

A NEW MATCHING PROCEDURE BASED ON SIMILARITY AND ATTRACTION

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ABSTRACT

In order to avoid some of the problems of conventionally matched groups, such as sample shrinkage, lack of power of generality etc., a new method of matching subjects was proposed: the work of Newcomb (1961) and Byrne and his associates (1971) indicated a strong relationship between similarity of attitudes and attraction and it was believed that this relationship could be incorporated into a procedure that matched subjects on the basis of expressed attraction (friendship).

An exploratory attempt was made to determine which of a number of diverse items (relating to attitudes, self-concept, values and beliefs) exhibited a strong relationship between similarity and attraction for the undergraduate students chosen for this study. Subjects were paired with "close friends" and randomly selected others to determine whether differences existed between the similarity of responses of pairs of each kind.

Significant differences between the two kinds of pairing were found for several of the items used, indicating that with respect to the dimensions measured in this study, matching on the basis of friendship would result in more similar pairs than matching on a random basis.

Suggestions for further research and discussion of the results of this pilot study are outlined in the report.

INTRODUCTION

Anyone involved in experimental research, both in the lab and in the field, probably recognizes the need for a control group which allows the experimenter to decide, on the basis of a reference point, whether or not his experimental manipulation was effective in influencing his dependent measure(s). There exist a number of useful experimental designs which satisfy this decision-making criterion but the two which seem to spring to mind immediately are the random groups design and the matched groups design. In the former design one chooses subjects at random from a "target population" (the population to which one eventually wishes to generalize his results) and randomly assigns subjects to each of his experimental and control conditions. A major assumption of this design is summarized as follows by Plutchik (1968):

The basic assumption of the random groups design is that the random selection procedure will produce groups which are alike initially and which do not differ, on the average, on any variables which are likely to affect the behavior which is to be measured (p. 172).

In brief, this procedure theoretically ensures that the only systematic differences between the experimental and control groups are those due solely to the experimental manipulation(s). In practice these randomization criteria are not always met but, assuming that they have been, one can be reasonably confident about the conclusions which he draws and the inferences that he makes.

Many kinds of studies, however, do not lend themselves to the random groups design. One apparent implication of the design is that the groups must be sufficiently large that, in the long run, they will be equivalent in all respects. In the field especially, this lower limit on size might entirely prevent the use of the completely randomized design. If, for example, one were interested in examining the effects of a new lighting system on the production of a small group of girls in a steno pool and that pool consisted of relatively few individuals, assigning them at random to experimental and control groups might not culminate in two equivalent or homogenous groups.

The matched groups design, on the other hand, allows one to create equivalence amongst the various conditions by actually matching subjects on any criteria deemed important to the investigation. If one knows which variables he would like evenly distributed over all groups, then he selects those individuals (usually in pairs) with the same amounts of each variable and assigns them to different groups. In this manner one ensures equality of groups by creating the groups equal. The variables which one typically matches, are those that might systematically affect the dependent measure(s) differentially, but are not of special interest to the investigator.

An important instance in which a matched groups design is preferable to others, is where we do not wish for our experimental and control groups to be initially equated. If subjects are preselected accord-

ing to their respective positions on some dimension such as I.Q., then the assumption of random selection will be intentionally violated. Suppose we wished to compare the performances of high I.Q. and low I.Q. subjects on some task suspecting that those in the high I.Q. condition would outperform the others. We must take into account the possibility that the subjects in the two different conditions may differ from one another in other respects besides intelligence, as measured by I.Q. scores: Since age, sex and educational background may all vary with intelligence, how can we be sure that any differences in task performance are due solely to differences in I.Q. and not some covarying factor? The solution is to match our groups with respect to any variable(s) that might be related to the dependent variable (age, sex, etc.). In this manner we can be justifiably sure that the only systematic differences between our groups are due to intelligence the intended variable.

One important limiting factor in matched groups designs is the number of variables to be matched. An example should make this point lucid: if colour of eyes is an intended variable, then we might have two experimental groups (blue-eyed and brown-eyed subjects). Some covarying factors might be color of hair, height, race, etc. In order to control for these potential affectors of our dependent measure(s), we shall have to match the subjects with regard to hair color, height, and so on. If we do this, however, for all such variables, we shall have reduced our original sample of subjects appreciably: One group might contain

only medium-tall blue-eyed blondes, while another might contain only medium-tall brown-eyed blondes. Two such groups will obviously represent only a very small proportion of subjects from our target population and this very fact presents a major obstacle which can be stated in general terms: By creating initially homogenous experimental and control groups, a prerequisite of proper experimentation, conventional matching procedures set a lower limit on the initial population size, and depending on the number of dimensions that need be accounted for by matching, may place that very lower limit at an impractical and unwieldy level. A corollary of this proposition is that complex matching procedures may prove costly to the experimenter, not only in terms of sample shrinkage and subject availability, but as well, in terms of time, equipment, and sheer energy expended in the creation of the desired homogeneity.

An important theoretical, but realistic implication of the above discussion is, that the end product (a completely matched sample), may be quite unrepresentative of the initial target population; it would be fairly difficult to extrapolate results from medium-tall blue-eyed blondes to subjects in general. In short, it (the matching procedure) makes generalization from the final sample to the initial population somewhat dubious.

One striking advantage of the matched groups design, is that employing such homogenous or pure groups magnifies the ability of the design to detect very small influences of the intended experimental manipulation.

Matheson, Bruce, and Beauchamp (1970) list some advantages of the matched design:

Matching is efficient in controlling individual differences (that is, between groups variance)...A matching design is more sensitive to small experimental effects (for example, small differences in levels of the independent variable) than designs using random assignment. Difference scores (the difference between scores from matched subjects) are simple to analyze and interpret (p. 48).

It would seem that a procedure which reduces the costs of matching, yet which retains some sensitivity to small intended experimental manipulations, would be a valuable and desirable methodological tool. It is toward the goal of developing such a procedure, that this research was aimed.

Matching consists of selecting subjects for each experimental condition who are similar enough to one another, that for all intents and purposes, the summed conditions constitute one larger homogenous group save for the experimental differences we intend to create. Logically, if we choose subjects on the basis of similarity, the homogeneity criterion will be at least partly satisfied.

The interpersonal attraction literature abounds with studies involving person similarity: many common notions about interpersonal attraction, such as "birds of a feather flock together" are empirically

investigated; the implicit message in these "obviously intuitive" adages is that attraction varies with similarity. The literature in this area addresses itself to the complementary theory (the theory that opposites attract) as well, but support for this view is sparse and this review will deliberately ignore this area of the literature as the "similarity hypothesis" has received more attention and more experimental attention. Newcomb (1956) has suggested that similarity on a number of characteristics, predisposes individuals to be attracted to one another, and they will be attracted to the degree that those characteristics provide a basis for similarity. One of the propositions to which Newcomb addressed himself, was whether or not attitudinal similarity produces and predicts interpersonal attraction. To answer the question, Newcomb (1961) gave rent-free accomodation to transfer students at a dormitory at the University of Michigan in return for a specified number of hours of participation in social research. Students were not acquainted with one another previous to their sharing of accomodations and before arriving, each completed a variety of attitudinal, belief, and value surveys. The attraction patterns which developed throughout the school term were predictable near the end of the year (although not initially) on the basis of preacquaintance similarity.

Because of the absence of attraction before arrival at the school, one might infer that the students were attracted to one another as a consequence of their similarity: attitudinal similarity facillitated friendship

or long lasting attraction, but was not a good predictor of initial attraction. This, of course, does not nullify the converse, that attraction facilitates attitudinal similarity (I shall return to this proposition later). Newcomb attributed much of this relationship to the homogeneity with regard to age, sex and student status of his subjects. There was a reduction in the variability of the students' attitudes from what one might expect with a more variable or heterogeneous sample of subjects.

Byrne and his associates have devised a laboratory procedure for studying the relationship between similarity and attraction (Byrne, 1971). In this procedure, the subject fills out an attitudinal survey (see Appendix B). Some time later, the subject is asked to make judgments about a stranger, given only the stranger's responses to the same attitude survey (actually, there is no stranger; the responses are filled out by the experimenter and are made to be similar or dissimilar to the subject's responses). Attraction is measured by the subject's responses toward the bogus stranger on two items of an Interpersonal Judgement Scale (Byrne, 1966): items 5 and 6 (see Appendix A). On these items, the subject is requested to rate the bogus stranger in terms of likeability and desirability as a potential work partner. An attraction rating is obtained by summing the scores for the two items (each item consisted of a seven-point scale) yielding maximum and minimum scores of 14 and 2 respectively. Byrne (1971) has demonstrated many times,

that a significant relationship exists between attitudinal similarity and attraction, and further, that the level of attraction is proportional to the percentage of attitudinally similar statements made by the target individual.

Newcomb (1956) proposed that the importance of topics chosen for use would have a profound effect on the relationship between attitudinal similarity and attraction. As a result, he restricted his study to important topics only. Byrne and Nelson (1964, 1965) tested the issue of topic importance employing 4 separate fourteen-item questionnaires, ranging in order of topic importance from highest (belief in God, war, college education etc.) to lowest (gardening, tipping, etc.). No effect was found for differential topic importance.

A third study in the series (Byrne, London, and Griffitt, 1968) showed a significant effect for topic importance on attraction for the following situation: when a single stranger expresses attitudes on more than one level of topic importance then the different levels exert different influences on attraction; when a single stranger expresses attitudes on a single level of topic importance then the important and unimportant topics have the same effect. Clore and Baldridge (1968) replicated these latter results, employing measures of topic interest (as indicated by subjects beforehand) rather than topic importance. The Illinois Ratings of Interest (used by Clore and Baldridge) and the Texas Ratings of Importance (used by Byrne et al) were shown to correlate .80.

Byrne (1971) has cited test-retest reliability coefficients for some of the attitude items in the survey, ranging from .55 to .95 over a two week period. Griffitt and Nelson (1970) demonstrated that in the absence of additional information, the initial impressions formed by subject of strangers were relatively stable over short time periods (actual similarity between the subjects and bogus strangers correlated .83 with recalled similarity, measured a week later).

The attitudinal similarity-attraction relationship has been shown to be relatively stable and predictable and the relationship of topic importance to these other factors has been outlined but in order to extend these relationships, as found using the Byrne design, to real-life situations two further propositions must be supported: It must first be shown that other modes of presentation of attitudinal similarity share the same functional relationship with attraction that the paper-and-pencil survey of attitudes does: Second, it must be demonstrated that other more realistic measures of attraction are influenced in the same manner as ratings on the Interpersonal Judgement Scale (IJS). Byrne (1971) has referred to these modes of presentation and attraction measures as stimulus and response generality respectively. To study stimulus generality, Byrne and Clore (1966) examined the differential effects of attitudinal similarity-dissimilarity on attraction for three separate groups of subjects: The first group was presented with attitudinal information via the Survey of Attitudes (the usual format of presentation in the Byrne procedure); the second group received identical information

via audio tape; and the third group obtained the same information by viewing a colored movie with sound track. No differences were found between the attraction scores for the three modes of presentation.

