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EFFECTS OF ORDER OF PRESENTATION OF CONSONANT AND DISSONANT PERSONALITY INTERPRETATIONS AND LEVEL OF DISCREPANCY ON CHANGES IN SELF-PERCEPTION.

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EFFECTS OF ORDER OF PRESENTATION OF CONSONANT AND DISSONANT PERSONALITY INTERPRETATIONS AND LEVEL OF DISCREPANCY ON CHANGES IN SELF-PERCEPTION

by

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ABSTRACT

The present study explores the effects that the order of presentation of consonant and dissonant personality test interpretations and the level of discrepancy have upon changes in an individual's self-perception. A 3 X 2 X 2 (Levels of Discrepancy X Orders of Presentation X Types of Presentation) design was employed. It was hypothesized that: a) individuals receiving consonant test interpretations before dissonant ones would show greater changes in their self-ratings in the direction of the feedback given than those receiving interpretations in the reverse order; b) those indivudals subjected to the experimental conditions (orders of presentation and levels of discrepancy) would show greater changes in self-ratings than the control individuals who did not receive any feedback; and c) that the amount of change in individuals' self-ratings would be linearly related to the degree of discrepancy in test feedback. The subjects were 77 introductory psychology students at the University of Windsor.

When a subject was invited to take part in the study, he or she was told that it involved the gathering of normative data for the university population on a widely used test of personality. He was also told that he would receive feedback about his scores on this test. After completing the personality test and a series of self-rating scales pertaining to

traits measured by the test, subjects were assigned to the experimental conditions on the basis of the discrepancy between their self-ratings and test scores. In the treatment conditions, subjects received test feedback on four traits at three levels of discrepancy (low, medium, and high) for the two orders of presentation (consonant-dissonant and dissonant-consonant). In the no-treatment condition, subjects did not receive test feedback. In the final phase of the study subjects were asked to re-rate themselves on four traits.

With respect to order of presentation effect, the results failed to support the hypothesis. There was clear evidence in support of the hypothesis that experimental subjects who received varying levels of discrepant feedback would show more changes than the controls. With respect to the relationship between level of discrepancy and changes in self-ratings, there was a strong and positive trend towards linearity. An interaction between levels of discrepancy and types of presentation (consonant/dissonant) was also found.

The results were discussed in terms of the Dissonance model of attitude change and in terms of the similarities and the differences between the present study and previous investigations.

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CHAPTER I

Introduction

There are indications that psychologists are increasingly turning to social psychological research when formulating hypotheses relevant to test feedback. One source which appears to have been particularly fertile for this purpose is the research on communication-induced attitude change. To date, several investigators have examined test feedback in terms of the attitude-change variables of communicator credibility, communication discrepancy, and communication valence (Bergin, 1962; Binderman, Fretz, Scott, & Abrams, 1972; Freeman, 1973; Hamilton, 1969; Johnson, 1966). The purpose of the present study was to investigate how the order of presentation of consonant and dissonant feedback and the level of discrepancy affect the testee's self-perceptions. First, an overview of the research on test feedback is presented. Next, the relationship between test interpretations and persuasive communications is examined, and their respective research parameters are compared. Then, evidence regarding the effects of the order of presentation and the level of discrepancy of messages within a communication on attitude change is reviewed.

Overview of the Research on Test Feedback

A review of the literature dealing with the effects of communicating test results to test-takers reveals a wealth of conflicting data. Several researchers (Barrett, 1967; Brown, 1965; Lallas, 1956; Lister & Ohlsen, 1965; Robertson, 1959; Tipton, 1969; Wright, 1963) found that test feedback produced significant gains in self-understanding. On the other hand, little or no change in self-knowledge has been associated with the test feedback process about as frequently as has improvement in self-understanding (Berdie, 1954; Fernald, 1964; Froehlich, 1957; Hills & Williams, 1965; Searson, 1971; Singer & Strefflre, 1954; Torrance, 1954). Goldman (1971), who reviewed the published research in this area from 1950 until 1969 concluded that, despite the fair number of studies reported, there was only limited evidence for the effectiveness of test feedback in inducing changes in self-perception, and modest support for the advantages of the different methods and techniques used in communicating test results.

Goldman criticized the bulk of the studies which have been conducted for their methodological short-comings. He pointed out that, besides the differences in the samples, the methods, and the instruments used, most of the studies failed to control for or isolate relevant elements of the test feedback process such as the test interpretations themselves, the competency of the interpreter, the tester's receptivity to the test results, and others. As a result of these methodological weaknesses and lacunae, it is not clear which factors are responsible for the results obtained in many of the studies con-

ducted.

It is important to emphasize the insufficient attention given to these relevant components of the test feedback situation. It is suggested here that such factors as the order of presentation and the type of information given play an important role in the assimilation by the testee of the test results. Furthermore, to the extent that these same factors exerted an influence on the results of some of the previous studies on test feedback, it is possible to conjecture that they may have contributed to the negative findings reported.

Another important but overlooked criticism which can be leveled at the research on test feedback is its atheoretical emphasis and/or lack of conceptual elaboration. The major reason for this state of affairs appears to be the lack of integration of the research on the communication of test results with developments in research and theory in other areas of psychology. A review of the literature on test reporting during the last two decades indicates that relatively little of the theory and empirical findings of psychology were utilized by researchers to explain or conceptualize the events occurring during the test feedback process. For example, in view of the demonstrated usefulness of conceptualizing psychotherapy as a learning process, it is altogether curious that the findings from the psychology of learning were not also applied to an analysis of the more specific aspect of communicating test interpretations. Even more surprising is the ignoring of research in social psychology on communication-induced attitudinal change, and the failure to conceptualize

test feedback as a communication process characterized by persuasive elements.

Currently, there are signs that the relevance of social psychological research to the communication of test results is now being recognized. One indication of this trend is the increasing number of test-feedback analogue studies relating test reporting to attitude-change research which have appeared since 1969 in the Journal of Counseling Psychology, one of the main vehicles for publication in this area of research (e.g., Binderman et al., 1972; Freeman, 1973). This trend towards examining test feedback from the standpoint of the social psychological research on persuasion is also in line with the current conception of counseling as an "interpersonal influence process" (Strong, 1968).

This recent infusion of social psychological theory and, in particular, of the concepts of attitude-change theory into the design of experiments on test feedback represents an important development in this area of research, which has suffered from the lack of a theoretical framework and a dearth of heuristic formulations. In keeping with this emerging research orientation, the present investigation was an attempt to establish a closer link between the social psychology of attitude change and test feedback aimed at producing changes in the testee's self-perception. Specifically, the present study focused on two conditions of attitudinal change: the order of presentation of the messages within a communication and the level of message discrepancy. These variables were chosen, not because of any assumed greater influence exerted

by them, but because of their well-established relationship to attitude change. These variables were also selected because they afforded a simple way of demonstrating the appropriateness of extrapolating the parameters of attitude change from the social psychology laboratory to the test feedback interview. If our research should demonstrate the fruitfulness of such extrapolation, we will be in a better position to increase our ability to understand and manipulate the process of test feedback in a constructive manner. At the same time, the scope of application for attitude change theory will have be expanded.

Test Interpretations and Persuasive Communications

Test feedback is analogous to the persuasive communication in attitude-change studies in that both involve an attempt to influence attitudes or cognitions in a direction desired by a communicator. In the test feedback situation, the clinical or counseling psychologist transmits information in order to increase the clarity of or to alter the testee's self-perception. In the social psychological attitude-change experiment, the research psychologist engineers the communication process in such a way as to produce changes in attitudes or beliefs. In addition, the applicability of those parameters which affect a persuasive communication to ego-involving or self-relevant attitudes has been demonstrated experimentally by several investigators (Bergin, 1962; Binderman, et al., 1972; Freeman, 1973; Hamilton, 1969; Johnson, 1966).

Bergin (1962) conducted a study to test whether predic-

tions from cognitive dissonance theory (Festinger, 1957) (to the effect that opinion or attitude change is an increasing function of communicator credibility and of the magnitude of discrepancy between the communicator and the communicatee, when other methods of dissonance reduction are controlled) would be verified within the context of personality interpretations. More specifically, Bergin's intent was to demonstrate that the interpretation process in psychotherapy, which typically involves changing perceptions about an individual's self, could be conceptualized as a persuasive communication explainable in terms of attitude-change theory. He asked students enrolled in an introductory psychology course to rate themselves on a 13-point masculinity-femininity scale--a personally involving issue for college students--before and after receiving a bogus test-feedback communication on this subject at one of three pre-determined discrepancy levels (moderate, high, or extremely high) from either a high- or low-credibility source (a "research director" or a "high school student"). The difference between the pre- and post-communication ratings was utilized as the criterion of attitude change. The findings of this study indicated, as expected, that high credibility was associated with significantly greater change in self-ratings in the direction of the communication received than low credibility at all levels of discrepancy. Bergin also found that the amount of change increased monotonically as the level of discrepancy increased under the high-credibility condition, while the converse was true under the low-credibility condition.

More recent test feedback analogue experiments, which have related the communication of test results to the social psychological research on the effects of source credibility and message discrepancy, have been conducted by Binderman et al. (1972) and Freeman (1973). In the Binderman et al. study, an attempt was made, as in the Bergin (1962) study, to manipulate the levels of communicator credibility and communication discrepancy. However, this study differed from the Bergin study in that it employed a "professional counselor" and a "counseling practicum student" as test interpretors, and utilized both positive and negative personality interpretations as artificial feedback. The results of this investigation indicated that: a) regardless of whether the information was negative or positive, the subjects who received self-discrepant test results from a "professional counselor" showed significantly greater change in self-report than those who were given test interpretations by a "student"; and b) that changes in self-perceptions were significantly greater in the subjects receiving highly discrepant (in both positive and negative directions) than in those receiving less discrepant test feedback.

Freeman (1973) also manipulated the valence (positive and negative) and level of discrepancy of falsified test feedback given to subjects by a psychologist (presumably, a highly credible source) in order to elucidate the effects on the two dependent variables of changes in self-ratings on personality traits and the perceived accuracy of the test interpreter. Freeman found that: a) positive feedback produced signifi-

cantly more change in self-report and greater acceptance of the feedback source than negative interpretations; and b) that increasing levels of self-discrepant negative feedback were associated with decreasing changes in self-report and increasing derogation of the interpreter. This study did not, however, show that increasing levels of self-discrepant positive feedback produced greater changes in self-report. From these findings, Freeman concluded that, consistent with Festinger's (1957) theory, under the condition of dissonance arousal, opinion change will decrease with increasing level of discrepancy when an opportunity for reducing the dissonance other than a change in the individual's view is available.

Johnson (1966) investigated the various responses which may occur when an individual receives test feedback which is discrepant with his existing self-perceptions from a source of moderate credibility (a "psychology practicum student"). Five reactions to self-discrepant artificial personality interpretations were measured: 1) change in self-ratings (conformity); 2) the subject's recall of the ratings he received (underrecall); 3) change in the subject's evaluation of the source of the interpretations (rejection); 4) change in the subject's evaluation of the tests which formed the basis for the ratings (devaluation); and 5) change in the subject's view of the accuracy of the test interpretations (rationalization). The results of this study showed that there was a curvilinear relationship between the level of discrepancy and conformity, that underrecall showed a negative linear rela-

tionship with discrepancy level. The findings pertaining to conformity, underrecall, and rejection responses were in agreement with the assimilation-contrast theory of attitude change (Hovland, Harvey, and Sherif, 1957). This theory predicts that conformity will be curvilinearly related to discrepancy when the source of disconfiming information is ambiguous and the issue is an ego-involving one, that underrecall will be maximal when discrepancy is small, and that rejection will occur when discrepancy is very large and the source is vaguely identified and respected.

