142	-051	050
Religious Scepticism	(59)	541	406	641	-092	240	074	279	372	372
Liberalism	(60)	434	109	396	-230	-020	-154	113	045	094
Nonconformity	(61)	073	106	127	-229	-002	-143	-115	055	-033
Total Liberalism	(62)	450	295	515	-206	125	-060	141	238	218
Sensory Awareness	(63)	-145	-389	-329	-318	-102	-254	-318	-273	-337
Introversion	(64)	-174	332	084	-131	093	-030	-203	237	021
Breadth of Interest	(65)	-093	040	-044	-244	-006	-155	-232	017	-127
Artistic values	(66)	-084	-021	-054	-110	207	045	-131	123	003
Total Awareness	(67)	-194	061	-090	-318	093	-147	-348	093	-144
Ambition	(68)	-125	269	087	-010	-164	-096	-087	037	-021
Organization	(69)	107	026	097	-029	414	208	048	282	189
Total Ambition	(70)	002	173	117	-026	191	088	-017	216	119
Economic Values	(71)	-387	-443	-552	-127	-370	-281	-337	-476	-467
Gregariousness	(72)	-021	-346	-228	-131	011	-075	-106	-177	-165
Total Thing-Person	(73)	-188	-536	-465	-185	-148	-196	-251	-382	-366
Suppression	(74)	152	+090	169	151	110	154	203	119	189
Scientific Values	(75)	-019	059	009	-035	-240	-153	-037	-124	-099
Warmth	(76)	447	-024	333	136	-171	-009	381	-123	161
Consideration and Initiation of Structure	(77)	022	294	199	-195	-131	-193	-124	072	-031

APPENDIX D

ITEMS EXTRACTED FROM THE PERSONALITY SCALES

BY ITEM ANALYSIS

Percent Hi	Lo	r	Answer	Item	
Significant at .02 level					
100	84	.49	T	1.	I like calling friends by nicknames.
32	4	.48	T	2.	Compared to your own self-respect, the respect of others means very little.
4	32	-.48	F	3.	I am not affected by flattery.
Significant at .05 level					
12	48	-.45	F	4.	I believe that everyone's intentions are good.
44	84	-.44	F	5.	I like looking at shop windows.
100	80	.43	T	6.	I am very intense about the things which interest me most.
64	92	-.40	F	7.	I enjoy helping people with their personal problems.
Significant at .10 level					
16	48	-.37	F	8.	I like cripples.
92	68	.37	T	9.	I insist on being able to come and go as I want.
32	8	.37	T	10.	I generally keep in the background at social functions.

Percent Hi	Lo	r	Answer	Item	
80	96	-.36	F	11.	I believe that our modern industrial age has attained a much greater degree of culture than that ever attained by any previous civilization.
80	60	.36	T	12.	I am pretty satisfied with the way I am.
12	40	-.36	F	13.	I have been so emotional that I was almost sick.
4	20	-.36	F	14.	Cat meat is out of the question for the human diet under any circumstances.
4	20	-.36	F	15.	I don't especially care for serious people.
52	20	.35	T	16.	It is important to approve each task before permitting the worker to start another.
20	32	-.35	F	17.	If it were not for my fear of disapproval, I believe I would violate certain social conventions.
Significant at less than .20 but greater than .10 level					
84	56	.33	T	18.	I enjoy eating alone occasionally.
36	68	-.33	F	19.	No individual, no matter what the circumstances is justified in committing suicide.
84	56	.33	T	20.	I control my emotions in practically all situations.
84	56	.33	T	21.	I am practically always tolerant even in dealing with people that I don't like.
64	88	-.33	F	22.	I sometimes make useless moves as I go about my work.

Percent Hi	Lo	r	Answer	Item	
32	12	.32	T	23.	It is important for a leader to feel he belongs in his group.
52	80	-.31	F	24.	Science should have as much to say about moral values as religion does.
20	48	-.31	F	25.	It is bad for a married man to take another man's wife to the movies under any circumstances.
52	80	-.31	F	26.	I enjoy reading about how leaders of industry achieve success as much as anything.
48	20	.31	T	27.	I can always control my temper.
40	16	.30	T	28.	It is more important for a leader to realize that a worker generally knows when he is a slcaker without being told.
76	48	.30	T	29.	I generally accept suggestions rather than insist on working things out in my own way.
48	76	-.30	F	30.	I have extremely strong loyalties toward my ideals of beauty.
96	84	.30	T	31.	It is not absolutely necessary to believe in the existence of God in order to lead a good life.
60	84	-.30	F	32.	We should make our immigration restrictions with regard to the desirability of an individual, and abolish the practice of a fixed quota for each nationality.
60	32	.29	T	33.	I enjoy a ride in a roller coaster immensely.