The crucial extension of stimulus generality has come from studies involving face-to-face encounters; here the literature is not as clear-cut as one would wish. McWhirter and Jecker (1967) compared attitudes presented by a real stimulus person to those presented by a "paper-and-pencil stranger". Holding proportion of similar attitudes expressed constant no effect was found to be due to stimulus manipulation. The relationship between attitude similarity and attraction has been supported by others, also involved with face-to-face encounters (Byrne and Griffitt, 1966; Brewer and Brewer, 1968). Some investigators have reported similar findings, except that the positive effect on attraction due to attitudinal similarity was heightened when the stranger was present as opposed to absent: the relative differences between attraction for different levels of similarity was not altered only their absolute values changed (Griffitt and Guay, 1969; McDonald, 1962; and Wiener, 1969).

The Brewer and Brewer (1968) study deserves some expansion because of the important gap that it bridges between artificial and realistic modes of stimulus presentation. In that study subjects were selected on the basis of their attitudes toward capital punishment. Some felt

strongly in favour of capital punishment while others were strongly opposed to it. Subjects were then paired off half the subjects were similar to their partners while half were dissimilar. A twenty-minute discussion ensued for each of the dyads about the issue of capital punishment. At the end of the discussion period each subject rated the attractiveness of his discussion partner; a statistically significant correlation was obtained between similarity (vis a vis the specialized attitudinal scales employed in the study) and attraction ($r = .62$).

An additional series of studies was undertaken to investigate the effect of personal evaluations of subjects by others, as compared to attitudinal similarity (Aronson and Worchel, 1966; Byrne and Griffitt, 1966a). Aronson and Worchel used the standard "Byrne design" with the following exceptions: (a) the subject interacted with a stooge rather than with a bogus stranger; and (b) at the end of the interaction the confederate gave the subject written feedback as to how much the subject was liked by him. The personal evaluation of the subject was found to exert a significant influence on the subject's attraction ratings of the confederate while the attitudinal similarity variable seemed not to have any effect. Byrne and Griffitt later reported that the Aronson and Worchel study had restricted the range of attitudinal similarity too much, so by including other degrees of similarity besides those used by Aronson and Worchel they were able to extend the range for their own study. Within this context it was found that both variables (similarity and personal evaluation) exerted influence on the attraction measure and the personal

evaluation exerted approximately three times the effect that attitudinal similarity showed.

It is clear that various investigators have extended the relationship between attitudinal similarity and attraction to more realistic modes of presentation, namely face-to-face encounters. Further, personal evaluation of the subject by an "other" (expression of positive or negative feelings toward the subject) shows a profound influence on attraction.

In addition to the extension of the similarity-attraction relationship to other stimulus modes several studies indicate that the relationship also holds for populations other than college undergraduates: Children down to the fourth grade and adolescents (Byrne and Griffitt, 1966b); female clerical workers (Krauss, 1966); Jobs Corps trainees, surgical, alcoholic and schizophrenic hospital patients (Byrne, Griffitt, Hodgins, and Reeves, 1969); and senior citizens (Griffitt, Nelson, and Littlepage, 1972). The similarity-attraction relationship has also been shown not to be culturally bound, in a study involving Japanese, Indian, and Mexican students (Byrne, Gouaux, Griffitt, Lamberth, Murakawa, Prasad, Prasad, and Ramirez, 1971).

The other requisite condition mentioned earlier was that of response generality. If one could show that the similarity-attraction relationship manifested itself in realistic response modes, then it would seem reasonable to suggest that the relationship probably exists "out

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The other requisite condition mentioned earlier was that of response generality. If one could show that the similarity-attraction relationship manifested itself in realistic response modes, then it would seem reasonable to suggest that the relationship probably exists "out

in the real world".

The IJS, already described earlier, has been shown to correlate highly with other attraction response measures that deal with social interactions of varying degrees of closeness: A social distance scale (Schwartz, 1966); social choice in dating behavior for males (Moss, 1969); ratings of desirability, as a date, sexual partner, and spouse (Byrne, Ervin, and Lamberth, 1970); voluntary physical proximity (how close a subject would sit to a confederate posing as a fellow participant, following an attitude similarity-attraction experiment) (Byrne, Baskett, and Hodges, 1971; Byrne, Ervin, and Lamberth, 1970); visual contact (Efran, 1969); and voting choices where prospective candidates were represented as sharing similar or dissimilar attitudes with the subject (Byrne, Bond, and Diamond, 1969).

In summary to this point: It has been demonstrated that there is a very strong relationship between attitudinal similarity and attraction. From a knowledge of attitudinal similarity one can predict the extent of attraction. That this relationship is not restricted to topics of importance (except under certain specifiable conditions) has been supported, as well as the stability of this relationship over time. Further, investigators have provided evidence to suggest that the relationship holds for other intracultural populations as well as being borne out in cross-cultural studies. The relationship is not constrained to unique response modes, such as Byrne's IJS.

Returning for a moment to the initial task of this present research, to develop a matching procedure based on a "similarity of characteristics" approach, one should not be blind to the existence of the above relationship (the similarity-attraction relationship), but due to the correlational nature of the data, he should realize that inference about directionality of any casual relationships are consequently obscured. Does knowing something about the degree of attraction within a dyad allow us to infer something about attitudinal similarity? Within the framework of the Byrne paradigm, the answer would appear to be "Yes", just as the converse has already been shown to apply (Newcomb, 1961, for example).

Moss (1970) manipulated liking by creating bogus strangers' IJS responses; he then asked subjects to complete attitude surveys as they thought the strangers would have (the only information available to the subjects were the IJS's which the experimenter asked them to assume was filled out by them, about a stranger). The correlation between the liking response and the attitudinal similarity resembled that typically obtained in the usual Byrne procedure. These results were corroborated by other investigators (Byrne, 1971).

How does all this contribute to developing a "new and improved" matching procedure? I have already discussed the issue of homogeneity as a requisite condition for well matched groups; the key to an "inexpensive"

matching procedure would be the ability to select groups from the target population which already happen to be relatively homogenous. If, for example, we chose subjects at random and placed them into an experimental group and then recruited "close friends" of the subjects in the experimental group to act as the control group, we might obtain two groups which were well matched on at least certain dimensions. A most important consideration is whether or not the groups would be sufficiently similar to one another that for most purposes they could in fact constitute matched samples. Is it reasonable to assume that "friendship" produces enough similarity to satisfy this "sufficiency" condition? Friendship usually entails attraction (though one could undoubtedly think of exceptions to this rule) and on the basis of the evidence presented for the relationship between similarity and attraction (at least attitudinal similarity), one might infer a degree of similarity between friends with regard to their attitudes. Of course attitudes are not the sole interest coveted by psychologists, though undoubtedly they are a popular one, so we should like to show similar relationships between attraction and other variables as well.

The relationship between personality and interpersonal attraction has received considerable attention in the past; Berscheid and Walster (1969) had this to say about personality and attraction:

A few investigators, ...have found positive correlations between friends'

personality traits. Generally, however, positive correlations have not been obtained with the great regularity with which positive correlations between attitudinal similarity and attraction have been found. In addition, positive personality correlations are much lower than attitudinal correlations (p. 78).

Berscheid and Walster cite one example of a positive relationship between personality and friendship, as well as one example of little or no relationship between the two variables, and then seem to assume that the relationship is a weak one. Certainly there are inconsistencies in the literature: Banta and Hetherington (1963) and Izard (1960) have suggested that similarity of personality fosters attraction, while Hoffman (1958) and Hoffman and Maier (1966) found no relationship between personality and attraction. Several others support both camps, but as Byrne, Giffitt, and Stefaniak (1967) point out, none of the investigators takes into account the multidetermined nature of attraction responses, by controlling for other potentially contaminating factors (propinquity, physical attractiveness, attitude similarity-dissimilarity, etc.). As well, they feel that personality has been defined in too restrictive a manner; in Byrne's words (1971):

The situation, then, is one in which the effect of a very limited number of independent variables on attraction is determined in a context where n...l uncontrolled independent variables are operating. Only if the variable under

investigation were of sufficient strength to override all other independent variables or if a sufficient number of the other independent variables happened to covary with it or if the other variables were accidentally controlled through randomization would the hypothesized relationships be observed (p. 166-167).

Byrne, Griffitt, and Stefaniak (1967) investigated the relationship between personality and attraction in the usual Byrne procedure, except that instead of filling out the survey of attitudes, subjects were requested to complete a modified version of the Repression-Sensitization (R-S) scale (the R-S scale measures characteristic responding to anxiety-evoking stimuli) (Byrne, Barry, and Nelson, 1963; Byrne, 1964). A significant and linear relationship was found between personality similarity (as defined by the R-S scale) and attraction. These results are also supported by Byrne and Griffitt (1969).

Using the same kind of design other investigators have found a positive relationship between attraction and various other personality dimensions: self-concept (Griffitt, 1966; Griffitt, 1969); need for approval (Goldstein and Rosenfield, 1969; Nowicki, 1971); self-esteem (Hendrick and Page, 1970); extroversion (Hendrick and Brown, 1971), where introversion was not found to be significantly related to attraction); dominance-submissiveness (Palmer and Byrne, 1970); and internal-external control (Phares and Wilson, 1971).

One can only suggest that given the same experimental design and

more time, other personality dimensions besides these, might be shown to be related to attraction in like manner. Thus far, it has been shown that attraction is related to attitudinal similarity and to personality similarity (within the confines of the particular personality dimensions mentioned above), but personality and attitudes do not exhaust the major interests of psychological research (although they do constitute a major portion of the psychological literature).

Other non-attitudinal and non-personality similarities have demonstrated a relationship to attraction: intellectual similarity and similarity of abilities (Jones, 1929; Richardson, 1939; Zander and Havelin, 1960; Reed and Reed, 1965; London, 1967; Reagor and Clore, 1970); economic similarity, (Lundberg, 1937; Lundberg and Steele, 1938; Smith, Form, and Stone, 1954; Byrne, Clore, and Worchel, 1966); task performance (Senn, 1971; Zandler and Havelin, 1960); emotional states (Zimbardo and Forica, 1963); perceived social desirability (Berscheid and Walster, 1971; Moss, 1969); and physical attractiveness (Walster, Aronson, Abrahams, and Rottman, 1966; Byrne, London and Reeves, 1969; Berscheid and Walster, 1974).

The literature on interpersonal attraction is so extensive, that one hardly knows what variables to include and which to omit: a myriad of investigations seem to suggest a relationship between proximity and attraction, but one cannot know, for the most part, whether it is physical proximity per se or a host of other related variables which is

producing the observed effect (the problem here is much the same as that inherent in the earlier studies examining the relationship between personality and attraction).

The variables acknowledged and reported in this review seem to be those of interest to many psychologists and consequently are the ones for which sufficient evidence exists to justify their inclusion in the present research.