Hamilton (1969) also studied individual reactions to artificial test feedback which was inconsistent with a subject's self-image and which was transmitted by a "psychology student." In contrast to the Johnson (1966) study, the results of this investigation indicated that "conformity, rejection, and devaluation increased linearly with increasing discrepancy level," while underrecall remained stable across discrepancy levels. Rationalization as a reaction to discrepancy was not measured. The findings of this experiment also indicated that conformity and rejection tended to decrease over time, while devaluation remained stable and underrecall increased.

In summary, the investigations conducted by Bergin (1962), Johnson (1966), Hamilton (1969), Binderman et al. (1972), and by Freeman (1973) provide experimental support for the viability of a relationship between the communication of test interpretations and a persuasive communication in attitude-change research. The present study represented a further attempt to validate empirically the notion of test feedback as an in-

stance of a persuasive communication which can be analysed in terms of the parameters discovered in the social psychological laboratory. Whereas the design of the test feedback analogue studies reviewed above has tested the effect of the independent variables of source credibility, communication discrepancy, and communication valence on changes in self-perceptions and other methods of dissonance reduction, this investigation focused on the variables of the order of presentation and level of discrepancy of the messages within a communication. Moreover, the present study attempted to improve upon previous investigations by utilizing actual test-derived feedback as opposed to the fictitious test interpretations which have been employed in the test-feedback analogue studies to date.

Similarities Between the Experimental Variables in Test Feedback and Attitude Change Research

A survey of the literature in the separate areas of test feedback and communication-induced attitude change indicates striking similarities in the experimental variables investigated. In this section, a brief classification of the variables studied in the two areas will be presented in order to highlight these similarities in the research parameters utilized.

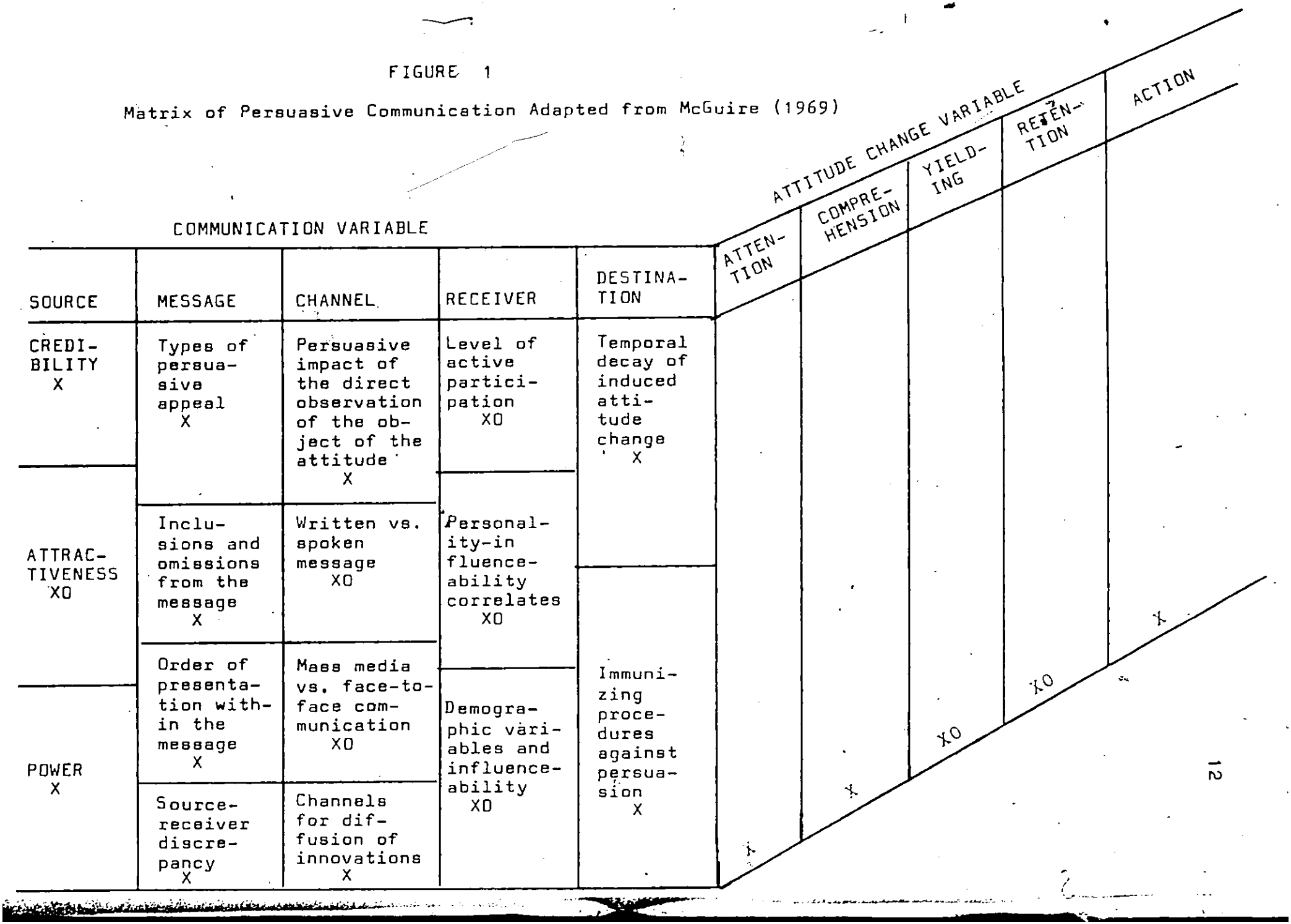
The research on test feedback has utilized the following as independent variables: 1) the giving of test results per se (e.g., Johnson, 1953); 2) oral versus written and programmed formats of test feedback (e.g., Folds & Gazda, 1966;

Forster, 1969; Hills & Williams, 1965); 3) individual versus group methods of feedback presentation (e.g., Searson, 1971; Wright, 1963); 4) personality concommitants of the receptivity to test interpretations (Barrett, 1967; Kaunn & Wrenn, 1950); 5) testee-tester similarities (e.g., Tuma & Gustad, 1957); and 6) the level of participation of the recipient of test results during the feedback interview (e.g., Dressel & Matteson, 1950; Karr, 1968; Rogers, 1954). The dependent variables have included: 1) changes in self-ratings (or self-perceptions) (e.g., Johnson, 1953); 2) recall of test results (Fernald, 1964); 3) resistance to test-derived feedback (e.g., Hill, 1954); and 4) the validation of test feedback by the testee (e.g., Balance, Sandberg, & Bringmann, 1971; Messens & Richards, 1970; Snyder, 1974).

McGuire (1969) has ordered the vast literature on communication-induced attitude change into a matrix consisting of the components of the independent and the dependent variables (cf. Figure 1). According to this "matrix of persuasive communication," the independent variable of communication can be analysed into five components: source, message, channel, receiver, and destination. According to McGuire, these five categories of independent variables interact with one another. As a result, it is difficult to predict the degree of attitudinal change produced by any single factor, and one must usually take into consideration the influence of other impinging variables. This fact should be noted for later consideration. The research reported here makes use of this interaction principle in predicting the impact of the order of presentation

FIGURE 1

Matrix of Persuasive Communication Adapted from McGuire (1969)



and the level of discrepancy of a message on opinion change.

In the framework used by McGuire, the dependent variable of attitude change is also divided into five components: attention, comprehension, yielding, retention, and action.

Having identified the experimental variables in the two respective research areas of test feedback and communication-induced attitude change, it is now possible to proceed to a consideration of some of the relationships between them. A comparison of the foci of research in the two areas reveals that some of the test feedback variables appear not unlike some of those which have received attention in the social psychology laboratory. For example, studies comparing the differential effects of oral versus written and individual versus group modes of test feedback presentation are similar to some of those studies subsumed under the attitude-change research rubric of channel variables. Likewise, the investigations of testee-test interpreter similarities are analogous to the studies focussing on the attractiveness of the communicator or his similarity to the receiver. Still another parallel exists between the studies of the testee characteristics and level of participation during the test feedback interview and some of the studies dealing with receiver variables in attitude research. In terms of the dependent variables employed, research on test feedback has frequently gone one step beyond the yielding phase and has employed the memory for the test interpretations received as a measure of attitude or opinion change.

Concluding this examination of research variables within the areas of test feedback and attitude change, a comment is in order regarding the usefulness of a framework or matrix, such as the one developed by McGuire (1969), for bringing about greater integration between the two fields. It appears possible to utilize such a framework to classify data for storage and easy retrieval within both areas of research. To demonstrate how easily this can be done, we have inserted X's in the matrix shown in Figure 1 to indicate the variables which have been investigated in attitude-change research, and O's to indicate those which have also been studied in the research on test feedback. Another merit of such a classification system is that it easily permits the integration of new research data with the old. Finally, it also serves to highlight the gaps in research activity and, thus, can constitute a blueprint for future research in both areas. With regard to the latter, the present investigation was inspried by the void created by a lack of research in the area of test reporting on the message variable of order of presentation.

Studies of the Effect of Order of Presentation and Level of Message Discrepancy on Attitude Change

The present investigation was concerned with the effect of varying the order of presentation of consonant and dissonant interpretations within a test feedback communication on changes in self-perceptions. A frequently replicated finding in attitude-change research is the superiority of the

agreeable-disagreeable order of presentation of arguments or components of a message in producing endorsements of the communication. One of the early experimental tests of this ordering effect was conducted by McGuire (1957). In this study, college students were asked to rate the probability of occurrence of events related to college life (e.g., the scheduling of classes at 7:00 A.M. in the future in order to ease the classroom shortage; federal funding of textbooks) one week before, immediately after, and one week after a set of four persuasive communications given by a highly credible source regarding these events. The four communications contained statements about events which had been selected from the pool of items describing the college-related events. These events had been chosen on the basis of their desirability ratings so that two were deemed highly desirable events and two were of low desirability. All four statements argued for the likelihood of occurrence of the desirable and undesirable events. Half of the subjects received the two highly desirable statements first and then the two low desirability ones (the H-L group); the other half received the low desirability communications first and then the highly desirable ones (the L-H group). The results of this experiment indicated that the subjects in the H-L group rated the likelihood of occurrence of the events significantly higher than those in the L-H group. In addition, this study also demonstrated that the effect of this sequential arrangement on attitude or opinion change was mediated by the "effect of the earlier or

first message on the intervening responses of attending to and comprehending the message contents." The evidence for this underlying effect was based on the scores obtained by the H-L and L-H groups on a 7-item multiple choice test on the content of the communication, which was administered immediately following the set of communications. The results showed that the H-L group scored significantly higher than the L-H group on this measure. On the basis of this finding, McGuire concluded that when the early parts of a communication were supportive of a desirable event, the listener was reinforced for listening and tended to continue to pay attention to later parts of the communication. On the other hand, if the first message argued for the likelihood of an undesirable event, the receiver of the communication avoided paying attention to it and to subsequent parts of the communication.

McGuire (1969) reported that several other investigators in the field of attitude-change research (e.g., Tannenbaum, 1966; Tannenbaum & Sengel, 1966; Tannenbaum, Macaulay, & Norris, 1966; Weiss, 1957) had provided confirmatory evidence for the efficacy of the agreeable-disagreeable schedule of presentation. Support for the notion of the greater effectiveness of the agreeable-disagreeable ordering has also come from social psychological studies on impression formation (e.g., Beigel, 1973; Briscoe, Woodyard, & Shaw, 1967; Freedman & Steinbruner, 1964; Richey, McClelland, & Shimkunas, 1967).