Percent Hi	Lo	r	Answer	Item	
56	28	.29	T	34.	My relations with other people are simple and uncomplicated.
28	56	-.29	F	35.	Even in cold weather my skin never becomes chapped.
36	64	-.29	F	36.	I talk with my friends about my personal reactions to people a good deal.
68	40	.29	T	37.	I ignore the personal feelings of other people when it is necessary.
68	40	.29	T	38.	I avoid making people angry at considerable sacrifice of my own interests.
28	56	-.29	F	39.	I am driven to ever greater efforts by the challenge of unsolved social problems.
28	56	-.29	F	40.	I greatly enjoy studying the history of social problems to find out what has been done about them in the past.
32	60	-.29	F	41.	I get an intense pleasure from just looking at beautiful buildings.
8	24	-.28	F	42.	It is more important for a leader to make decisions independently of the group.
8	24	-.28	F	43.	It is more important for a leader to discourage talking between workers on the job.
88	68	.28	T	44.	I occasionally spend time thinking about sexual matters.
12	32	-.28	F	45.	I am much less emotional than other people.

Percent Hi	Lo	r	Answer	Item	
68	88	-.28	F	46.	I believe in getting as much fun as I can out of life.
24	8	.28	T	47.	I enjoy taking examinations.
24	8	.28	T	48.	I would rather read an article about a famous musician than about a famous financier.
8	24	-.28	F	49.	We, as individuals, are immortal beings.
68	88	-.28	F	50.	I like--manufacturer.
80	56	.27	T	51.	I like--ship officer.
48	72	-.26	F	52.	My inner ideals are all-powerful motivating forces for me.
64	84	-.26	F	53.	I like buying merchandise for a store.
84	64	.26	T	54.	I like smokers.
24	48	-.26	F	55.	It is important for a leader to act as he thinks best, regardless of the views of his workers.
24	48	-.26	F	56.	I like to discuss my emotions with others.
28	52	-.26	F	57.	I have sometimes felt that my difficultues were piling up so that I was unlikely to overcome them.
84	64	.26	T	58.	I proceed on the assumption that things almost always turn out all right.
84	64	.26	T	59.	I almost always feel that people approve of me.

Percent Hi	Lo	r	Answer	Item	
76	52	.26	T	60.	I am a rather carefree person.
52	28	.26	T	61.	I can always tell when my brow is wrinkled.
48	72	-.26	F	62.	I am occasionally carried away by an emotional impulse.
52	76	-.26	F	63.	I would rather have an interesting job with a very small income than an uninteresting job with a large income.
48	24	.26	T	64.	I would rather be a reporter than a stock broker.
16	36	-.26	F	65.	The main object of scientific research should be the discovery of abstract truth.
48	72	-.26	F	66.	The metric system of weights and measures should be substituted for our present system.
24	48	-.26	F	67.	The proposal to change the present calendar to one having 13 months of 28 days is completely unsound.
16	36	-.26	F	68.	I am considered rather unemotional by my friends.
48	24	.26	T	69.	I am seldom the center of attention in a group.
56	32	.25	T	70.	I sometimes enjoy reading more than social gatherings.
36	60	-.25	F	71.	Even when I'm in low spirits, I always do what is best for the long run.

Percent Hi	Lo	r	Answer	Item	
64	40	.25	T	72.	Our spelling system should be simplified.
68	44	.25	T	73.	If I were a university professor and had the necessary ability I would rather teach literature than physics.
32	56	-.25	F	74.	I am guided in all my conduct by firm principles.
40	64	-.25	F	75.	I almost never notice minor physical injuries.

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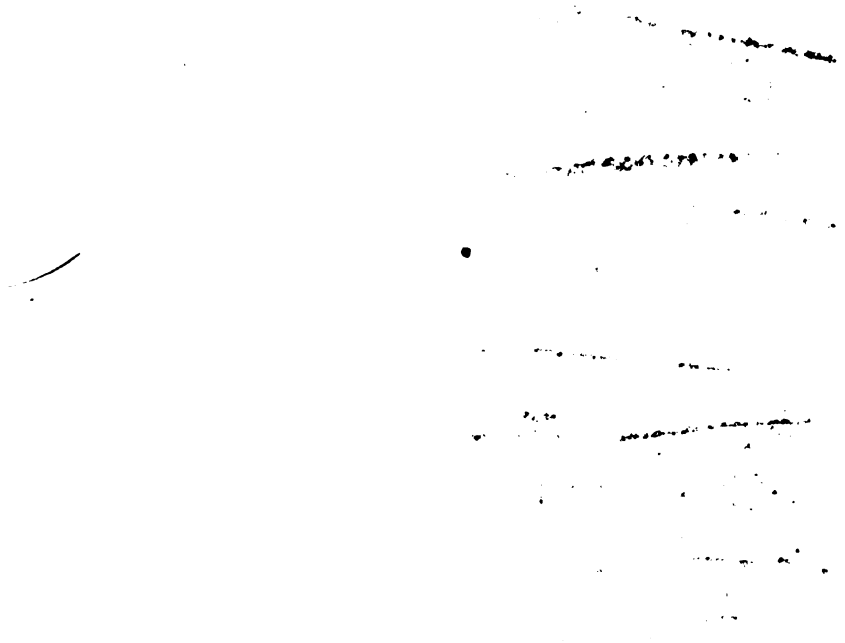

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