Certain variables have been suggested as covarying with attraction in more than just a weak fashion; others are reported as varying with attraction but the relationship would not appear to be as strong. Many of these variables are of continuing interest to psychologists in many different areas of research. If the resulting matching procedure proposed here is to be a useful one, it should incorporate similarity along several of those dimensions mentioned.

Friendship and attraction seem not to have been delineated in the literature; the unwritten assumption seems to have been that if someone is your friend, then you will like him, or at least be attracted to him (the latter proposition seems to be the safer of the two) in most circumstances. The present research did not explore the viability of this implicit assumption, but rather, employed it. The justification of the assertion, however, does to the author's knowledge lay in its "intuitive truth", not in empirical fact.

It was proposed that by selecting experimental and control subjects on the basis of friendship (to wit, attraction), groups would have been obtained which are sufficiently homogenous on several dimensions that they could be considered matched to a specifiable extent. It was the purpose of the present investigation to determine empirically which of several dimensions could be matched employing a friendship basis for the matching. Specifically, many different and varied items were examined for similarity by respondents paired on a friendship basis: The intention was to test the proposition that selection of subjects on the basis of friendship alone would yield adequately matched groups on a number of dimensions (attitudes and beliefs; values; self-concept; and other demographic dimensions), such that the matching procedure employed would satisfy the criterion of homogeneity in designs desiring a matching procedure.

METHOD

Subjects

Three hundred male and female subjects were selected initially from the Department of Psychology Subject Pool at the University of Manitoba. All subjects participated in Phase I of the study. Of these three hundred subjects, fifty-seven were selected on a cooperative basis, to participate in Phase II of the study, which entailed the recruitment of one friend each from outside the initial sample, for the purpose of additional study.

Apparatus

Assessing attitudes and beliefs: Attitudes were assessed employing a short form of the Survey of Attitudes (Byrne, 1971). The items which made reference to student activities were deleted from the questionnaire, as it was anticipated that some of the "recruited friends" might not be students (for these subjects, student oriented items would not be relevant). In all, 25 items from the Survey of Attitudes were administered, ranging in topic importance, from trivial to meaningful (from gardening and tipping to war and college education). Each item consisted of a single topic, followed by a six-point scale on which the subject was requested to rate each topic, either positively or negatively (see Appendix B).

Assessing self-concept: Subjects' favourableness of self-concept

was gauged by means of a Self-Concept Semantic Differential (Schwartz and Tangri, 1965). The survey consisted of 10 seven-point scales that load highly on what Osgood and Suci (1955) have called the Evaluative Factor; this factor purports to be indicative of such traits as sociability, goodness, kindness, selfishness and so on. For each concept, the subject was to indicate where on the accompanying scale he thought he belonged. One additional concept, physical attractiveness (see Appendix D), to yield a self-concept of body image.

Assessing values: A short set of personal value scales (Scott, 1965) was used to measure subjects' positions with regard to the following values: intellectualism, kindness, social skills, loyalty, academic achievement (Grades), physical development, status, honesty, religiousness, self-control, creativity (originality), and independence (see Appendix C for specific items). Each item was accompanied by a three-point scale, on which the subject was to indicate whether the particular value was: (a) something he always admired; (b) something he always disliked; or (c) something that depended on the situation.

The Interpersonal Judgement Scale: One of the groups (those subjects recruited by cooperative members of the initial sample) received the IJS (Byrne, 1971), already alluded to earlier. The purpose of this scale was to give the investigator a check on the nature of the relationship between subjects and their recruited friends. It was expected that subjects from Phase I would recruit friends of varying degrees of closeness so it

was necessary to administer the IJS to examine for differential effects due to the "closeness" factor.

Procedure

Phase I: The 300 subjects selected initially, met in group fashion in classrooms obtained from the University of Manitoba. Size of groups was dependent on the number of subjects available at scheduled sessions and varied between 15 and 45 per session. Several sessions were necessary in order to obtain data from the required number of subjects (N=300).

During each session, subjects were seated at individual desks where they completed the various questionnaires mentioned earlier in the apparatus section. The various survey packages were accompanied by general written instructions (see Appendix F) as well as by appropriate written instructions for each individual scale set. The only oral instructions were those involving the clarification of subject task.

From the initial 300 subjects participating in Phase I of the study, 175, chosen at random, received additional instructions to recruit "close friends" for participation in Phase II of the investigation (see Appendix G for recruiting instructions). Only 57 of the 175 subjects given recruiting instructions actually cooperated and recruited friends for participation in Phase II, in spite of the monetary incentive offered to those who did comply (\$2.00 was offered to those who recruited subjects; \$3.00 was offered to the subjects who were recruited for participation).

From the 243 subjects, who had completed Phase I but did not recruit additional subjects, 57 were chosen at random to act as a control group.

Phase II: In this phase of the study, the close friends of the 57 Phase I subjects who were given recruiting instructions, participated by completing the same scales as the "recruiters" and the controls, with the following exceptions: (a) no subject in this phase received recruiting instructions; and (b) in addition to the other scales, all subjects were required to complete the IJS (see Appendix H for instructions accompanying the IJS).

In summary, the three different conditions were as follows:

- (a) Group I (control subjects).....CONTROLS
- (b) Group II (subjects with recruiting instructions).....SUBJECTS
- (c) Group III (subjects recruited for additional study).....FRIENDS

Predictions

The following predictions were tested in the context of this design:

(a) On all measures (save the IJS), correspondence between responses for groups II and III (SUBJECTS and FRIENDS) would be significantly higher than correspondence between responses for groups I and II (SUBJECTS and CONTROLS).

(b) Varying degrees of closeness i.e., attraction as measured by the IJS would result in differential effects on similarity, as assessed by the various

scales employed: high-attraction pairs should show significantly more similarity than low-attraction pairs.

RESULTS

Data Preparation:

The data analysis for the present study involved coding and analyzing subjects' responses to three separate sets of scales and one demographic questionnaire as follows: (a) Survey of Attitudes (25 six-point scale items); (b) Self-Concept Semantic Differential (11 seven-point scale items); (c) Personal Value Scales (59 three-point scale items); and (d) Background Information (4 single-response items). This yielded a total of 99 items in toto.

The three sets of scales and the demographic survey were coded numerically, such that identical responses on any two response sheets for a particular item, would yield identical numerical values for that single item for both respondents of the pair being compared. Departures from same responses would result in numerical differences between the individuals' scores, increasing in magnitude as the disparity became larger.

Since this study was designed to investigate similarity of responses of various pairs of subjects, the numerical coding allowed for direct arithmetic manipulation of responses in making comparisons. Unipolar coding (the absence of negative numbers in coding, and the inclusion only of positive integers) was employed. The justification of this coding pro-

cedure lay in the belief that directionality of differences in responses was unimportant. Departures of equal magnitude but in opposing directions were treated identically: For example, if Person A receives a score of 2 and Person B a score of 5, this situation is treated the same as if Person B had received a score of 2, and Person A a score of 5. The reasoning applied here, was that both differences, though opposite in direction, displayed the same degree of similarity.

Subjects' individual response sheets were divided into three groups: (a) Group I - response sheets of those subjects who received recruiting instructions and who complied (N=57); (b) Group II - response sheets of friends of the Group I subjects and who were recruited by them (N=57); and (c) Group III - response sheets of the others randomly selected from the initial sample to act as a control group (N=57).

Response summary sheets were prepared from the coded data, in the following manner: For each item, two summary sheets were compiled (one sheet for group I vs. group II responses, and another for group I vs. group III responses). Each sheet contained 57 pairs of coded responses, the particular response pairs being dependent upon which group comparison had been made.

The data from the summary sheets described above were transferred to I.B.M. key-punch cards for analysis via the Pearson Product-Moment correlational program available as part of the S.P.S.S. statistical packages; a later analysis utilized the t-test programs available in the same statistical

package.

Analysis of data:

The particular analysis employed in this study, were designed to answer the following questions:

- (a) What degree of similarity exists between the responses of "subjects" and those of recruited "close friends" (group I vs. group II; this was the experimental condition)?
- (b) What degree of similarity exists between the responses of "subjects" and those of randomly matched "others" (group I vs. group III; this was the control condition)?
- (c) Does the degree of similarity of responses between "subjects" and "friends" differ significantly from the similarity of responses between "subjects" and randomly chosen "others"?
- (d) When response sheets are divided into two sub-groups on the basis of degree of attraction (high attraction pairs; $N=26$ vs. low attraction pairs; $N=31$), do the high attraction pairs exhibit a significantly greater degree of similarity of response than the low attraction pairs? It was important to use a method of analysis which aimed at answering these questions as directly as possible yet which retained as much information as possible. The first consideration was given to the simplicity

of the coding system employed. By computing difference scores for pairs of responses an elementary comparison based on these numerical differences would determine whether experimental and control conditions differed significantly from one another with regard to similarity of response (differences between the group I vs. group II similarity and the group I vs. group III similarity. A t-test for differences between sample means for dependent samples would be appropriate. In spite of the simplicity of this analysis, however, it was felt that a correlational analysis would produce the same basic comparison as well as yield information about the relative degrees of similarity of response for the various pair comparisons and for individual items. It was this last piece of information which might prove useful in determining the adequacy of a particular item for prospective matching purposes.

For each item two Pearson Product-Moment correlation coefficients were computed and recorded, one for the experimental condition (subject vs. friend pairs) and one for the control conditions (subject vs. random other pairs). In addition the group mean were analyzed for differences, and in fact, no significant differences were found.

To illustrate the significance of this analysis, consider the following example: Suppose that two groups of scores were perfectly correlated ($r = +1.00$) in a positive fashion, but that one group of scores is consistently lower than the other. For example:

$$X: 1, 2, 3, 4, 5 \quad \bar{X} = 3.00$$

$$Y: 5, 6, 7, 8, 9 \quad \bar{Y} = 7.00$$

In this example, the correlation coefficient is misleading because it does not detect and report the consistent trend of one array of scores to be lower than the other. As the X scores increase, the Y scores increase proportionately, but, the two arrays are clearly not identical. This difference between the two distributions of scores would, however, be reflected in the difference between the sample means. The mean comparison a high positive correlation between two groups of responses could only mean or signify a high degree of sameness of responses, and not just a high degree of correspondence or relationship between them. The above argument is of paramount importance since it was essential to the study to show that a high positive correlation between any two sets of responses could only be construed as being indicative of a high degree of similarity between the responses.

Correlational coefficients (r's) were computed for each item (there were two r's for each item: one for the experimental condition and one for the control condition) for a total of 97 items and 194 r's over 57 pairs of subjects. Table 1 shows the correlational coefficients, by item, for the 57 pairs of subjects in the experimental condition; each r is accompanied by the mean of the scores for the first member in each

pair ($\bar{X}$) as well as the mean of the scores for the second member of each pair ($\bar{Y}$); and the level of significance for the coefficient. Table 2 shows the same data for the control condition (subject vs. random other comparison).