This study was also concerned with the effect of giving varying levels of discrepant test interpretations on changes

in self-perception. In general, the results of a considerable amount of research indicate a positive, negatively accelerated relationship between discrepancy and attitude change (e.g., Chen, 1935; Hovland & Pritzker, 1957; Zimbardo, 1960). However, as McGuire (1969) has pointed out, this nonmonotonic relationship is more likely to obtain under conditions of low source-credibility. When the discrepant message originates from a highly credible source, the predicted falling-off in attitude change as discrepancy increases tends to be delayed (Aronson, Turner, & Carlsmith, 1963; Bergin, 1962; Binderman et al., 1972; Bochner & Insko, 1966.) There is also evidence that attitude change increases with involvement, especially under high-discrepancy conditions (Zimbardo, 1960). It appears, then, that there is evidence for some important interactions between communicator credibility, communicatee involvement, and communication discrepancy.

The Problem

The test-feedback interview is a situation in which the psychologist is frequently required to communicate interpretations which are both consonant and dissonant with the testee's self-perceptions. This is especially the case when the results on multi-facotrial personality inventories are transmitted. In view of the documented propensity of testees to generally view themselves in a more favorable light than actual test results show them to be (Brim, 1965; Torrance, 1954), it is quite likely that such tests as the Sixteen Personality Questionnaire (16 P.F.) (Cattell, 1957), which provide per-

sonality descriptions on 16 bipolar traits, will yield some information which is dissonant--and therefore disagreeable--with the individuals' view of themselves. On the other hand, it is also reasonable to expect that some test data will coincide with their self-perception.

The need to disseminate these two types of information during the test feedback process raises the question of the optimal strategy for presenting data to testees in order to produce maximal change in self-perception. In view of the findings obtained by McGuire (1957) and other researchers, it was thought that the superiority of the agreeable-disagreeable ordering of information might also be applicable to the communication of personality interpretations. However, it was also recognized that other sociopsychological factors such as interpreter credibility, the personal involvement of the testee, and the degree of self-perceptions-test-results discrepancy, which usually impinge upon the test feedback situation, might operate to alter this predicted effect.

The original study by McGuire (1957) indicated that the agreeable-disagreeable ordering effect obtained under the prevailing conditions of high source credibility and moderate involvement. These constant conditions were adequately reproduced in the present study by having the interpreter identify himself as a counseling psychologist and by presenting content known to be personally involving.

Aside from the order of presentation of the consonant and dissonant interpretations, the only other factor which was permitted to vary in this study was the level of the dis-

crepant interpretation. Previous research supports the notion that attitude or opinion change is an increasing function of level of discrepancy of the communication under conditions of high involvement and source credibility (e.g., Bergin, 1962; Binderman et al., 1972; Festinger, 1957; Zimbardo, 1960). Since both of these conditions were met in this study, it was expected that this relationship would be found in the present investigation.

The attitude-change literature does not provide a precedent on which to predict relationships between discrepancy level and order of presentation. However, it seemed reasonable to anticipate that, on the basis of the positive relationship between opinion change and level of discrepancy under conditions of high source credibility and issue involvement, that large discrepancies would produce a significant attenuation of the main order effect. To the present investigator's knowledge, there are no studies which have been conducted regarding the effect of the order of presentation of consonant and dissonant test feedback on amount of change in self-perception.

Purpose

In general, then, it was the purpose of this study to investigate changes in self-perception using self-ratings as the dependent variable. More specifically, the independent variables consisted of: 1) two orders of presentation, i.e., consonant-dissonant and dissonant-consonant test feedback; 2) three levels of discrepancy of the test feedback,

i.e., low, medium, and high. From this, the following general hypotheses were formulated.

Hypothesis 1: Changes in self-ratings for the consonant-dissonant order of presentation would be greater than for the dissonant-consonant sequence.

Hypothesis 2: There would be differences in changes in self-ratings between the experimental groups (orders of presentation and levels of discrepancy) and between the experimental and control groups.

Hypothesis 3: The amount of change in self-ratings would be a linear function of the level of discrepancy of the test feedback.

CHAPTER II

Methodology and Procedure

Subjects

The present study was designed to investigate changes in self-perception, employing order of presentation and level of test-feedback as independent variables and self-ratings as the dependent variable.

The total experimental sample consisted of 77 undergraduate students enrolled in an introductory psychology course at the University of Windsor. Goldman's (1971) observation that less self-learning may result when subjects do not voluntarily seek test feedback and Searson's (1971) finding of a positive relationship between acceptance of test feedback and expressed desire for test results influenced the choice of the subjects. Only those who had indicated an interest in receiving information about their personality characteristics were selected.

The subjects were assigned to the seven experimental conditions in the following manner: 10 to each of the three levels of discrepancy (low, medium, and high) for the two orders of presentation (consonant-dissonant and dissonant-consonant), and 17 to the control condition.

The selection of the subjects for each of the experimental conditions was made as follows. Those subjects for whom

there was both consonance and dissonance between their self-ratings and test scores were chosen for the experimental conditions provided by the two orders of presentation and the three levels of discrepancy. The subjects whose self-ratings were one to two points discrepant from their test scores on two traits were assigned to the low level of dissonance condition for either order of presentation. Those whose self-ratings showed a discrepancy of three to four points were assigned to the medium dissonance conditions. Those who had self-ratings of five or more points away from their test scores on two traits were included in the high dissonance conditions. Males and females were distributed evenly across the conditions in order to control for any effect of sex differences in response to the experimental communications.

Those subjects for whom there was no consonance between their self-ratings and test scores on at least two traits were included within the control condition.

Psychometric Instruments

In order to test for changes in personality ratings, the following instruments were used:

Sixteen Personality Factor Questionnaire (16 P.F.)

The 16 P.F. Questionnaire (Cattell, 1967) is based on a factorial approach to personality description. This instrument was designed to provide a comprehensive coverage of all the basic dimensions of personality as identified by factor analytic methods. The psychometric properties of this test are documented in the Handbook for the 16 P.F. (Cattell, Eber, &

Tatsuoka, 1970).

Form B of the 1967-1968 edition of the 16 P.F. was administered in the present study to provide personality interpretations in the form of ratings on trait scales. Form B consists of 187 items which yield information about an individual's standing on 16 primary and four secondary bipolar personality traits or factors. Appendix A contains a description of primary and secondary traits measured by the 16 P.F.

Example-anchored rating scales. A series of nineteen 10-point bipolar rating scales, similar in construction to the sten scales of the 16 P.F. profile sheet, were used to record the subjects' pre-feedback self-ratings on the 19 personality traits measured by the 16 P.F. Four of these rating scales were also used to convey test feedback ratings to the subjects. Duplicates of the latter four scales were distributed to the subjects in order to obtain post-feedback self-ratings on four traits.

These rating scales had trait labels centered above their mid-point and examples or descriptions of the behavioural manifestations of the traits anchored at their extreme ends in order to facilitate self-judgment. The descriptions of the behavioural correlates of the traits were derived from the Handbook for the 16 P.F. (Cattell et. al., 1970) and the Manual for Forms A and B of the Sixteen Personality Factor Questionnaire (Cattell & Eber, 1962). Appendix B contains examples of the 19 rating scales used in this study.

Procedure

Each subject was seen individually by the experimenter for a period of approximately 60 to 80 minutes. At the beginning of the experimental session, the subject was thanked for coming. The experimenter then introduced himself as a counseling psychologist and explained the purpose of the study which was to collect data in order to establish local norms for the college population on a widely-used personality test. The subject was further told that he or she would be asked by the experimenter to complete four tasks during the course of the experiment, but not necessarily in the order in which they were about to be described to him or her. The four tasks consisted of the following: completing a personality test; completing a series of self-rating scales; examing test scores obtained on some of the traits measured by the test; and completing a second series of self-rating scales. The subject was informed that, after he had completed the second series of self-rating scales, he would receive all of his test scores.

Following this brief orientation to the experiment, the instructions for the completion of the 16 P.F., form B, which appear on the cover of the test booklet, were read to the subject. The subject was then led to a testing room adjacent to the experimenter's office and shown a desk at which he could work. After he had completed the personality test, the subject was instructed on how to complete the 19 bipolar, example-anchored self-rating scales.

A few minutes after the experimenter had collected the completed self-rating scales, he handed back the experimental subject four of these self-rating scales. These four scales now contained the subject's self-ratings and his test scores reproduced in the form of red circles around a number on the 10-point scales. The sequence of presentation of the four scales had been prepared by the experimenter in a manner that was designed to create one of the six experimental conditions. The subject was asked to examine his test scores and to compare them with his own self-ratings.

After the comparative examination of self-ratings and test scores, the rating scales were collected by the experimenter. The subject was then asked to rate himself again on a fresh series of four rating scales pertaining to the traits about which he had earlier received test scores. It was explained to the subject that some time had elapsed since he had completed the initial self-ratings and that the experimenter wanted to know how he felt now about his position on the trait scales. After the subject had re-rated himself on the set of four trait scales, he met with the experimenter to receive his scores on the 15 remaining trait scales of the personality test. This feedback situation was introduced to the subject, at the time, as an opportunity for him to discuss his feelings about the test scores received.

Unlike the experimental subject, the control subject, who had completed the personality test and the self-rating scales, was not immediately given his test scores. Instead, he was invited to look at a Psychology Today magazine while

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the experimenter "finished scoring his test responses." After approximately six minutes, the control subject was asked to re-rate himself again on four randomly chosen trait scales. The instructions given to him regarding the re-rating task were similar to those given to the experimental subject. He was also told that he would receive complete feedback regarding his test scores after completing this task.

CHAPTER III

Results

The purpose of the present study was to investigate the effects of the order of presentation of consonant and dissonant personality test interpretations and the level of discrepancy on changes in self-ratings of personality traits. The first hypothesis stated that changes in self-ratings for the consonant-dissonant order of presentation would be greater than for the dissonant-consonant sequence. Hypothesis 2 stated that changes in self-ratings for all the experimental conditions would be different and greater than for the control group.

Subsidiary Hypotheses for High Levels of Discrepancy. While hypothesis 1 favoured the consonant-dissonant order of presentation, an exception to this was postulated as follows: there would be no significant differences due to order of presentation at the high level of discrepancy (hypothesis 1a).

Hypothesis 2 was concerned with significant differences between all levels of discrepancy and the control group. More specifically, it was further hypothesized that changes in self-ratings would be significantly greater for the high level of discrepancy for both orders of presentation than for the low and medium levels of discrepancy (hypothesis 2a).

In addition to the above, this study provided for a comparison of the effect of test feedback versus no test feedback. The expectation regarding this effect was stated in the form of a hypothesis as follows: the amount of change in self-ratings would be a linear function of the level of discrepancy of the test feedback (hypothesis 3). Inherent in this hypothesis is the assumption that the amount of change in self-ratings for the control group will be nil.

Dependent Variable Measures. The sums of change scores on rating scales, two for which the subject's self-ratings and test scores had been consonant and two for which they had been dissonant, were used as the two types of measures of the dependent variable in this study. Change scores consisted of the difference between the subject's pre- and post-feedback self-ratings. The change scores were scored directionally. That is, if a subject's post-feedback self-rating changed in a direction congruent with that of his test score, it was scored as a plus, and, if it changed in the opposite direction, it was tabulated as a minus. For example, a sum of change scores of +4 might represent an average change of two points in the direction of feedback on two rating scales. Appendix C contains the raw data of change scores for all the subjects used in this study.

Effects of Order of Presentation and Level of Discrepancy

A 3 X 2 X 2 (Levels of Discrepancy X Orders of Presentation X Types of Presentation) analysis of variance was used

to test the first two hypotheses. The data used in this analysis are presented in Table 1. Hypotheses 1 and 2 had stated that there would be main effects for order of presentation and level of discrepancy, respectively. Results shown in Table 1 indicate that there was no main effect for order of presentation, but that there was an effect for level of discrepancy. Thus, hypothesis 1 which predicted that the consonant-dissonant order of presentation of personality interpretations would produce greater changes in self-ratings in the direction of feedback than the dissonant-consonant sequence was not supported. The analysis of variance, however, did indicate that the level of discrepancy was clearly a significant source of variance in change scores (F (2, 54) = 16.60, $p < .001$), thereby providing support for hypothesis 2.

Hypothesis 2a had postulated that changes in the self-ratings would be significantly greater for the high level of discrepancy for both orders of presentation than for the low and medium levels. Multiple comparisons tests performed on the means for the levels of discrepancy treatments indicated a significant difference between the low- and high-discrepancy and the medium- and high-discrepancy conditions ($p < .001$). Thus, hypothesis 2a was supported. The difference between the low- and medium-discrepancy conditions did not reach statistical significance ($p > .05$). Table 2 contains the data used in the comparison of the means for level of discrepancy.

TABLE 1

Summary of Analysis of Variance for Change Scores according to Levels of Discrepancy, Orders of Presentation, and Types of Presentation

Source of Variation	SS	df	MS	F
Between Subjects	241.20	59	4.09	
Levels of Discrepancy (A)	90.65	2	45.33	16.60**
Orders of Presentation (B)	0.83	1	0.83	0.30
AB	2.22	2	1.11	0.41
Subjects within-groups	147.50	54	2.73	
Within Subjects	832.00	60	13.87	
Types of Presentation (E)	572.03	1	572.03	145.93**
AC	47.72	2	23.86	6.09*
BC	0.54	1	0.54	0.14
ABC	0.21	2	0.11	0.03
C X Subjects within-groups	211.50	54	3.92	

*$p < .01$

**$p < .001$

TABLE 2

Comparisons (modified Newman-Keuls) for Mean Change Scores for Levels of Discrepancy

Levels of Discrepancy	Low	Medium	High
Low	-	1.25	4.15*
Medium	-	-	2.90*
High	-	-	-

* $p < .001$

Hypothesis 3 had stated that the magnitude of change in self-ratings would be a linear function of the level of discrepancy of the test feedback. In order to test hypothesis 3, a trend analysis was performed on the data for levels of discrepancy treatment. Table 3 reports the results of the trend analysis. Inspection of this table indicates that the linear trend was highly significant (F (1, 54) = 31.54, p < .001), whereas the quadratic trend was not significant. The linear trend accounted for 95 per cent of the variance for the treatment effect and the quadratic trend accounted for 5 per cent. Thus, hypothesis 3 was supported.

It was felt that the inclusion of the change scores for the consonant interpretations with the dissonant interpretations could have obscured the level of discrepancy treatment effect. To check for this possibility, the data for the dissonant interpretations were analyzed separately. A one-way analysis of variance was performed for the levels of discrepancy of the dissonant interpretations only. The means and analysis of variance for these data are presented in Tables 4 and 5, respectively. Results shown in Table 5 indicate that level of discrepancy was also highly significant (F (2, 54) = 13.08, p < .001). These results also indicate the degree to which the dissonant interpretations contributed to the variance in change scores.

The mean change scores for levels of discrepancy of the dissonant interpretations are plotted in Figure 2. Multiple comparison tests performed on these data revealed results

TABLE 3

Summary of Analysis of Trend of Level of Discrepancy

Source of Variance	SS	df	MS	F
Level of Discrepancy				
Linear	86.11	1	86.11	31.54*
Quadratic	4.54	1	4.54	1.66
Residual	147.50	54	2.73	

*$p < .001$

TABLE 4

Mean Change Scores for Dissonant Interpretations Only [a]

Level of Discrepancy		
Low	Medium	High
2.10	2.65	5.45

[a] n = 20 subjects per group

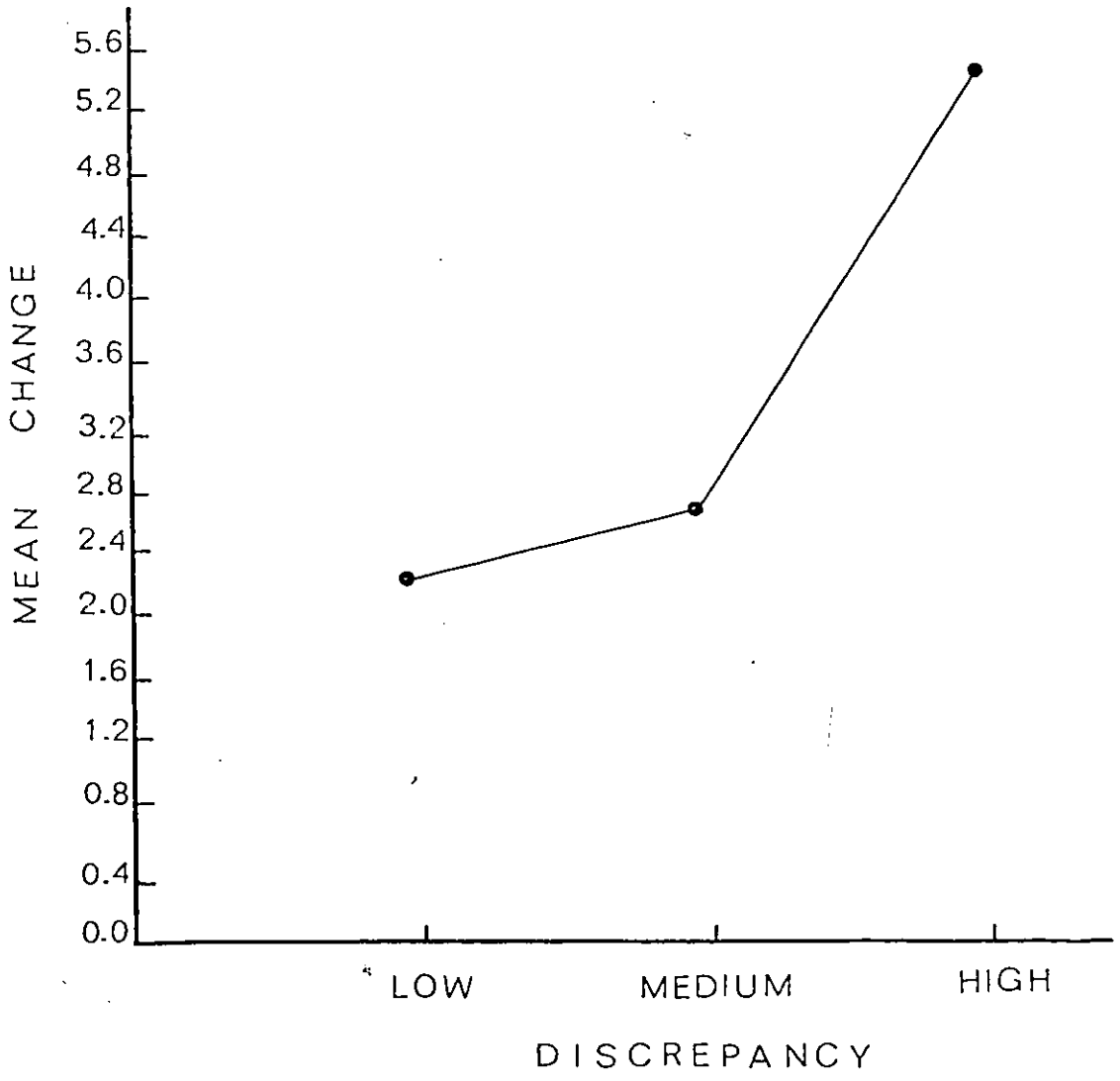
TABLE 5

Summary of Analysis of Variance for Change Scores according to Level of Discrepancy of the Dissonant Interpretations Only

Source of Variation	SS	df	MS	F
Between group	129	2	64.50	13.08*
Within group	281	57	4.93	
Total	410			

*$p < .001$

FIGURE 2 MEAN CHANGE SCORES FOR LEVELS OF DISCREPANCY OF THE DISSONANT INTERPRETATIONS ONLY


MEAN CHANGE
5.6
5.2
4.8
4.4
4.0
3.6
3.2
2.8
2.4
2.0
1.6
1.2
0.8
0.4
0.0
LOW
MEDIUM
HIGH
DISCREPANCY

similar to those reported when the change scores for the level of discrepancy treatment effect included the consonant and dissonant interpretations. That is, there was a significant difference between the low- and high-discrepancy and the medium- and high-discrepancy group means ($p < .001$). Table 6 contains the data used in the comparison of the means for level of discrepancy of the dissonant interpretations.

In addition, a trend analysis was also performed on the change scores for the dissonant interpretations. Table 7 reports the results of the trend analysis. As this table indicates, the linear trend was highly significant ($F(1, 54) = 22.77$, $p < .001$), whereas the quadratic trend was appreciable but not statistically significant ($p < .10$). The linear trend accounted for 87 per cent of the variance for the treatment effect and the quadratic trend accounted for 13 per cent.

Hypothesis 1 had stated that the consonant-dissonant order of presentation would yield greater changes in the self-ratings than the dissonant-consonant order. Hypothesis 1a had specified that there would be no significant differences due to order of presentation at the high level of discrepancy. A review of the results shown in Table 1 indicates that there was no interaction effect for order of presentation by level of discrepancy. Thus, the results of the analysis of variance failed to support hypothesis 1, but did provide support for hypothesis 1a.

The analysis presented in Table 1 also revealed a sig-

TABLE 6

Comparisons (modified Newman-Keuls) for Mean Change Scores for Levels of Discrepancy of the Dissonant Interpretations Only

Levels of Discrepancy	Low	Medium	High
Low	-	.55	3.35*
Medium	-	-	2.80*
High	-	-	-

*$p < .001$

TABLE 7

Summary of Analysis of Trend of Level of Discrepancy of Dissonant Interpretations Only

Source of Variation	SS	df	MS	F
Level of Discrepancy				
Linear	112.23	1	112.23	22.77*
Quadratic	16.88	1	16.88	3.42
Residual	281.00	57	4.93	