It can be seen from Table 1, that 15 items reached significance at the .05 level or better: specifically, these were items 1, 9, 19, 20, 24, 30, 32, 33, 41, 73, 75, 81, 89, 96, and 97. In addition, many other items were significant at the .20 α level: Items 37, 56, 61, 72, (these items approach significance at the .05 level) and 10, 15, 34, 36, 45, 63, 65, 67, 74, 76, and 90. In all, then, 31% of the items were significant at the .20 level or better for the experimental condition.

In contrast, Table 2 shows that for the control condition, only 3 items were significant at the .05 α level (items 30, 53, and 61) and an additional 9 items were significant at the .20 level (items 11, 17, 38, 48, 65, 67, 74, 75, and 76. This yielded a total of 12% of the items significant at the .20 level or better for the control condition. Table 3 shows the percentage of items reaching significance at various levels of α ($p < .001$, .005, .01, .05, and .20) for each of the two comparisons tested (experimental and control).

Many items, for both the experimental and control conditions, had accompanying correlation coefficients which were significant at acceptable levels of α , but the r 's were negatively signed, which for

the purposes of this study, would not indicate a high degree of similarity. The intent of this study was to explore many items in the search for those which demonstrate a relationship between similarity of response, by pairs, and attraction—although a significant negative correlation between responses indicates a strong relationship between the responses, it should not be construed as indicative of similarity of response. For this reason, only positive correlations which reached the appropriate levels of significance, were in fact considered to be significant for the purposes of the present investigation. A later analysis, in part, dealt with negative correlations, and will be reported later in this section.

Interesting to note, was the fact that for the control condition, 53% of the items had negatively correlated responses (about what one would expect by chance), while in strong contrast, only 26% of the items in the experimental condition were accompanied by negative correlation coefficients. A Chi square analysis showed the difference in properly signed coefficients (across the two conditions) to be significant ($\chi^2 = 10.99$; $df = 1$; $p < .001$),

The significance shown by many correlation coefficients is important in demonstrating the relative strengths of the relationships between the responses of various pairs of subjects, but clearly, if for both the experimental and control comparisons a particular item yields a significant correlation, then the hypothesis concerning the similarity of response

as a function of attraction would still lack support. Table 14 lists item numbers followed by a brief description of the content of each item. In fact, for the items that proved to be significant at the .05 level or better, this was the case for only one item (item 30), which had significantly high r 's for both the experimental and control conditions.

Experimental versus control:

It was important to this study to demonstrate not just the degree or strength of the relationship between responses of the subject pairs in the experimental condition, but to show as well, the contrast between the degree of similarity in the experimental condition and the similarity in the control condition. It was to this end that the next analytic stage was carried out. By transforming the correlation coefficients to Fisher Z-scores, it was possible to compare the coefficients for the experimental condition to those for the control condition, in order to determine whether they differed significantly from one another. Table 4 presents the Z-values for each item, along with their appropriate levels of significance. A positive Z indicates that the r for the experimental condition evidenced a greater degree of similarity of response than the r for the control comparison for a particular item. From Table 4, it can be seen that 12 items met the usual criterion of significance ($p \leq .05$), as well as the criterion of proper sign (in this case positive). Table 5 shows the percentage of items which reached significance at various levels, up to a maximum level

of probability of .20; 36%, or more than one-third of the items reached significance at this maximum level.

Interestingly enough, of the 97 items analyzed in this fashion, 64, or two-thirds of them had a positive sign affixed to the Z-values for the corresponding correlational coefficients. Since the formula for Z is:

$$Z = \frac{z_1 r_1 - z_2 r_2}{\sqrt{\frac{1}{(n_1-3)} + \frac{1}{(n_2-3)}}}$$

a positive Z-value can result from only the following four situations:

- (a) experimental group has positive r_1 ; control group has smaller positive r_2 .
- (b) experimental group has positive r_1 ; control group has smaller negative r_2 .
- (c) experimental group has positive r_1 ; control group has larger negative r_2 .
- (d) experimental group has negative r_1 ; control group has larger negative r_2 .

All of the above situations (if examined closely) are supportive of the assertion that a positive Z-score is indicative of a higher degree of similarity of response for the experimental condition than for the control condition.

It can thus be asserted that for 66% of the items, the correlational coefficients (with positive Z-values corresponding to the appropriate pair difference) were indicative of greater similarity for the experimental com-

parison than for the control comparison. A Chi square analysis shows this difference to be significant ($\chi^2 = 9.10$; $df=1$; $p < .01$).

From N=57 to N=26:

In anticipation of some difficulties with regard to the interpretation of the recruiting instructions by subjects, "friends" who were recruited were administered, in addition to the scales already described earlier and filled out by all subjects, a scale designed to measure the degree or strength of friendship between subjects and their corresponding recruited friends (the IJS). On the basis of this scale the 57 pairs of "subjects" and "friends" were further subdivided into two groups one of which was used for additional analysis as it displayed the greater degree of attraction between pairs ($n=26$ for this sub-group).

Pearson Product-Moment correlation coefficients were recomputed on the basis of these 26 sub-group scores in the hope that an increase in the treatment effect would be observed indicating that as attraction increases, so does the degree of similarity of response between pairs for the experimental condition. The drastic reduction in sample size, however, also raised the levels at which the obtained correlation coefficients could be deemed significant. With the new sample size ($N=26$), the results were not greatly deviant from the original sample size ($N=57$). Table 7 shows the correlation coefficients, by item, for the control condition, again accompanied by the means of the two groups being compared ($\bar{X}$ and $\bar{Y}$ respectively)

and the corresponding levels of significance. From Table 7, it can be seen that 4 items reached significance at the .05 level of (items 11, 38, 48, and 49), while an additional 9 items attained significance at the .20 probability level (items 17, 56, 59, 61, 65, 70, 74, 75, and 76). This yielded a total of 13% of the items significant at the .20 level or better, for the control condition.

In contrast to the above results, it was found that 8 items were significant at the .05 level of probability for the experimental condition (see Table 6): These were items 1, 4, 9, 22, 32, 74, 75, and 97). In addition, 18 items reached significance at the .20 level (items 7, 8, 10, 15, 20, 23, 33, 56, 64, 65, 71, 73, 77, 81, 85, 89, 90, and 96). Thus a total of 27% of the items in the experimental condition were significant at the .20 level or better over 26 pairs, which is indicative of some relationships between attraction and similarity of response.

More about the control condition and the sample reduction:

One essential feature of the present design, was the creation of a control condition ("subject" vs. "random other") to which one could compare the "subject" vs. "friend" responses. Such a control comparison was included in order to obtain some base-line expectancies for item significance, over which any deviation by the experimental condition, could be measured.

Table 8 contrasts the two sub-groups (N=57 vs. N=26) for each

condition comparison (experimental; subjects vs. friends and control; subjects vs. random others), in terms of the number of items obtained with correlation coefficients that were significant at various levels of probability. From looking at Table 8, an increase in the effect of attraction due to a decrease in sample size (done in a systematic fashion based upon attraction ratings on the IJS) is not apparent: any anticipated effect due to this manipulation may have been overshadowed by a number of things (increase in sampling error etc.), but by averaging the results of the two sample sizes the experimental and control conditions can be compared directly via χ^2 . Tables 9 and 10 illustrate the data matrices containing the number of significant and non-significant items for both the experimental and control comparisons over two levels of significance ($p < .05$; and $p < .20$) that were used to compute χ^2 values.

From Table 9, it was found that there was a significant difference in the number of items significant at the .05 level between the experimental and control conditions ($\chi^2 = 3.54$; $df=1$; $p < .05$). From Table 10, it was found that the difference in the number of significant items at the .20 level between the experimental and control conditions, was even more prominent ($\chi^2 = 6.56$; $df=1$; $p < .01$).

Table 11 lists the Z-values for differences between the experimental and control condition correlational coefficients, over 26

pairs of subjects, as well as the levels of significance obtained by the coefficients. From Table 11, it can be seen that 15 or 16% of the items had Z-scores with positive signs, indicating that the r 's for the experimental comparison was illustrative of a greater degree of similarity of response between subjects than the r 's for the control condition. A Chi square analysis showed this difference to be significant ($\chi^2 = 4.21$; $df=1$; $p < .05$).

To confirm the above results, a different analytic tool involving difference scores was employed. Table 12 summarizes the items with t-values for differences between the means of experimental and control conditions that reached significance at the .25 level of probability or less over 57 pairs of subjects; the level of significance attained is also listed for each item. Only items with negative t-values are listed since a positive t-score would indicate that the differences between the responses for the experimental comparisons were larger than the differences between the pairs for the control condition.

From Table 12, it can be seen that 14% of the items were significant at the .05 level of probability or less, while 35% of the items (more than one-third) reached significance at the .25 level. In addition, of the 92 items examined, 68% were affixed with the proped sign (negative in this case), implying a greater degree of similarity of response for experimental pairs than for control pairs. A χ^2 analysis

shows this number of properly signed items to be significant ($\chi^2 = 11.84$; $df=1$; $p < .01$).

This analysis was repeated for the sub-group of 26 pairs of "high-attraction" subjects (see Table 13). From Table 13, it can be seen that over 14% of the items had t-values that were significant at the .05 level of probability or less, while 43% had t-values that were significant at the .25 level of α . In this analysis, 59 items were properly signed (negatively signed). A χ^2 analysis showed this number of items with properly signed t-scores to be significant ($\chi^2 = 6.79$; $df=1$; $p < .01$).

DISCUSSION

The intention of the sample size reduction on the basis of attraction, from $N=57$ to $N=26$, was to attempt to control for any misunderstandings that subjects may have had about their recruiting instructions. Although subjects were asked to recruit "close friends" for Phase II of the study, it was anticipated that some might not comply (especially in view of a monetary incentive offered for compliance). To counteract such an occurrence the IJS was administered to the recruited subjects to gauge the relationship between them and the subjects who had recruited them in the hopes that the high-attraction pairs could be detected and subjected to a closer and more controlled analysis. From the results of such an analysis (involving 26 pairs) it would appear that the reanalysis based on high-attraction vs. low-attraction did not differ substantially from the initial analysis involving 57 subject pairs. It should be noted, however, that two major complications arose: First, the critical values of the correlation coefficients were raised in the process of reducing the samples from 57 pairs to 26 pairs, making it more difficult for the items to attain significance. Second, as N was decreased, no doubt sampling error increased, obscuring any increase in experimental effect due to the statistical manipulation. These two disadvantages may have outweighed any advantage accruing to the degree of similarity of response by the ad hoc manipulation of sample size.

In spite of the difficulties mentioned above, it is interesting to note that of the 30 items which were accompanied by correlation coefficients that were significant at the .20 level of probability or less when analyzed over 57 pairs, 17 or 57% of them were also significant at the .20 level when analyzed over 26 pairs. Thus, the initial analysis was at least substantiated by the later sub-group analysis, strengthening the conviction that those items which did appear to be significantly related to similarity of response were not just spuriously so.

Of great interest to the present endeavor (due to its exploratory nature) was the determination of which items appeared to be particularly useful in differentiating between similarity and non-similarity of response by high and low attraction pairs. From the Survey of Attitudes the topics which displayed the most significant relation to attraction were College Education, Dating, Sports, Smoking, Red China, and the U. N., War, Pre-Marital Sex, and Western Movies. According to Byrne's work, it was anticipated that topic importance would affect the relationship between similarity of response and degree of attraction (Byrne, London, and Griffitt, 1968) if individuals were able to view differing degrees of topic importance, in combination, which was, in fact, the case for the sub-set of topics chosen from the Survey of Attitudes for this investigation. Here it appeared that greater similarity corresponded with

topic importance.

From the Self-Concept Semantic Differential the items that showed significant coefficients of correlation between responses were Selfishness, Friendliness, Squareness, Kindness, and Physical Attraction.

The values which showed significance, from the Personal Value Scales employed, were Creativity, Kindness, Academic Achievement (Grades), Social Skills, Independence, Intellectualism, Self-Control, Status, and Group Loyalty.

From the Background Information Survey the most significant items (and these items were highly significant) were Age and Sex.

It is difficult to speculate why these items were significant in showing high degrees of similarity of response for the experimental condition (subject vs. close friend) and not for the control condition (subject vs. random other), while several other items were not, but because of the exploratory nature of this investigation, the objectives were clearly to examine a great number of different items many of which have been used by other investigators for quite different purposes; If some of these items could be singled out as important indicators of degree of attraction by way of their demonstrating significant

degrees of similarity of response between subjects and their friends, over and above any similarity exhibited by random pairs of responses, then these items could be referred to for future use by other investigators for the purpose of matching subjects on the basis of similarity. The scales employed in this study were relatively narrow in scope, but at the very least, they were ones that have been used in other psychological investigations and thus may prove useful to psychologists in this new light.

In part, the items which did appear to be significant may reflect some of the values that students of the 70's embrace as important with regard to their social relationships with others. It was probably no accident that certain topics (for example Kindness and Academic Achievement) were significant in more than one instance though each appeared only once on any particular set of scales.

Although these results appear to be important, one might expect greater differences between experimental and control conditions. One question that must be addressed, is why more and greater differences were not found between experimental and control conditions? One practical explanation is based on the extremely homogenous nature of the samples studied. The range of ages of subjects was 17 years to 24 years, with the exception of only one subject (age 42 years). Most of the subjects were single (93% of them), and all were enrolled in some faculty at the University of Manitoba (56% of the subjects were enrolled

in Arts and Science, while the remainder was split amongst various other faculties). The bulk of the subjects participated in the study as partial fulfillment of course requirements in the Department of Psychology. All this means that even the randomly matched control condition may have been partially matched at least with respect to some of the dimensions mentioned above resulting in stronger correlations between responses than one might have expected under more heterogeneous conditions. Thus, the gap of dissimilarity of responses that one would expect between the experimental and control comparisons may have been partially closed by the homogeneity of the subjects.

One strong advantage accrued to the investigation as a result of the degree of homogeneity displayed by the samples: any significant differences found between the experimental and control conditions were probably underestimated, and given a more heterogeneous sample, would likely become even more prominent than shown here. These expectations are not unlike those proposed by Newcomb (1961) when he studied such an homogeneous group at Michigan.

The significance of this study lies in its usefulness in having found a number of items which appear to significantly differentiate between high-attraction pairs (experimental condition) and low attraction pairs (control condition) as well as show the relative degrees of similarity between pairs of responses for any particular item (shown by the correlation coefficients).

Earlier, it was stated that if one could show a high degree of similarity between the responses of high attraction dyads with respect to several items then one would have evidence that under certain specifiable conditions (involving the use of particular items) some of the drawbacks of conventional matching procedures could be overcome: If subjects could be matched on the basis of attraction (friendship), a corresponding and "sufficient" degree of similarity might result such that subjects and their "friends" might constitute match samples.

The present study has shown that with respect to certain items, subjects and their friends do show a high degree of similarity of response relative to randomly paired subjects. Some of the weaknesses of the design employed here, as well as of the samples used have already been alluded to, but certain highlights can not be overemphasized. In spite of the lack of heterogeneity, the problems with sampling error (due to the sample size reduction) and the resulting high critical levels needed for statistical significance, many items still displayed a high degree of similarity of response as related to attraction. This relationship is further embossed by the complexity of variables present and possibly contributing to the effects under investigation due to the relative lack of variable control that accompanies any study performed outside the "safety" of the laboratory.

This study is partially supportive of other investigations that

demonstrated a relationship between person-similarity and attraction, but is intended to suggest a further extension of that relationship to experimental design. Certainly, this study has shown that with respect to the scale items employed here, the idea of matching on the basis of friendship seems plausible, but at present it must remain a "pilot" investigation. The next stages of investigation should include the use of more heterogenous samples as well as many other items of importance to psychological investigations. Eventually, a more complete picture of the diversity of topics that demonstrate a similar relationship with attraction may be possible, but only further studies employing many other kinds of topics and items will be fruitful in the determination of just how feasible the "match on the basis of friendship" concept is.

The general aim of this study, was to uncover the specifiable conditions under which the procedure of matching on the basis of attraction is a feasible technique. One should not overlook the fact that many different researchers would be interested in varied and numerous dimensions. To state that the matching procedure proposed in this paper is a useful one, without regard to the specific intentions of a particular investigation, would be ignoring the results of the study: certain dimensions appear to be significantly related to the similarity-attraction hypothesis while others do not appear to be so related.

Certain judgements must be made by the potential user of this

matching procedures: He will have to decide whether or not a particular item bears sufficient relation to the similarity-attraction hypothesis, to warrant matching on that item by the procedure proposed here. I have reported the degree of relation according to the specific analysis employed here, but the final judgement must be made by the researcher, since as the consumer, he will know best what degree of matching will satisfy his purposes, and weigh its "sufficiency" against the cost reduction by implementation of such a procedure as opposed to a more conventional matching technique.

APPENDICES

Name of the person who recruited you: _____

Your name: _____

1. Intelligence (check one)

- ☐ I believe that this person is very much above average in intelligence.
- ☐ I believe that this person is above average in intelligence.
- ☐ I believe that this person is slightly above average in intelligence.
- ☐ I believe that this person is average in intelligence.
- ☐ I believe that this person is slightly below average in intelligence.
- ☐ I believe that this person is below average in intelligence.
- ☐ I believe that this person is very much below average in intelligence.

2. Knowledge of Current Events (check one)

- ☐ I believe that this person is very much below average in his (her) knowledge of current events.
- ☐ I believe that this person is below average in his (her) knowledge of current events.
- ☐ I believe that this person is slightly below average in his (her) knowledge of current events.
- ☐ I believe that this person is average in his (her) knowledge of current events.
- ☐ I believe that this person is slightly above average in his (her) knowledge of current events.
- ☐ I believe that this person is above average in his (her) knowledge of current events.
- ☐ I believe that this person is very much above average in his (her) knowledge of current events.

3. Morality (check one)

- ☐ This person impresses me as being extremely moral.
- ☐ This person impresses me as being moral.
- ☐ This person impresses me as being moral to a slight degree.
- ☐ This person impresses me as being neither particularly moral nor particularly immoral.
- ☐ This person impresses me as being immoral to a slight degree.
- ☐ This person impresses me as being immoral.
- ☐ This person impresses me as being extremely immoral.

4. Adjustment (check one)

- ☐ I believe that this person is extremely maladjusted.
- ☐ I believe that this person is maladjusted.
- ☐ I believe that this person is maladjusted to a slight degree.
- ☐ I believe that this person is neither particularly maladjusted nor particularly well adjusted.
- ☐ I believe that this person is well adjusted to a slight degree.
- ☐ I believe that this person is well adjusted.
- ☐ I believe that this person is extremely well adjusted.

Interpersonal Judgement Scale (continued)

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5. Personal Feelings (check one)

- ☐ I like this person very much.
- ☐ I like this person.
- ☐ I like this person to a slight degree.
- ☐ I neither particularly like nor particularly dislike this person.
- ☐ I dislike this person to a slight degree.
- ☐ I dislike this person.
- ☐ I dislike this person very much.

6. Working Together In An Experiment (check one)

- ☐ I would very much dislike working with this person in an experiment.
- ☐ I would dislike working with this person in an experiment.
- ☐ I would dislike working with this person in an experiment to a slight degree.
- ☐ I would neither particularly dislike nor particularly enjoy working with this person in an experiment.
- ☐ I would enjoy working with this person in an experiment to a slight degree.
- ☐ I would enjoy working with this person in an experiment.
- ☐ I would very much enjoy working with this person in an experiment.

Name: _____ Date: _____

1. Western Movies and Television Programs (check one)

- ☐ I enjoy western movies and television programs very much.
- ☐ I enjoy western movies and television programs.
- ☐ I enjoy western movies and television programs to a slight degree.
- ☐ I dislike western movies and television programs to a slight degree.
- ☐ I dislike western movies and television programs.
- ☐ I dislike western movies and television programs very much.

2. Situation Comedies (check one)

- ☐ I dislike situation comedies very much.
- ☐ I dislike situation comedies.
- ☐ I dislike situation comedies to a slight degree.
- ☐ I enjoy situation comedies to a slight degree.
- ☐ I enjoy situation comedies.
- ☐ I enjoy situation comedies very much.

3. Belife in God (check one)

- ☐ I strongly believe that there is a God.
- ☐ I believe that there is a God.
- ☐ I feel that perhaps there is a God.
- ☐ I feel that perhaps there is no God.
- ☐ I believe that there is no God.
- ☐ I strongly believe that there is no God.

4. Smoking (check one)

- ☐ In general, I am very much in favour of smoking.
- ☐ In general, I am in favour of smoking.
- ☐ In general, I am mildly in favour of smoking.
- ☐ In general, I am mildly against smoking.
- ☐ In general, I am against smoking.
- ☐ In general, I am very much against smoking.

5. Comedians Who Use Satire (check one)

- ☐ I very much enjoy comedians who use satire.
- ☐ I enjoy comedians who use satire.
- ☐ I mildly enjoy comedians who use satire.
- ☐ I mildly dislike comedians who use satire.
- ☐ I dislike comedians who use satire.
- ☐ I very much dislike comedians who use satire.

6. Acting On Impulse vs. Careful Consideration of Alternatives (check one)

- ☐ I feel that it is better if people always act on impulse.
- ☐ I feel that it is better if people usually act on impulse.
- ☐ I feel that it is better if people often act on impulse.
- ☐ I feel that it is better if people often engage in careful consideration of alternative .
- ☐ I feel that it is better if people usually engage in careful consideration of alternative
- ☐ I feel that it is better if people always engage in careful consideration of alternative

7. Birth Control (check one)

- ☐ I am very much in favour of most birth control techniques.
- ☐ I am in favour of most birth control techniques.
- ☐ I am mildly in favour of most birth control techniques.
- ☐ I am mildly opposed to most birth control techniques.
- ☐ I am opposed to most birth control techniques.
- ☐ I am very much opposed to most birth control techniques.