*$p < .001$

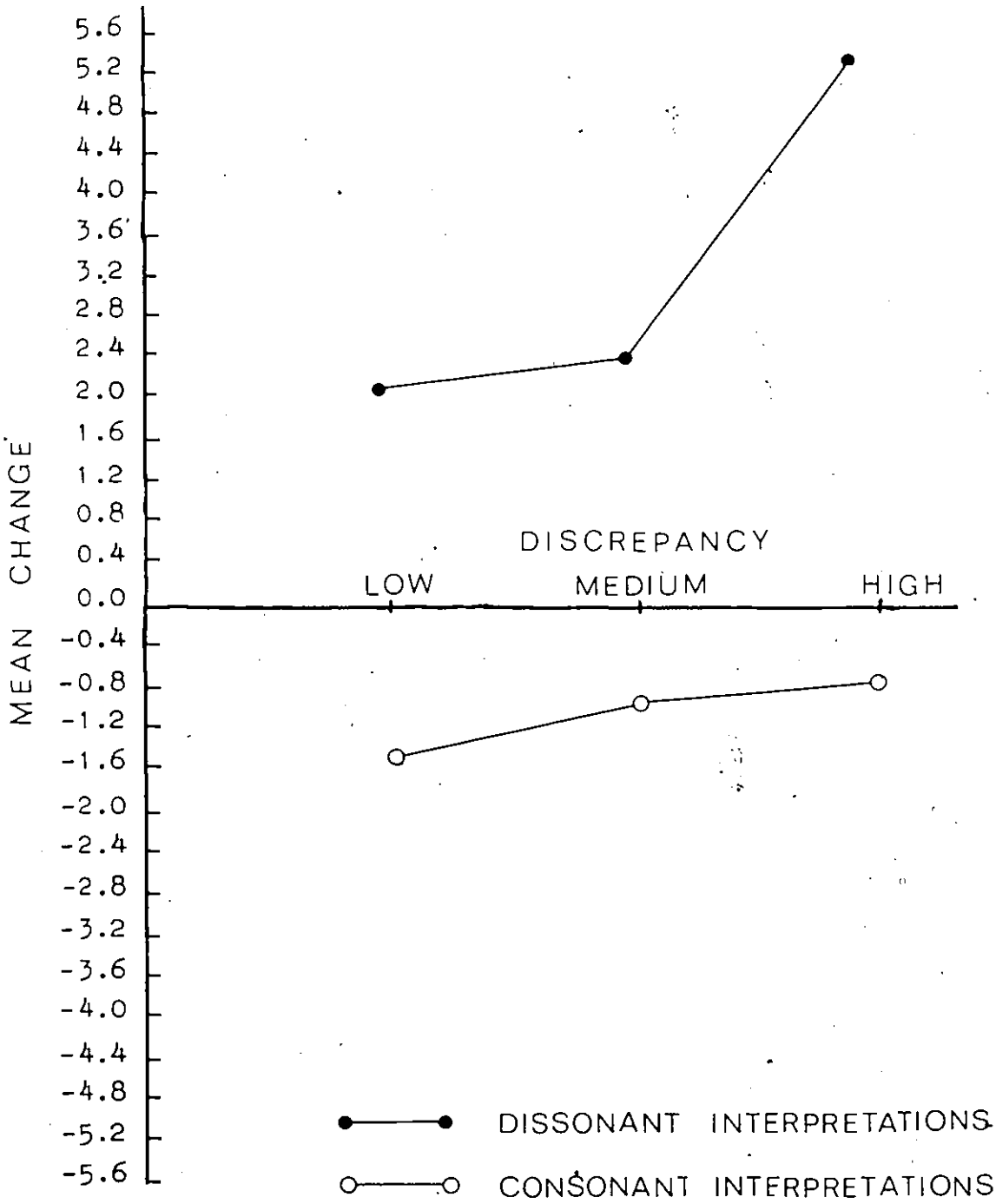
nificant main effect of type of presentation (i.e., consonant/dissonant) (F (1, 54) = 145.93, $p < .001$), indicating that the mean change score for the dissonant presentations ($\bar{X}$ = 3.38) was significantly greater than the mean change score for the consonant feedback ($\bar{X}$ = -0.98). There was also a significant level of discrepancy X type of presentation interaction (F (2,54) = 6.09, $p < .01$). This level of discrepancy X type of presentation interaction, as may be seen in Figure 3, suggests that the type of interpretation has an effect on whether subjects in the various discrepancy treatment conditions will change their self-ratings. Consonant interpretations appear to produce little change in self-ratings across level of discrepancy conditions whereas the change associated with dissonant interpretations seems to increase in a linear fashion with increasing level of discrepancy.

Effects of Feedback Versus No Feedback

Hypothesis 2 stated that change in self-ratings would be significantly greater for all the experimental groups than for the control group. Hypothesis 3 had stated that the amount of change in self-ratings would be a linear function of the level of discrepancy of the feedback. In effect, this meant that the self-ratings for the control, low- medium-, and high-discrepancy levels would show increasing levels of change in the direction of feedback.

The differences in the effect of test feedback versus

FIGURE 3 MEAN CHANGE SCORES FOR DISSONANT AND CONSONANT INTERPRETATIONS ACROSS LEVELS OF DISCREPANCY


MEAN CHANGE
5.6
5.2
4.8
4.4
4.0
3.6
3.2
2.8
2.4
2.0
1.6
1.2
0.8
0.4
0.0
-0.4
-0.8
-1.2
-1.6
-2.0
-2.4
-2.8
-3.2
-3.6
-4.0
-4.4
-4.8
-5.2
-5.6
DISCREPANCY
LOW
MEDIUM
HIGH
DISSONANT INTERPRETATIONS
CONSONANT INTERPRETATIONS

no feedback were tested by comparing the treatment groups to the control group at similar levels of discrepancy. For this purpose, five randomly selected experimental subjects were individually compared with five control subjects at each of three levels of discrepancy (low, medium, high). For this comparison, the change score on one personality trait scale for which there was discrepancy between the subject's self-rating and his test score served as the measure of the dependent variable.

The means and analysis of variance for change scores for the control and experimental groups are presented in Tables 8 and 9, respectively. Results from Table 9 show that there was a significant treatment effect ($F(1, 24) = 49.41$, $p < .001$), thus providing support for hypothesis 2. The data in this table also indicate that there was a significant main effect for levels of discrepancy ($F(2, 24) = 9.79$, $p < .001$) as well as an interaction effect between groups and levels of discrepancy ($F(2, 24) = 9.01$, $p < .01$).

Examination of the group means plotted in Figure 4 indicates that for increasing levels of discrepancy greater change is obtained in the experimental groups than in the control groups, thus confirming the third hypothesis. Multiple-comparison tests indicated that subjects in all the treatment groups exhibited significantly more change in self-ratings than did controls ($p < .05$).

TABLE 8

Means for Experimental and Control Groups Matched for Level of Discrepancy

Level of Discrepancy	Control M	Experimental M
Low	0.00	1.20
Medium	0.40	1.80
High	0.20	4.40

[a] n = 5 subjects per group

TABLE 9

Summary of Analysis of Variance according to Groups and Levels of Discrepancy

Source of Variation	SS	df	MS	F
Groups (A)	38.54	1	38.54	49.41**
Levels of Discrepancy (B)	15.27	2	7.64	9.79**
Interaction (AB)	14.06	2	7.03	9.01*
Error	18.80	24	0.78	

*$p < .01$
**$p < .001$

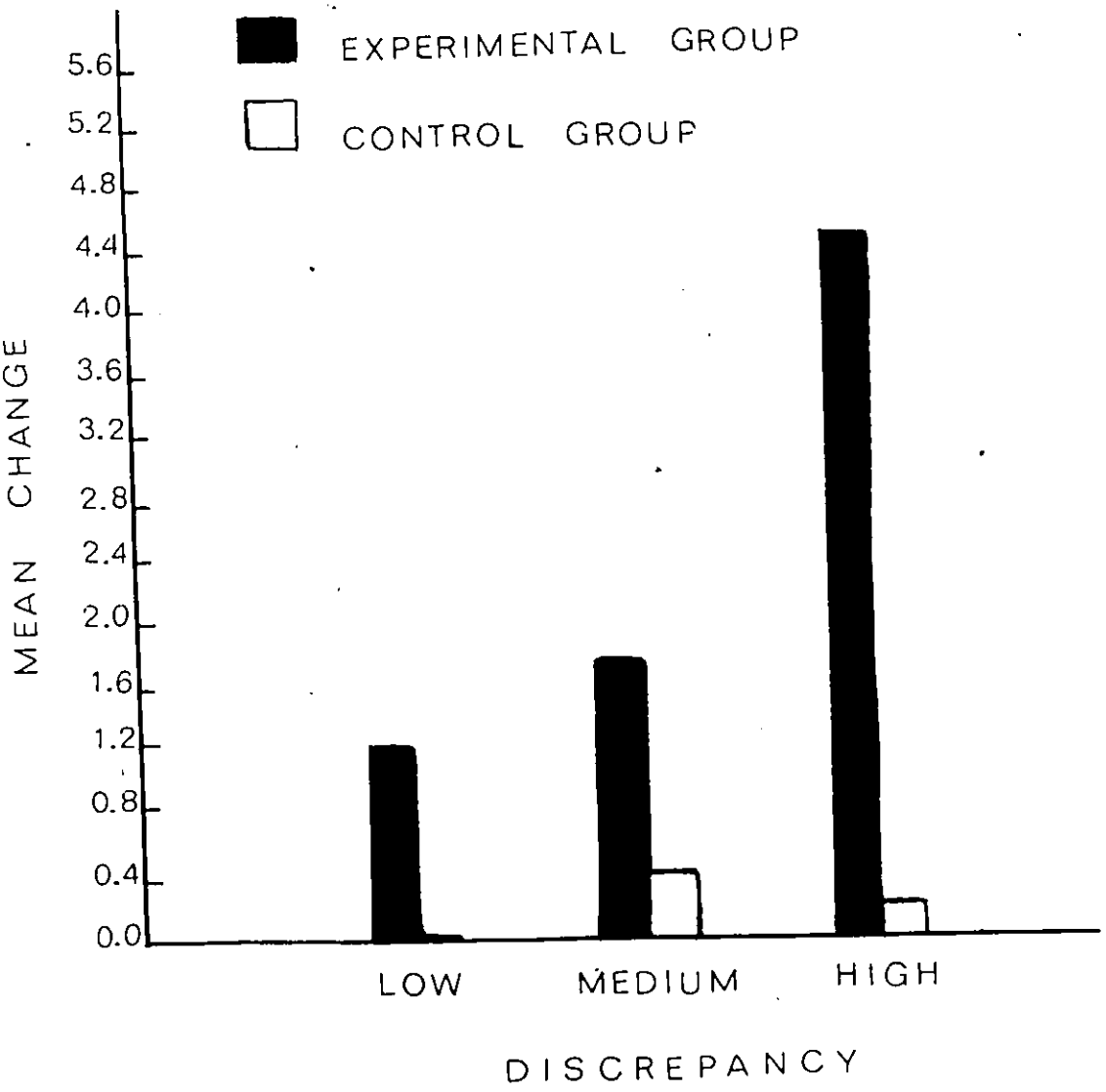
TABLE 10

Comparisons (modification of Newman-Keuls) for Mean Change Scores of Experimental and Control Groups Matched for Level of Discrepancy

	Control (low)	Control (high)	Control (medium)	Experimental (low)	Experimental (medium)	Experimental (high)
Control (low)	--	0.20	0.40	1.20*	1.80**	4.40***
Control (high)	--	--	0.20	1.00	1.60**	4.20***
Control (medium)	--	--	--	0.80	1.40*	4.00***
Experimental (low)	--	--	--	--	0.60	3.20***
Experimental (medium)	--	--	--	--	--	2.60***
Experimental (high)	--	--	--	--	--	--

*p .05
**p ..01
***p .001

FIGURE 5 MEAN CHANGE SCORES OF CONTROL AND EXPERIMENTAL GROUPS MATCHED FOR LEVEL OF DISCREPANCY


EXPERIMENTAL GROUP
CONTROL GROUP
MEAN CHANGE
5.6
5.2
4.8
4.4
4.0
3.6
3.2
2.8
2.4
2.0
1.6
1.2
0.8
0.4
0.0
LOW
MEDIUM
HIGH
DISCREPANCY

CHAPTER IV

Discussion

The major findings of the present study were as follows: a) there was no significant change in self-ratings due to the order of presentation of the consonant and dissonant test interpretations (hypothesis 1 was not verified); b) there was a significant trend toward a positive linear relationship between the level of discrepancy of the test feedback and changes in self-ratings (hypothesis 3); and c) there was more change in self-ratings for the experimental subjects who received feedback than for the control subjects (hypothesis 2).