8. Classical Music (check one)

- ☐ I dislike classical music very much.
- ☐ I dislike classical music.
- ☐ I dislike classical music to a slight degree.
- ☐ I enjoy classical music to a slight degree.
- ☐ I enjoy classical music.
- ☐ I enjoy classical music very much.

9. Sports (check one)

- ☐ I enjoy sports very much.
- ☐ I enjoy sports.
- ☐ I enjoy sports to a slight degree.
- ☐ I dislike sports to a slight degree.
- ☐ I dislike sports.
- ☐ I dislike sports very much.

10. Premarital Sex Relations (check one)

- ☐ In general, I am very much opposed to premarital sex relations.
- ☐ In general, I am opposed to premarital sex relations.
- ☐ In general, I am mildly opposed to premarital sex relations.
- ☐ In general, I am mildly in favour of premarital sex relations.
- ☐ In general, I am in favour of premarital sex relations.
- ☐ In general, I am very much in favour of premarital sex relations.

11. Science Fiction (check one)

- ☐ I enjoy science fiction very much.
- ☐ I enjoy science fiction.
- ☐ I enjoy science fiction to a slight degree.
- ☐ I dislike science fiction to a slight degree.
- ☐ I dislike science fiction.
- ☐ I dislike science fiction very much.

12. Money (check one)

- ☐ I strongly believe that money is not one of the most important goals in life.
- ☐ I believe that money is not one of the most important goals in life.
- ☐ I feel that perhaps money is not one of the most important goals in life.
- ☐ I feel that perhaps money is one of the most important goals in life.
- ☐ I believe that money is one of the most important goals in life.
- ☐ I strongly believe that money is one of the most important goals in life.

13. Group Opinion (check one)

- ☐ I feel that people should always ignore group opinion if they disagree with it.
- ☐ I feel that people should usually ignore group opinion if they disagree with it.
- ☐ I feel that people should often ignore group opinion if they disagree with it.
- ☐ I feel that people should often go along with group opinion even if they disagree with it.
- ☐ I feel that people should usually go along with group opinion even if they disagree with it.
- ☐ I feel that people should always go along with group opinion even if they disagree with it.

14. One True Religion (check one)

- ☐ I strongly believe that my church represents the one true religion.
- ☐ I believe that my church represents the one true religion.
- ☐ I feel that probably my church represents the one true religion.
- ☐ I feel that probably no church represents the one true religion.
- ☐ I believe that no church represents the one true religion.
- ☐ I strongly believe that no church represents the one true religion.

15. Musical Comedies (check one)

- ☐ I dislike musical comedies very much.
- ☐ I dislike musical comedies.
- ☐ I dislike musical comedies to a slight degree.
- ☐ I enjoy musical comedies to a slight degree.
- ☐ I enjoy musical comedies.
- ☐ I enjoy musical comedies very much.

16. Preparedness for War (check one)

- ☐ I strongly believe that preparedness for war will not tend to precipitate war.
- ☐ I believe that preparedness for war will not tend to precipitate war.
- ☐ I feel that perhaps preparedness for war will not tend to precipitate war.
- ☐ I feel that perhaps preparedness for war will tend to precipitate war.
- ☐ I believe that preparedness for war will tend to precipitate war.
- ☐ I strongly believe that preparedness for war will tend to precipitate war.

17. Welfare Legislation (check one)

- ☐ I am very much opposed to increased welfare legislation.
- ☐ I am opposed to increased welfare legislation.
- ☐ I am mildly opposed to increased welfare legislation.
- ☐ I am mildly in favour of increased welfare legislation.
- ☐ I am in favour of increased welfare legislation.
- ☐ I am very much in favour of increased welfare legislation.

18. Creative Work (check one)

- ☐ I enjoy doing creative work very much.
☐ I enjoy doing creative work.
☐ I enjoy doing creative work to a slight degree.
☐ I dislike doing creative work to a slight degree.
☐ I dislike doing creative work.
☐ I dislike doing creative work very much.

19. Dating (check one)

- ☐ I strongly believe that girls should be allowed to date before they are in high school.
☐ I believe that girls should be allowed to date before they are in high school.
☐ I believe that perhaps girls should be allowed to date before they are in high school.
☐ I feel that perhaps girls should not be allowed to date before they are in high school.
☐ I believe that girls should not be allowed to date before they are in high school.
☐ I strongly believe that girls should not be allowed to date before they are in high school.

20. Red China and the U. N. (check one)

- ☐ I strongly believe that Red China should not be admitted to the U. N.
☐ I believe that Red China should not be admitted to the U. N.
☐ I feel that perhaps Red China should not be admitted to the U. N.
☐ I feel that perhaps Red China should be admitted to the U. N.
☐ I believe that Red China should be admitted to the U. N.
☐ I strongly believe that Red China should be admitted to the U. N.

21. Novels (check one)

- ☐ I dislike reading novels very much.
☐ I dislike reading novels.
☐ I dislike reading novels to a slight degree.
☐ I enjoy reading novels to a slight degree.
☐ I enjoy reading novels.
☐ I enjoy reading novels very much.

22. War (check one)

- ☐ I strongly feel that war is sometimes necessary to solve world problems.
☐ I feel that war is sometimes necessary to solve world problems.
☐ I feel that perhaps war is sometimes necessary to solve world problems.
☐ I feel that perhaps war is never necessary to solve world problems.
☐ I feel that war is never necessary to solve world problems.
☐ I strongly feel that war is never necessary to solve world problems.

23. Tipping (check one)

- ☐ I am very much opposed to the custom of tipping.
- ☐ I am opposed to the custom of tipping.
- ☐ I am mildly opposed to the custom of tipping.
- ☐ I am mildly in favour of the custom of tipping.
- ☐ I am in favour of the custom of tipping.
- ☐ I am very much in favour of the custom of tipping.

24. College Education (check one)

- ☐ I strongly believe it is very important for a person to have a college education in order to be successful.
- ☐ I believe it is very important for a person to have a college education in order to be successful.
- ☐ I believe that perhaps it is very important for a person to have a college education in order to be successful.
- ☐ I believe that perhaps it is not very important for a person to have a college education in order to be successful.
- ☐ I believe that it is not very important for a person to have a college education in order to be successful.
- ☐ I strongly believe that it is not very important for a person to have a college education in order to be successful.

25. Divorce (check one)

- ☐ I am very much opposed to divorce.
- ☐ I am opposed to divorce.
- ☐ I am mildly opposed to divorce.
- ☐ I am mildly in favour of divorce.
- ☐ I am in favour of divorce.
- ☐ I am very much in favour of divorce.

Instructions

Please read over the following statements, and for each one indicate (by a check in the appropriate space) whether it is something you always admire in other people, or something you always dislike, or something that depends on the situation whether you admire it or not.

Examples:

- | | <u>Always
Admire</u> | <u>Depends on
Situation</u> | <u>Always
Dislike</u> | |
|----|--------------------------|---------------------------------|---------------------------|---|
| 1. | _____ | _____ | _____ | Having a strong intellectual curiosity, |
| 2. | _____ | _____ | _____ | Creating beautiful things for the enjoyment
of other people. |

Intellectualism

- | | <u>Always
Admire</u> | <u>Depends on
Situation</u> | <u>Always
Dislike</u> | |
|----|--------------------------|---------------------------------|---------------------------|--|
| 1. | _____ | _____ | _____ | Having a keen interest in international,
national, and local affairs. |
| 2. | _____ | _____ | _____ | Having a strong intellectual curiosity. |
| 3. | _____ | _____ | _____ | Developing an appreciation of the fine arts -
music, drama, literature, and ballet. |
| 4. | _____ | _____ | _____ | Having an active interest in all things scholarly. |
| 5. | _____ | _____ | _____ | Being an intellectual. |

Kindness

	<u>Always Admire</u>	<u>Depends on Situation</u>	<u>Always Dislike</u>	
1.	_____	_____	_____	Being kind to people, even if they do things contrary to one's beliefs.
2.	_____	_____	_____	Helping another person feel more secure, even if one doesn't like him.
3.	_____	_____	_____	Helping another achieve his own goals, even if it might interfere with your own.
4.	_____	_____	_____	Turning the other cheek, and forgiving others when they harm you.

Social Skills

	<u>Always Admire</u>	<u>Depends on Situation</u>	<u>Always Dislike</u>	
1.	_____	_____	_____	Being well mannered and behaving properly in social situations.
2.	_____	_____	_____	Dressing and acting in a way that is appropriate to the occasion.
3.	_____	_____	_____	Being able to get people to cooperate with one
4.	_____	_____	_____	Being poised, gracious, and charming under all circumstances.
5.	_____	_____	_____	Being able to get along with all kinds of people, whether or not they are worthwhile.
6.	_____	_____	_____	Being the person in the group who is the most popular with the opposite sex.

	<u>Always Admire</u>	<u>Depends on Situation</u>	<u>Always Dislike</u>	
1.	_____	_____	_____	Defending the honor of one's group whenever it is unfairly criticized.
2.	_____	_____	_____	Working hard to improve the prestige and status of one's groups.
3.	_____	_____	_____	Helping organize group activities.
4.	_____	_____	_____	Treating an attack on one's group like an attack on oneself.
5.	_____	_____	_____	Concealing from outsiders most of one's dislikes and disagreements with fellow members of the group.
6.	_____	_____	_____	Doing all one can to build up the prestige of the group.

Academic Achievement (Grades)

	<u>Always Admire</u>	<u>Depends on Situation</u>	<u>Always Dislike</u>	
1.	_____	_____	_____	Studying hard to get good grades in school.
2.	_____	_____	_____	Working hard to achieve academic honors.
3.	_____	_____	_____	Striving to get the top grade-point average in the group.
4.	_____	_____	_____	Studying constantly in order to become a well educated person.

Physical Development

	<u>Always Admire</u>	<u>Depends on Situation</u>	<u>Always Dislike</u>	
1.	_____	_____	_____	Being graceful and well coordinated in physical movement.
2.	_____	_____	_____	Taking good care of one's physical self, so that one is always healthy.
3.	_____	_____	_____	Being good in some form of sport.
4.	_____	_____	_____	Developing physical strength & agility.

Status

	<u>Always Admire</u>	<u>Depends on Situation</u>	<u>Always Dislike</u>	
1.	_____	_____	_____	Being respected by people who are themselves worthwhile.
2.	_____	_____	_____	Gaining recognition for one's achievements.
3.	_____	_____	_____	Being in a position to direct and mold others' lives.
4.	_____	_____	_____	Having the ability to lead others.
5.	_____	_____	_____	Showing great leadership qualities.