Relation of Results to Communication-Induced Attitude-Change Research and Theory

This study did not provide support for previous investigations which have shown that the order of presentation of consonant and dissonant messages within a communication was a determinant of attitude change. (e.g. McGuire, 1957; Tannenbaum, 1966; Tannenbaum, & Sengel, 1966; Tannenbaum, Macaulay, & Norris, 1966; Weis, 1957). The results of this investigation are, however, consistent with the expectations derived from Dissonance theory. They suggest that, when an individual is exposed to a contrasting view of his self by a credible source--without any other channel of dissonance re-

duction available to him but attitude change--the magnitude of the change in his self-perception will be related to the magnitude of the discrepancy between his self-perception and the view advocated!

A possible explanation for the failure of the present study to demonstrate the predicted superiority of the consonant-dissonant ordering may be in terms of the constant conditions which were presumed to prevail. It will be recalled that two basic assumptions of this study were that the experimenter would be perceived as a credible source and that the content of the experimental communications would be very important or personally-involving for the subjects. A comparison of the present study with the McGuire (1957) experiment on order of presentation effects indicates that the level of source credibility was similar in both studies, but that the level of ego-involvement of the subjects with the content of the communications was different. Subjects in the present study, who were required to rate themselves on personality traits, had a much greater stake in the outcome of the confrontation of their evaluations with those of the communication source than the McGuire subjects. The latter were required to predict the probability of occurence of events related to college life, an issue of apparently lower ego-involvement. Thus, the difference between the level of involvement of the subjects in the two studies may constitute a plausible basis for the failure to obtain results harmonious with those of McGuire.

In the absence of empirical data concerning the relationship between level of involvement and order of presentation, indirect support for the contention of an interaction between these two variables must be derived from studies that have used level of involvement as a variable, (e.g., Hovland, et al, 1957; Zimbardo, 1960). Although the results of these studies are inconclusive, some like the Zimbardo (1960) investigation, have some implications for the present experiment. Zimbardo has presented data showing how involvement and communication discrepancy are related to attitude change, and has suggested that the latter increases with involvement, especially when highly discrepant information is advocated by a source presented as highly credible. Zimbardo's findings appear to be consistent with the predictions from Dissonance theory (Festinger, 1957) which states that the magnitude of attitude change will increase with involvement and with the level of discrepancy of the communication. It is noted that the findings of the present study in terms of the level of communication discrepancy also agree with Festinger's theory. Thus, the findings of the present investigation regarding the absence of an ordering effect may be accounted for in terms of the Dissonance model.

It is possible then that, when individuals are highly involved with the consonant and dissonant contents of a communication, this tends to neutralize the order of presentation effect which might otherwise accrue. This interpretation does appear to offer a plausible explanation for the

difference between the findings of the present study and those of McGuire. However, it is clear that the relationship between level of involvement and order of presentation must be documented empirically before attitude change can be attributed to an interaction between the effects of these two variables.

The data of this study indicated that subjects who received test interpretations highly discrepant with their self-ratings showed greater conformity with the test feedback in subsequent ratings than those who received either mildly or moderately discrepant interpretations (hypothesis 2). This finding provides support for previous studies that have shown that change in self-perception was greater in subjects receiving highly discrepant feedback than in those receiving less discrepant information (e.g., Bergin, 1962; Binderman et al., 1972). In addition, a trend analysis performed for the discrepancy treatment means suggests a linear positive relationship between the level of discrepant feedback and amount of change. It would have been interesting to assess the persistance of changes in the subjects' self-ratings during the post-experimental period in order to compare the long-term differential effects of the test interpretations of varying discrepancy. The literature on the temporal decay of induced opinion change does not indicate how level of communication discrepancy interacts with time passage in affecting opinion change. However, one source of hypotheses regarding this interaction is the assimilation-contrast theory of attitude change (Hovland et al., 1957). This theory predicts that

overrecall of information or contrast occurs when the level of discrepancy of the communication is high and that underrecall or assimilation is maximal when the discrepancy is low. From this, it would be expected that the persistance of attitude change would be greater in subjects receiving high levels of discrepant test feedback than in those receiving less discrepant data.

Another observation of interest was that, among the subjects in this study who received highly discrepant test interpretations, males showed a greater degree of conformity to the information presented than the females. It is noted that the present study is one of the first among dissonance experiments to show sex differences in relation to discrepancy and attitude change. Most studies have not controlled for sex differences. When sex differences have been compared, as in the Bergin (1962) study, no differences were found. One possible explanation for the present finding of sex differences in response to discrepancy is the greater degree of identification with the male experimenter displayed by the male subjects. This interpretation would be in agreement with a body of evidence indicating a person is influenced by a persuasive message to the extent that he perceives it as coming from a source similar to himself.

Relation of Results to Test Feedback

This experiment provided support for previous studies which have shown the value of conceptualizing test reporting as a social influence process. Such a framework gives test

reporting research a theoretical foundation and provides it with a closer tie to attitude-change theory and research. It can also serve to expand the observations and broaden the base of social psychological theory. For example, the conduct of laboratory experiments on dissonance has usually required the communication of artificial or fictitious information. By using an actual test feedback situation and the communication of test-derived feedback, experiments such as the present one can try to bridge the gap between the need for tight control while making the research as naturalistic as possible.

Effects of Feedback Versus Nonfeedback of Test Results

The present study indicated that subjects who received test feedback showed significantly more change in their self-ratings than the control subjects who did not receive test interpretations. An analysis of differences in the change scores of some of experimental and control groups matched for level of discrepancy indicated that the experimental subjects differed from the controls at all levels.

While the comparison between the experimental and control groups appears to shed light on the utility of test-feedback in general, the comparison between the experimental groups provides clarification of how direct feedback of highly discrepant test results affects the testee, at least from a cognitive point of view. The results of this

study suggests that the subjects, who received highly discrepant test data, exhibited the greatest amount of change in self-estimation. Thus, a greater degree of cognitive restructuring occurred in these subjects than in those given less discrepant information. Although their emotional reactions and concomittant physiological changes were not objectively measured, individuals who received highly discrepant feedback did not appear to experience unusual emotional reactions nor to react differently from the subjects who received less unexpected results.

On the whole, these observations should provide encouragement for psychologists to communicate test results to clients. One of the reasons why this practise is not more prevalent is the apparent wariness of psychologists regarding the possible misinterpretation of data, especially unexpected and discrepant test results, by the testee. As Forster (1969) has pointed out, this reluctance on the part of psychologists to share test results persists despite the fact that the literature contains no documented cases of harmful effects associated with test reporting. The findings of the present study suggest that, rather fretting over possible misinterpretation of test data, psychologists might more appropriately concern themselves with attempting to communicate the most accurate interpretations to the testee who, as our observations indicate, will be persuaded to endorse them.

CHAPTER V

Summary and Implications

The purpose of the present study was to explore the effects of the order of presentation of consonant and dissonant personality test interpretations and the level of discrepancy on changes in self-perception. This study also attempted to compare the effects of test feedback versus no feedback.

Summary of Results Relevant to Hypotheses

Order of presentation effect. Hypothesis 1, stating that the changes in self-ratings for the consonant-dissonant order of presentation would be greater than for the reverse order, received no support. One explanation for this was that another variable of attitude change, namely involvement with the content of the communication, exerted an influence on the order of presentation. More specifically, it appears that high involvement with the test interpretations might have neutralized the order of presentation effect. Although the present study did not manipulate levels of involvement, such an interpretation regarding an interaction between level of involvement and order of presentation appears quite plausible. Further research needs to be con-

ducted to elucidate the relationship between involvement and order of presentation in attitude change. The design of such research should include the manipulation of levels of involvement and orders of presentation. It should also include experimental manipulation of the levels of communication discrepancy.

Hypothesis 1a stated that there would be no significant differences due to order of presentation at the high level of discrepancy. This hypothesis was supported. However, it is necessary to exercise caution in viewing the results as providing support for hypothesis 1a because of a lack of significance for the over-all order of presentation X level of discrepancy interaction effect.

Level of Discrepancy. Hypothesis 2 stated that there would be significant differences between the experimental and control groups in changes in self-ratings. This hypothesis was confirmed in that changes in self-ratings were different for all levels of discrepancy between the experimental groups and between the experimental and the control groups who received no feedback.

Hypothesis 2a dealt with a comparison of changes in self-ratings between the high level of discrepancy groups and the low- and medium-discrepancy groups. The hypothesis stated that changes in self-ratings would be significantly greater for the high level of discrepancy than for the low and medium levels of discrepancy. This hypothesis was clearly supported. Subjects who received test interpreta-

tion most discrepant with their self-perception exhibited more change in self-ratings than those receiving less discrepant information.

Hypothesis 3 stated that the amount of change in self-ratings would be a linear function of the level of discrepancy of the test feedback. This hypothesis was clearly supported since changes in self-ratings were formed to increase linearly with level of discrepancy.

APPENDIX A

PRIMARY AND SECONDARY TRAITS MEASURED BY THE 16 P.F., FORM B

Traits Measured by the 16 P.F., Form B

Alphabetical Listing of Traits	Trait Description
	1. Primary traits
A	Reserved vs. outgoing
B	Less intelligent vs. more intelligent
C	Affected by feelings vs. emotionally stable
E	Humble vs. assertive
F	Sober vs. happy-go-lucky
G	Expedient vs. conscientious
H	Shy vs. venturesome
I	Tough-minded vs. tender-minded
L	Trusting vs. suspicious
M	Practical vs. imaginative
N	Forthright vs. shrewd
O	Self-assured vs. apprehensiveness
Q_1	Conservative vs. experimenting
Q_2	Group-dependent vs. self-suffieient
Q_3	Undisceplined self-conflict vs. controlled
Q_4	Relaxed vs. tense

APPENDIX A (Continued)

2. Secondary traits

Q_I	Introversion vs. extraversion
Q_{II}	Low anxiety vs. high anxiety
Q_{III}	Tenderminded emotionality vs. tough poise
Q_{IV}	Subduedness vs. independence

APPENDIX B

SAMPLES OF THE EXAMPLE-ANCHORED RATING SCALES

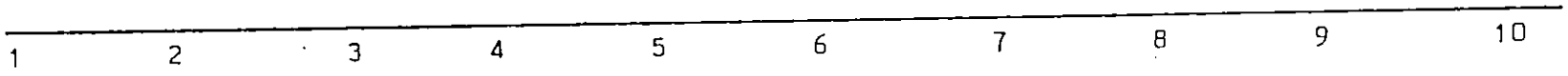
APPENDIX B

INSTRUCTIONS: Place a circle around the number which best describes your position on the trait scale. Bear in mind that the numbers 1 and 10 represent the highest levels of the respective traits of social reserve and warm sociability.

SOCIAL RESERVE VS. WARM SOCIABILITY

This person is inclined to be socially and emotionally distant, critical in outlook, and prefers to avoid compromises. He or she likes things or words, working alone, and is exact and methodical in his or her way of doing things and in personal standards.

This person is interested and attentive to people, easy going, and willing to go along with expediency. He or she prefers an occupation dealing with people and enjoys social recognition, but tends to be less dependable in precision work and more casual in meeting obligations.



APPENDIX B (Continued)

INSTRUCTIONS: Place a circle around the number which best describes your position on the trait scale. Bear in mind that the numbers 1 and 10 represent the highest levels of the respective traits of lower academic mental capacity and higher academic mental capacity.

LOWER ACADEMIC MENTAL CAPACITY VS. HIGHER ACADEMIC MENTAL CAPACITY

This person's thinking is more concrete and less well organized. He or she also tends to be slower to grasp ideas.

This person is apt to be more abstract and coherent in his or her thinking. He or she is also a fast learner.

1 2 3 4 5 6 7 8 9 10

APPENDIX B (Continued)

INSTRUCTIONS: Place a circle around the number which best describes your position on the trait scale. Bear in mind that the numbers 1 and 10 represent the highest levels of the respective traits of emotional excitability and calmness.

EMOTIONAL EXCITABILITY VS. CALMNESS

He or she is easily annoyed by things and people and bothered by feelings. He or she also tends to be dissatisfied with the restrictions of life, with his or her health, and with other events of everyday living. He or she is also quite changeable.

He or she is inclined to adjust easily to frustrations and to be emotionally calm. He or she is content with himself or herself and tends to be constant in interest and attitudes.

1 2 3 4 5 6 7 8 9 10

APPENDIX B (Continued)

INSTRUCTIONS: Place a circle around the number which best describes your position on the trait scale. Bear in mind that the numbers 1 and 10 represent the highest levels of the respective traits of submissiveness and dominance.

SUBMISSIVENESS VS. DOMINANCE

This individual is retiring and mild. He or she is also considerate and diplomatic.

This individual is assertive and willful. He or she also tends to be stern and authoritarian.

1 2 3 4 5 6 7 8 9 10

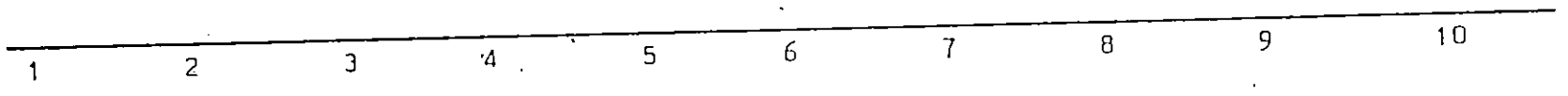
APPENDIX B (Continued)

INSTRUCTIONS: Place a circle around the number which best describes your position on the trait scale. Bear in mind that the numbers 1 and 10 represent the highest levels of the respective traits of soberness and cheerfulness.

SOBERNESS VS. CHEERFULNESS

This person is concerned, serious, introspective, and quiet. He or she also tends to be a sober and dependable person.

This person is a happy-go-lucky, cheerful, and talkative individual who likes people and large groups, new situations, changes, and exciting experiences.



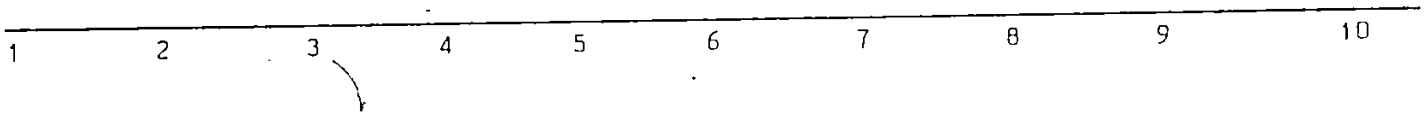
APPENDIX B (Continued)

INSTRUCTIONS: Place a circle around the number which best describes your position on the trait scale. Bear in mind that the numbers 1 and 10 represent the highest levels of the respective traits of shyness and venturesomeness.

SHYNESS VS. VENTURESOMENESS

He or she is a shy person who prefers one or two close friends to large groups. He or she tends to be restrained and to encounter difficulty in expressing himself or herself.

This person is adventurous, curious, and likes meeting people. He or she tends to be impulsive and somewhat long-winded in conversation.



APPENDIX B (Continued)

INSTRUCTIONS: Place a circle around the number which best describes your position on the trait scale. Bear in mind that the numbers 1 and 10 represent the highest levels of the respective traits of tough-mindedness and tender-mindedness.

TOUGH-MINDEDNESS VS. TENDER-MINDEDNESS

This person has a tough, practical (no-nonsense), and self-reliant approach to problems and life in general. He or she is set in his or her ways and content with his or her status in life.

This is a sentimental person who is unwilling to be realistic but rather is an idealist. This individual frequently seeks help and sympathy from others. He or she likes travel and new experiences.

1 2 3 4 5 6 7 8 9 10

APPENDIX B (Continued)

INSTUCTIONS: Place a circle around the number which best describes your position on the trait scale. Bear in mind that the numbers 1 and 10 represent the highest levels of the respective traits of trustfulness and suspiciousness.

TRUSTFULNESS VS. SUSPICIOUSNESS

This individual is trusting and good-tempered. He or she is more conciliatory and tends to readily forget difficulties.

This individual is frequently mistrusting and jealous. He or she is less tolerant of others and their failings and tends to hold a grudge for a long-period of time.

1 2 3 4 5 6 7 8 9 10

APPENDIX B (Continued)

INSTRUCTIONS: Place a circle around the number which best describes your position on the trait scale. Bear in mind that the numbers 1 and 10 represent the highest levels of the respective traits of practicalness and imaginativeness.

PRACTICALNESS VS. IMAGINATIVENESS

This is a conventional, practical person who has "down to earth" concerns. Because of his or her preoccupation with immediate and practical issues, he or she will tend to have narrower interests and be unimaginative at times.

This is an imaginative person who is easily absorbed in ideas and tends to be relatively unconcerned over every-day matters. Because of his or her lack of attention to practical matters, he or she may be viewed as unreliable.

1 2 3 4 5 6 7 8 9 10

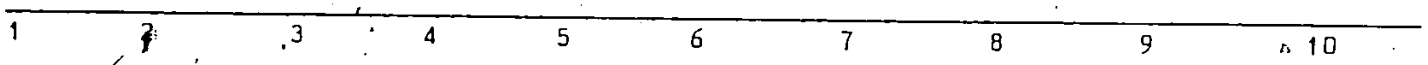
APPENDIX B (Continued)

INSTRUCTIONS: Place a circle around the number which best describes your position on the trait scale. Bear in mind that the numbers 1 and 10 represent the highest levels of the respective traits of forthrightness and shrewdness.

FORTHRIGHTNESS VS. SHREWDNESS

This is a person who is forthright and unpretentious. Although gregarious, he or she is unskilled in analyzing motives and anticipating the needs of others in social situations.

This is a person who is shrewd and worldly. He or she is usually correct in manners and alert to social obligations and to the social reactions of others.



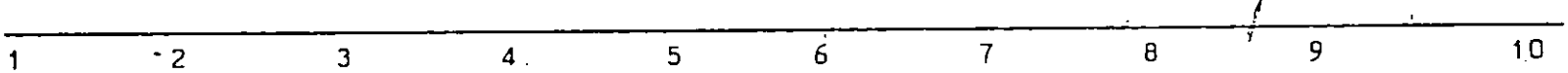
APPENDIX B (Continued)

INSTRUCTIONS: Place a circle around the number which best describes your position on the trait scale. Bear in mind that the numbers 1 and 10 represent the highest levels of the respective traits of self-assuredness and apprehensiveness.

SELF-ASSUREDNESS VS. APPREHENSIVENESS

He or she is placid and exhibits unanxious confidence in himself or herself and in his or her capacity to deal with things. He or she is self-secure and expedient but sometimes to the point of being insensitive to people's approval and disapproval

He or she tends to be easily worried and troubled, anxious, and sensitive to approval and disapproval. He or she also exhibits a strong sense of duty.



APPENDIX B (Continued)

INSTRUCTIONS: Place a circle around the number which best describes your position on the trait scale. Bear in mind that the numbers 1 and 10 represent the highest levels of the respective traits of conservativeness and experimentalism.

CONSERVATIVENESS VS. EXPERIMENTALISM

This person is conservative by temperament and tends to respect traditional ideas and authority.

This person is fact-oriented, inclined to question things, and less ready to change his or her opinion, when presented with the opinion of an authority.

1 2 3 4 5 6 7 8 9 10

APPENDIX B (Continued)

INSTRUCTIONS: Place a circle around the number which best describes your position on the trait scale. Bear in mind that the numbers 1 and 10 represent the highest levels of the respective traits of group-dependency and self-sufficiency.

GROUP-DEPENDENCY VS. SELF-SUFFICIENCY

This individual prefers to work and make decisions with other people, likes and depends on social approval, and is conventional and fashionable.

This individual is a self-sufficient person who is accustomed to going his own way, making decisions, and taking action on his own.

1 2 3 4 5 6 7 8 9 10

APPENDIX B (Continued)

INSTRUCTIONS: Place a circle around the number which best describes your position on the trait scale. Bear in mind that the numbers 1 and 10 represent the highest levels of the respective traits of lower will control and higher will control

LOWER WILL CONTROL VS. HIGHER WILL CONTROL

This individual is not very bothered with control over his or her emotions and behaviour. He or she tends to be careless of social rules and to follow his or her own urges; thus, he or she is not overly considerate.

This individual shows a high degree of self-control, is socially aware and careful, and is very considerate towards others.

1 2 3 4 5 6 7 8 9 10

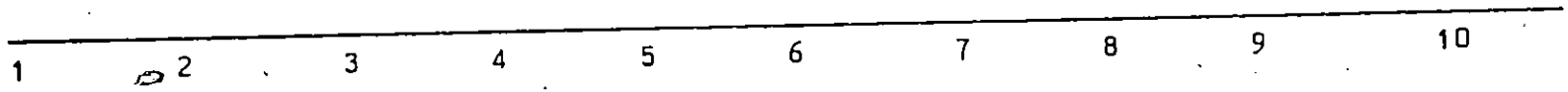
APPENDIX B (Continued)

INSTRUCTIONS: Place a circle around the number which best describes your position on the trait scale. Bear in mind that the numbers 1 and 10 represent the highest levels of the respective traits of relaxation and tension.

RELAXATION VS. TENSION

He or she is tranquil, relaxed, composed, and tolerant. He or she tends to be quite content with matters as they are, but may also at times be indolent.

He or she is active, tense, anxious, and impatient. This person is often fatiqued but unable to remain inactive.



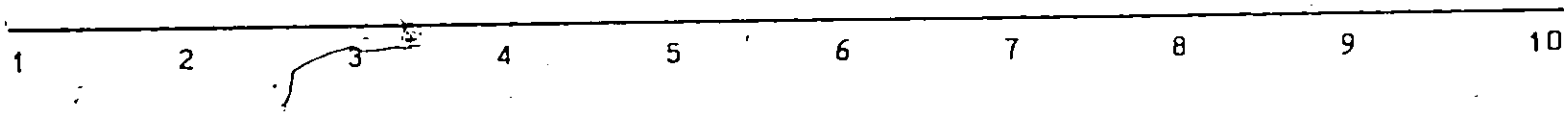
APPENDIX B (Continued)

INSTRUCTIONS: Place a circle around the number which best describes your position on the trait scale. Bear in mind that the numbers 1 and 10 represent the highest levels of the respective traits of low anxiety and high anxiety.

LOW ANXIETY VS. HIGH ANXIETY

This is a calm, placid person whose life is generally satisfying and who is able to achieve those things which seem to him or her to be important. In some situations, his or her satisfaction can render him or her disinclined to undertake difficult tasks.

This person frequently experiences high levels of anxiety. He or she tends to be dissatisfied with the degree to which he or she is able to meet the demands of life and to achieve his or her goals. He or she often suffers from physical disturbances, e.g., headaches, upset stomach, etc.



APPENDIX B (Continued)

INSTRUCTIONS: Place a circle around the number which best describes your position on the trait scale. Bear in mind that the numbers 1 and 10 represent the highest levels of the respective traits of introversion and extraversion.

INTROVERSION VS. EXTRAVERSION

This is a person who tends to be shy, self-sufficient, and inhibited in interpersonal contacts.

This is a socially outgoing, uninhibited person who is good at making and maintaining contacts with other people.

1 2 3 4 5 6 7 8 9 10

APPENDIX B (Continued)

INSTRUCTIONS: Place a circle around the number which best describes your position on the trait scale. Bear in mind that the numbers 1 and 10 represent the highest levels of the respective traits of tender-minded emotionality and alert poise.