Honesty

	<u>Always Admire</u>	<u>Depends on Situation</u>	<u>Always Dislike</u>	
1.	_____	_____	_____	Never cheating or having anything to do with cheating situations, even for a friend.
2.	_____	_____	_____	Always telling the truth, even though it may hurt oneself or others.
3.	_____	_____	_____	Never telling a lie, even though to do so would make the situation more comfortable.
4.	_____	_____	_____	Helping a close friend get by a tight situation even though one may have to stretch the truth a bit to do it.

Religiousness

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	<u>Always Admire</u>	<u>Depends on Situation</u>	<u>Always Dislike</u>	
1.	_____	_____	_____	Being devout in one's religious faith.
2.	_____	_____	_____	Always living one's religion in his daily life.
3.	_____	_____	_____	Always attending religious services regularly and faithfully.
4.	_____	_____	_____	Avoiding the physical pleasures that are prohibited in the Bible.
5.	_____	_____	_____	Encouraging others to attend services and lead religious lives.

Self-Control

	<u>Always Admire</u>	<u>Depends on Situation</u>	<u>Always Dislike</u>	
1.	_____	_____	_____	Practicing self-control.
2.	_____	_____	_____	Replying to anger with gentleness.
3.	_____	_____	_____	Never losing one's temper, no matter what the reason.
4.	_____	_____	_____	Not expressing anger, even when one has a reason for doing so.
5.	_____	_____	_____	Always being patient with people.

Creativity (Originality)

	<u>Always Admire</u>	<u>Depends on Situation</u>	<u>Always Dislike</u>	
1.	_____	_____	_____	Being able to create beautiful and artistic objects.
2.	_____	_____	_____	Developing new and different ways of doing things.

(Continued on next page)

Creativity (Originality) - Continued

	<u>Always Admire</u>	<u>Depends on Situation</u>	<u>Always Dislike</u>	
3.	_____	_____	_____	Constantly developing new ways of approaching life.
4.	_____	_____	_____	Inventing gadgets for the fun of it.
5.	_____	_____	_____	Creating beautiful things for the enjoyment of other people.
6.	_____	_____	_____	Devoting one's entire energy to the development of new theories.

Independence

	<u>Always Admire</u>	<u>Depends on Situation</u>	<u>Always Dislike</u>	
1.	_____	_____	_____	Being outspoken and frank in expressing one's likes and dislikes.
2.	_____	_____	_____	Thinking and acting freely, without social restraints.
3.	_____	_____	_____	Being independent, original, non-conformist, different from other people.
4.	_____	_____	_____	Conforming to the requirements of any situation and doing what is expected of one.
5.	_____	_____	_____	Working and living in harmony with other people.

Instructions:

Please indicate the location on this scale where you presently picture yourself
by an: X.

I AM**Good**

Bad**Useful**

Useless**Superior**

Inferior**Smart**

Stupid**Square**

Cool**Tough**

Soft**Selfish**

Unselfish**Friendly**

Unfriendly**Kind**

Cruel**Important**

Unimportant**Physically Attractive**

Physically unattractive

PLEASE PRINT CLEARLY

NAME: _____

ADDRESS: _____

AGE: _____ SEX: male () female ()

MARITAL STATUS: single () married () separated () divorced ()
widowed () other ()

IF A STUDENT: In what faculty are you registered (Arts, Science, Agriculture etc.)?

IF NOT A STUDENT: Circle the last educational level completed

- (a) high school
- (b) university graduate
- (c) technical training
- (d) other

TO WHAT CLUBS OR ORGANIZATIONS DO YOU PRESENTLY BELONG? _____

WHAT ARE YOUR HOBBIES (how do you spend your leisure time)?

IN WHAT TYPE OF ORGANIZATION DOES YOUR FATHER WORK (if working)?

IN WHAT TYPE OF ORGANIZATION DOES YOUR MOTHER WORK (if working)?

WHAT IS YOUR FATHER'S POSITION?

WHAT IS YOUR MOTHER'S POSITION?

This experiment is concerned with general and specific attitudes that people hold today, about many and varied issues, how they picture themselves in the world around them, how they see others, and how these feelings affect their social relationships. In brief, the present investigation is being carried out to help build a global picture of contemporary people and their world.

In order to build a TRUE picture, you are being asked to fill out a number of short questionnaires relating to the kinds of things mentioned above. Please be as HONEST as possible in responding to the scale items which follow— in most cases YOUR FIRST IMPRESSIONS will be the best ones.

The results of this study will be used to say something about people IN GENERAL and will not report specific information about any one individual. When you are asked to fill in your name etc., this is for identification purposes ONLY. THE INVESTIGATOR ALONE WILL HAVE ACCESS TO THIS INFORMATION, NO ONE ELSE.

In order to build a fairly representative picture of people, it is necessary that we sample from as many DIFFERENT people as possible. Often, however, it is difficult to accomodate everyone at the same time. Attached to this sheet, you will find a timetable of subsequent sessions, during which, other subjects will fill out the same questionnaires that you have just completed. We would like you to help us by getting others to participate in this study. We have received a research grant and have enough money to pay 100 more subjects. We want you to recruit ONE subject for us: if the person you recruit is in the FIRST hundred, we will pay you \$2.00. To aid you in this task, we will pay the person that you recruit \$3.00. HOWEVER, there is one condition that must be met if we are to pay you and the person that you recruit: the person you bring in, must be a CLOSE FRIEND of yours. This is one way of ensuring that not all our subjects are students, and not all are non-students, since it is conceivable that although some of your acquaintances are students, while some of your CLOSEST FRIENDS are not. The person you recruit MAY be a student or he May work for a living; it does not matter which, just BRING IN A CLOSE FRIEND and a varied sample will result for us. This research is important to us, so please help out by doing what we ask. REMEMBER if you don't wait too long and you recruit someone that satisfies the conditions above, you and he (or she) will be paid.

APPENDIX H / INSTRUCTIONS ACCOMPANYING THE IJS

You have been asked by another person to aid our research by participating as well. In addition to supplying information about your attitudes about certain topics, we would like to know your views about the person who recruited you for this study. Please answer the following questionnaire ABOUT THAT PERSON WHO RECRUITED YOU, as honestly as possible:

CHOOSE THE SCALE POSITION WHICH BEST REPRESENTS
THE WAY YOU FEEL ABOUT AN ITEM, AND CHECK IT OFF.

TABLES

TABLE 1

Correlation Coefficients, by Item, for the Experimental Condition (N=57)

Item	r	$\bar{X}$	$\bar{Y}$	Level of Significance
1.	.3303	2.6491	2.6842	.012*
2.	-.0916	4.8772	4.8070	.498
3.	-.2275	2.4561	2.5965	.089
4.	.1588	4.3509	4.5439	.238
5.	.0753	2.3393	2.3036	.581
6.	-.1578	4.4561	4.5088	.241
7.	.1522	1.4035	1.5439	.258
8.	.1423	4.3684	4.1404	.291
9.	.5144	2.0351	1.8596	.001****
10.	.1904	4.7544	4.3158	.156
11.	.1100	2.5965	2.6491	.415
12.	-.1555	2.8070	2.8596	.248
13.	.0025	2.6316	2.9123	.985
14.	-.1349	4.5263	4.5789	.317
15.	.1774	4.0000	4.1930	.187
16.	-.0989	3.7895	3.8596	.464
17.	.0556	3.5789	3.5263	.681
18.	-.1105	1.7544	1.8947	.413
19.	.2586	2.9474	2.7895	.050*
20.	.4459	4.4561	4.3333	.001****
21.	.1417	4.5789	4.8956	.293
22.	.0894	4.5088	4.6316	.508
23.	.1061	3.8974	3.8070	.432
24.	.2671	3.2456	3.4561	.045*
25.	-.0004	4.0175	4.0526	.998
26.	-.0346	2.6250	2.8214	.800
27.	.0556	2.6909	2.6182	.687
28.	-.0305	3.5455	3.5091	.825
29.	.1726	2.9636	2.9636	.208
30.	.2755	4.5893	4.6607	.040*
31.	.0395	4.2679	4.5357	.773
32.	.2661	4.1964	4.3393	.047*
33.	.3923	2.2143	2.4643	.003***
34.	.1873	2.2143	2.4643	.167
35.	-.0811	3.6182	3.3455	.556
36.	.2130	3.3393	3.3393	.115
37.	.2567	1.4821	1.5536	.056
38.	.1003	1.5000	1.5179	.462
39.	.0562	1.5893	1.3929	.681
40.	-.1949	1.7321	1.6964	.150

**** $p < .001$ *** $p < .005$ ** $p < .01$ * $p < .05$

TABLE 1 (Cont.)

Item	r	$\bar{X}$	$\bar{Y}$	Level of Significance
41.	.3227	1.6429	1.6964	.015*
42.	-.0493	1.2500	1.1786	.718
43.	.0552	1.3333	1.2807	.683
44.	.0354	2.1429	2.1607	.796
45.	.1835	1.6316	1.4211	.172
46.	-.0396	1.5789	1.4737	.770
47.	-.0632	1.6491	1.7368	.641
48.	-.2075	1.8596	1.8246	.121
49.	-.2001	1.8772	1.8772	.136
50.	.0399	1.6667	1.6140	.768
51.	-.0552	1.7544	1.8070	.684
52.	.0226	1.8947	1.9123	.867
53.	.1341	1.8571	1.9286	.324
54.	-.1889	2.3860	2.3860	.159
55.	.1009	2.4035	2.5614	.455
56.	.2307	1.2456	1.2982	.084
57.	.0078	1.4561	1.4561	.954
58.	-.1435	1.7193	1.7193	.287
59.	.0298	1.9825	1.8421	.826
60.	.0636	1.3158	1.2807	.638
61.	.2490	1.1754	1.1228	.062
62.	.1031	1.2281	1.2281	.445
63.	.2147	1.5263	1.4912	.109
64.	.1279	1.4386	1.4386	.343
65.	.2001	1.2105	1.1228	.136
66.	-.0254	1.8772	1.9474	.851
67.	.1837	1.7368	1.7719	.171
68.	.1282	1.5789	1.8421	.342
69.	-.0690	1.7018	1.7544	.610
70.	.0270	2.0877	2.0526	.842
71.	.1160	1.2105	1.1579	.390
72.	.2544	1.5439	1.5614	.056
73.	.3400	1.5263	1.4386	.010**
74.	.2135	1.6842	1.6842	.111
75.	.2958	1.7193	1.5614	.025*
76.	.1781	1.4035	1.2807	.185
77.	.0846	1.5088	1.3684	.532
78.	.0180	1.2982	1.2807	.894
79.	-.1552	1.8246	1.6140	.249
80.	-.1761	1.3750	1.2679	.194
81.	.2575	1.9298	1.9825	.050*
82.	.0867	1.3333	1.4561	.522
83.	.1456	1.5789	1.5965	.280

****p < .001

***p < .005

**p < .01

*p < .05

TABLE 1 (Cont.)