TENDERMINDED EMOTIONALITY VS. ALERT POISE

This person is easily emotional and tends to become easily discouraged and frustrated. He or she is, however, sensitive, gentle, and likely to be artistic.

This person tends to be an enterprising, unruffled, individual. However, he or she is likely to miss the subtle relationships of life, and to orient his or her behaviour too much toward the obvious.

1 2 3 4 5 6 7 8 9 10

APPENDIX B (Continued)

INSTRUCTIONS: Place a circle around the number which best describes your position on the trait scale. Bear in mind that the numbers 1 and 10 represent the highest levels of the respective traits of subduedness and independence.

SUDUEDNESS VS. INDEPENDENCE

This individual tends to be a group-dependent and restrained individual who endeavours to obtain support from other persons.

This individual tends to be an independent and aggressive person who is likely to exhibit a great deal of personal initiative.

1 2 3 4 5 6 7 8 9 10

APPENDIX C

RAW DATA OF CHANGE SCORES FOR ALL SUBJECTS

APPENDIX C

Raw Data of Change Scores For All Subjects

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Experimental Groups:					
Consonant-Dissonant (low)					
1	F	L	3	3	3
		Q_{111}	5	5	5
		E	5	7	6
		C	9	7	8
2	M	Q_L	8	9	8
		Q_1	5	7	5
		H	2	1	1
		M	6	6	7
3	F	Q_2	4	5	4
		C	4	4	4
		H	5	4	4
		I	6	7	8
4	F	M	7	7	7
		H	6	7	6
		E	4	6	6
		I	6	8	7

APPENDIX C (Continued)

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Consonant-Dissonant (low) (Continued)					
5	M	F	8	7	8
		Q_I	4	4	4
		O	2	4	4
		H	3	4	5
6	F	A	8	9	8
		Q_4	4	4	4
		Q_{II}	9	8	8
		E	4	5	5
7	M	H	3	4	3
		C	7	8	7
		L	5	4	6
		B	7	8	8
8	F	M	4	4	4
		Q_I	6	5	6
		E	5	5	4
		O	7	6	5

APPENDIX C (Continued)

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Consonant-Dissonant (low) (Continued)					
9	M	I	5	5	5
		Q_{III}	5	7	5
		Q_4	4	4	5
		N	8	8	7
10	M	H	3	3	3
		A	6	5	6
		Q_2	5	8	6
		M	2	3	4
Consonant-Dissonant (Medium)					
1	F	A	4	5	4
		H	4	4	4
		C	8	6	5
		E	3	4	6

APPENDIX C (Continued)

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Consonant-Dissonant (Medium) (Continued)					
2	M	B	7	7	7
		F	7	7	7
		E	4	6	7
		A	9	7	5
3	F	Q_{IV}	4	4	4
		N	7	8	7
		A	7	5	4
		Q_{II}	2	5	6
4	F	C	5	5	5
		B	6	6	6
		Q_{IV}	6	6	6
		A	5	5	1
5	M	A	4	7	4
		O	4	4	4
		N	5	5	2
		C	9	9	5

APPENDIX C (Continued)

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Consonant-Dissonant (Medium) (Continued)					
6	F	Q_4	2	2	2
		Q_3	8	8	8
		H	5	5	8
		F	5	5	2
7	M	I	5	5	5
		Q_{II}	5	4	5
		C	8	6	5
		F	7	5	4
8	M	N	7	7	7
		O	8	8	8
		L	4	6	8
		Q_1	7	7	3
9	M	Q_{IV}	6	7	6
		Q_{II}	8	7	8
		E	4	5	7
		F	9	7	6

APPENDIX C (Continued)

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Consonant-Dissonant (medium) (Continued)					
10	F	N	4	3	4
		B	6	6	6
		M	7	8	10
		Q_3	5	4	2
Consonant-Dissonant (high)					
1	F	H	7	8	7
		F	7	7	7
		Q_{III}	2	7	9
		Q_2	9	5	4
2	M	E	7	7	7
		F	4	3	4
		O	9	7	4
		Q_3	9	5	3

APPENDIX C (Continued)

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Consonant-Dissonant (high) (Continued)					
3	F	C	9	9	9
		H	5	5	5
		M	3	3	8
		Q_{IV}	9	8	4
4	F	F	6	6	6
		I	8	7	8
		C	9	5	4
		E	3	5	8
5	M	Q_{II}	9	9	9
		Q_1	10	10	10
		N	9	7	3
		E	5	6	10
6	F	H	9	9	9
		B	7	8	7
		E	5	7	10
		Q_2	8	8	1

APPENDIX C (Continued)

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Consonant-Dissonant (high) (Continued)					
7	M	Q_{III}	7	6	7
		Q_4	6	6	6
		1	8	6	1
		C	8	5	3
8	M	Q_I	4	3	4
		H	8	7	8
		Q_3	2	7	8
		Q_{III}	9	7	3
9	F	Q_1	7	7	7
		C	7	7	7
		N	10	6	4
		F	5	5	10

APPENDIX C (Continued)

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Consonant-Dissonant (high) (Continued)					
10	M	Q_{III}	5	4	5
		C	5	5	5
		M	4	8	9
		E	3	9	10
Dissonant (low)-Consonant					
1	F	C	9	9	7
		E	5	6	7
		A	6	7	6
		N	6	6	6
2	M	B	4	7	6
		C	7	3	5
		O	6	7	6
		Q_{IV}	6	2	6

APPENDIX C (Continued)

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Dissonant (low)-Consonant (Continued)					
3	F	Q_{II}	3	3	4
		Q_4	7	9	9
		A	6	7	6
		F	5	5	5
4	F	Q_{IV}	9	10	10
		Q_{III}	5	8	6
		Q_4	6	8	6
		Q_2	8	10	8
5	M	C	8	9	9
		A	8	8	7
		E	6	7	6
		Q_I	1	1	1

APPENDIX C (Continued)

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Dissonant (low)-Consonant (Continued)					
6	F	A	7	9	8
		C	6	6	7
		L	4	3	4
		B	6	5	6
7	M	Q_{II}	2	2	3
		C	2	3	1
		Q_{IV}	4	3	4
		B	6	6	6
8	M	A	4	5	5
		Q_{III}	8	7	6
		Q_1	1	1	1
		H	6	5	6

APPENDIX C (Continued)

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Dissonant (low)-Consonant (Continued)					
9	M	H	6	5	5
		Q_4	4	4	3
		Q_{III}	5	5	5
		Q_2	5	5	5
10	F	H	4	3	2
		O	7	7	6
		B	7	7	7
		A	5	5	5
Dissonant (medium)-Consonant					
1	F	N	5	8	8
		E	6	8	9
		Q_3	9	9	9
		H	8	8	8

APPENDIX C (Continued)

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Dissonant (medium)-Consonant					
2	M	Q_{III}	3	4	6
		1	9	9	6
		O	6	7	6
		Q_I	7	7	7
3	F	A	6	9	9
		1	5	8	9
		Q_1	5	5	5
		Q_4	4	4	4
4	F	E	7	7	10
		A	3	5	6
		Q_1	6	6	6
		C	5	7	5

APPENDIX C (Continued)

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Dissonant (medium)-Consonant (Continued)					
5	M	O	6	4	2
		L	3	3	6
		H	4	4	4
		Q_3	9	9	9
6	M	Q_I	9	6	6
		Q_2	10	8	7
		F	8	8	8
		O	7	7	7
7	F	Q_4	2	5	5
		L	2	3	5
		A	6	6	6
		Q_{IV}	9	9	9

APPENDIX C (Continued)

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Dissonant (medium)-Consonant (Continued)					
8	M	N	6	5	2
		Q_{IV}	7	6	3
		Q_{II}	6	6	6
		F	4	4	4
9	M	C	9	8	6
		A	2	2	6
		Q_2	10	10	10
		M	10	9	10
10	F	Q_3	9	7	5
		M	3	3	7
		Q_{II}	2	3	2
		I	5	7	5

APPENDIX C (Continued)

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Dissonant (high)-Consonant					
1	M	F	10	4	4
		I	9	4	4
		C	1	1	1
		Q_2	4	4	4
2	F	Q_{III}	1	5	6
		Q_3	9	5	4
		C	7	3	7
		Q_1	6	7	6
3	F	Q_1	8	5	3
		Q_2	8	5	1
		Q_{II}	8	8	8
		E	8	8	8

APPENDIX C (Continued)

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Dissonant (high)-Consonant (Continued)					
4	M	Q_3	8	6	3
		E	2	5	7
		C	3	3	3
		Q_{III}	5	5	5
5	M	A	3	7	9
		L	3	7	8
		Q_{IV}	9	9	9
		O	2	2	2
6	F	Q_{III}	3	4	8
		E	4	6	10
		F	9	9	9
		Q_4	7	7	7

APPENDIX C (Continued)

Subject	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Dissonant (high)-Consonant (Continued)					
7	F	I	8	6	3
		Q_{IV}	4	4	10
		Q_3	4	4	4
		E	8	8	8
8	M	E	1	2	7
		Q_{IV}	7	2	2
		Q_2	1	2	1
		M	5	5	5
9	M	M	3	4	9
		L	2	7	9
		F	6	6	6
		I	1	1	1

APPENDIX C (Continued)

Subject	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Dissonant (high)-Consonant (Continued)					
10	F	Q_2	7	5	1
		O	8	9	2
		Q_{II}	10	10	10
		E	10	10	10
Control Group					
1	M	Q_{III}	2	3	4
		B	5	6	3
		Q_1	10	9	6
		M	3	2	7
2	F	Q_3	9	8	5
		A	6	5	3
		Q_{III}	2	2	7
		Q_2	3	3	2

APPENDIX C (Continued)

Subject	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Control Group (Continued)					
3	F	Q_{IV}	4	8	8
		M	7	6	3
		Q_{III}	2	2	8
		I	4	3	6
4	M	Q_4	9	8	4
		Q_2	7	8	1
		Q_1	8	9	8
		F	6	6	8
5	M	Q_2	8	8	1
		L	4	4	5
		Q_{III}	5	5	4
		A	8	8	8

APPENDIX C (Continued)

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Control Group (Continued)					
6	F	F	5	5	8
		Q_{IV}	2	4	7
		C	6	7	5
		I	5	5	4
7	F	Q_1	8	8	5
		E	8	8	4
		A	8	10	6
		N	5	7	8
8	M	F	5	6	4
		Q_{IV}	8	8	6
		I	3	3	5
		Q_I	6	5	3

APPENDIX C (Continued)

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Control Group (Continued)					
9	F	A	9	9	3
		I	6	7	6
		M	3	3	6
		Q_3	10	10	9
10	F	O	6	6	4
		H	8	7	6
		L	2	2	6
		N	8	6	6
11	F	L	2	4	6
		Q_1	9	9	7
		F	4	3	3
		Q_2	9	9	8

APPENDIX C (Continued)

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Control Group (Continued)					
12	F	Q_{II}	5	5	8
		Q_1	4	4	6
		Q_4	5	5	8
		B	7	7	6
13	M	L	8	4	5
		A	9	9	7
		I	9	9	7
		H	8	8	6
14	F	A	6	6	4
		O	8	7	6
		F	8	6	7
		Q_1	5	5	4

APPENDIX C (Continued)

Subjects	Sex	Trait	1st Self-Rating	2nd Self-Rating	Test Score
Control Group (Continued)					
15	F	C	10	9	9
		L	2	2	10
		Q_{IV}	9	8	5
		B	8	8	6
16	M	Q_{II}	2	2	1
		I	6	5	4
		F	3	3	2
		Q_{IV}	8	7	10
17	F	E	6	6	7
		O	10	10	7
		Q_2	1	1	1
		Q_4	10	10	8

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