Item	r	$\bar{X}$	$\bar{Y}$	Level of Significance
84.	.0838	1.3860	1.4737	.536
85.	.1000	2.0702	1.8772	.459
86.	.0007	2.0175	1.9825	.996
87.	.1031	1.8772	1.7719	.445
88.	.0617	1.4211	1.3333	.648
89.	.2953	1.5088	1.3333	.026*
90.	.2198	1.8246	1.7895	.100
91.	.0479	1.7018	1.7895	.723
92.	.0290	1.1579	1.1930	.831
93.	-.0961	1.1071	1.0714	.481
94.	.1688	1.3860	1.2632	.209
95.	.1689	19.6607	19.7321	.213
96.	.3656	1.4035	1.4737	.005***
97.	.9165	1.1250	1.1786	.001****

****p<.001

***p<.005

**p<.01

*p<.05

TABLE 2

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Correlation Coefficients, by Item, for the Control Condition (N=57)

Item	r	$\bar{X}$	$\bar{Y}$	Level of Significance
1.	-.0323	2.6667	2.6316	.811
2.	.1205	4.6842	4.6842	.372
3.	.0917	2.6140	2.5789	.497
4.	-.0071	4.5263	4.4561	.958
5.	-.0198	2.3333	2.1579	.884
6.	-.1410	4.4912	4.3684	.296
7.	-.1917	1.6667	1.7719	.153
8.	-.0929	4.1930	4.2632	.492
9.	-.1680	1.7895	1.7193	.212
10.	-.2509	4.2456	4.5088	.060
11.	.2496	2.5789	2.7544	.061
12.	.1250	2.8947	2.6491	.354
13.	-.0231	2.8421	2.7368	.865
14.	-.1068	4.5714	4.3393	.434
15.	-.0164	4.3333	4.0351	.904
16.	-.1721	3.8070	3.7193	.201
17.	.2045	3.6316	3.2281	.127
18.	-.2789	1.8947	1.9825	.036
19.	.0544	2.7895	2.5088	.682
21.	-.0628	4.8772	4.7018	.643
22.	.0955	4.5088	4.2632	.480
23.	.0232	3.7895	3.9825	.864
24.	.0022	3.3684	2.8947	.987
25.	-.1218	3.9825	3.6316	.367
26.	-.0797	2.8571	2.7679	.559
27.	-.0822	2.6182	2.7273	.551
28.	-.0897	3.5455	3.4182	.515
29.	.0410	2.9636	2.8909	.766
30.	.2712	4.6429	4.3393	.043*
31.	.1463	4.4821	4.3393	.282
32.	-.0274	4.3214	4.1964	.841
33.	.1715	2.4464	2.4821	.206
34.	-.0056	2.4821	2.2679	.968
35.	-.0198	3.3273	3.5091	.886
36.	.0121	3.3214	3.4643	.929
37.	-.1917	1.5614	1.5088	.153
38.	.2115	1.5263	1.5263	.114
39.	.0000	1.3571	1.5000	1.000
40.	-.0649	1.7193	1.5614	.631

****p < .001

***p < .005

**p < .01

*p < .05

TABLE 2 (Cont.)

Item	r	$\bar{X}$	$\bar{Y}$	Level of Significance
41.	-.2279	1.7018	1.8070	.088
42.	.0493	1.1786	1.2500	.718
43.	-.0195	1.2982	1.3684	.886
44.	.0286	2.1228	2.0702	.833
45.	-.0286	1.4386	1.4561	.832
46.	.1060	1.4561	1.4386	.432
47.	-.0242	1.7544	1.6842	.858
48.	.1917	1.8246	1.8596	.153
49.	.1474	1.8772	1.8246	.274
50.	-.3042	1.5965	1.6842	.021
51.	.1614	1.8070	1.7895	.230
52.	-.0426	1.8947	1.8421	.753
53.	.2721	1.9286	1.8571	.042*
54.	-.0668	2.3509	2.2632	.622
55.	-.0857	2.5263	2.4211	.526
56.	.1346	1.3158	1.2982	.318
57.	.0599	1.4737	1.4737	.658
58.	-.0410	1.7368	1.7895	.762
59.	.0663	1.8246	1.9649	.624
60.	.0771	1.2982	1.3333	.568
61.	.3242	1.1228	1.1930	.014*
62.	.0805	1.2281	1.3158	.552
63.	-.0449	1.4912	1.5614	.740
64.	-.2162	1.4211	1.6140	.106
65.	.1855	1.1228	1.1930	.167
66.	-.0113	1.9821	1.8393	.934
67.	.2181	1.7895	1.8246	.103
68.	-.0447	1.7719	1.7193	.741
69.	-.2202	1.7368	1.7719	.100
70.	-.1170	2.0877	2.2281	.386
71.	-.0054	1.1579	1.2281	.968
72.	-.0881	1.5614	1.5263	.515
73.	.1079	1.4211	1.5263	.424
74.	.2214	1.6842	1.6316	.098
75.	.2232	1.5439	1.7895	.095
76.	.2064	1.2982	1.4211	.123
77.	-.0620	1.3684	1.4211	.647
78.	-.0749	1.2807	1.4386	.580
79.	.0076	1.6316	1.7719	.955
80.	.0357	1.2679	1.4286	.794

****p<.001

***p<.005

**p<.01

*p<.05

TABLE 2 (Cont.)

Item	r	$\bar{X}$	$\bar{Y}$	Level of Significance
81.	-.0061	1.9649	1.9474	.964
82.	-.1674	1.4561	1.4035	.213
83.	-.1756	1.5965	1.5088	.191
84.	-.4092	1.4912	1.4211	.002
85.	.0472	1.8947	1.8421	.727
86.	-.1388	1.9825	1.8772	.303
87.	-.0959	1.7895	1.7018	.478
88.	-.1862	1.3158	1.3860	.166
89.	.0410	1.3333	1.4386	.762
90.	.0774	1.7895	1.9825	.567
91.	.0196	1.7719	1.7368	.885
92.	.0470	1.1930	1.2281	.728
93.	.1576	1.0702	1.0877	.242
94.	-.0187	1.2632	1.2807	.890
96.	.0864	1.4912	1.3509	.523
97.	-.0459	1.1754	1.0351	.734

**** $p < .001$ *** $p < .005$ ** $p < .01$ * $p < .05$

TABLE 3
 % of Items Significant at Various Levels of α for Both Experimental and
 Control Conditions

Minimum Level of Significance	Control (Subjects vs. Random Others)	Experimental (Subjects vs. Friend)
.001	0 %	3 %
.005	0 %	5 %
.01	0 %	6 %
.05	3 %	15 %
.20	12 %	31 %

TABLE 4

Z-Scores for Differences Between Correlation Coefficients for Experimental and Control Conditions, by Item (N=57)

Item	Z-score	Level of Significance
1.	1.884	**
2.	-1.112	X
3.	-1.684	X
4.	.868	*
5.	.499	X
6.	.088	X
7.	1.800	**
8.	1.226	*
9.	3.830	****
10.	2.320	**
11.	-.753	X
12.	-1.471	X
13.	.135	X
14.	-.151	X
15.	1.013	*
16.	.390	X
17.	-.790	X
18.	.915	*
19.	1.090	*
21.	1.070	*
22.	-.036	X
23.	.120	X
24.	1.377	*
25.	.640	X
26.	.234	X
27.	.717	X
28.	.629	X
29.	.696	X
30.	.031	X
31.	-.556	X
32.	1.550	*
33.	1.250	*
34.	1.010	*
35.	-.317	X
36.	1.060	*
37.	2.380	***
38.	-.598	X
39.	.291	X

TABLE 4 (Cont.)

Item	Z-score	Level of Significance
40.	.691	X
41.	2.950	***
42.	-.520	X
43.	.390	X
44.	.031	X
45.	1.120	*
46.	-.759	X
47.	-.203	X
48.	-2.100	X
49.	-1.820	X
50.	1.840	**
51.	-1.128	X
52.	.343	X
53.	-.748	X
54.	-.644	X
55.	.972	*
56.	.514	X
57.	-.270	X
58.	-.540	X
59.	-.187	X
60.	-.068	X
61.	-.426	X
62.	.114	X
63.	1.367	*
64.	1.808	**
65.	.078	X
66.	.073	X
67.	-.187	X
68.	.904	*
69.	.800	X
70.	.753	X
71.	.634	X
72.	1.808	**
73.	1.278	*
74.	-.042	X
75.	.405	X
76.	-.151	X
77.	.764	X
78.	.192	X
79.	-.852	X

TABLE 4 (Cont.)

Item	Z-score	Level of Significance
80.	-1.112	X
81.	1.403	*
82.	1.330	*
83.	1.689	**
84.	2.697	***
85.	.275	X
86.	.728	X
87.	1.034	*
88.	1.299	*
89.	1.367	*
90.	.764	X
91.	.146	X
92.	-.094	X
93.	-1.325	X
94.	.987	*
95.	1.543	*
97.	8.340	*****

***** $p < .001$ *** $p < .01$ ** $p < .05$ * $p < .20$ X $p > .20$ or sign i
negative

TABLE 5

% of Items with Significant Z-scores and Proper Sign at Various Levels of Significance (N=57)

LEVEL OF SIGNIFICANCE	% Items with Significant Z-scores
.001	2 %
.01	5 %
.05	12 %
.20	36 %

TABLE 6
Correlation Coefficients, by Item, for the Experimental Condition (N=26)

Item	r	$\bar{X}$	$\bar{Y}$	Level of Significance
1.	.5114	2.5385	2.7308	.008**
2.	-.2812	4.9231	4.6154	.164
3.	-.2699	2.3077	2.4615	.182
4.	.4190	4.4231	4.8077	.033*
5.	-.3015	2.4000	2.4000	.143
6.	-.1989	4.6154	4.4615	.330
7.	.3580	1.3462	1.5769	.073
8.	.3712	4.4231	4.0000	.062
9.	.4275	1.9231	1.9615	.015*
10.	.3270	4.5000	4.3462	.103
11.	-.0556	2.4615	2.9615	.788
12.	-.0678	2.7692	2.6923	.742
13.	-.0363	2.8462	2.8846	.860
14.	.0411	4.1154	4.5769	.842
15.	.1774	4.0000	4.1930	.187
16.	-.1766	3.5769	3.4231	.388
17.	.0344	3.4231	3.0000	.867
18.	-.2079	1.9615	1.8462	.308
19.	.0781	2.9231	2.8846	.704
20.	.2774	4.2308	4.2692	.170
21.	.2045	4.3077	4.5000	.316
22.	.5322	4.1923	4.4615	.005***
23.	.0276	3.7308	3.5769	.893
24.	.3639	3.1923	3.4615	.068
25.	.0437	3.9231	3.8462	.832
26.	-.1841	2.8000	2.7200	.378
27.	-.1697	2.7600	2.5600	.417
28.	-.0962	3.6000	3.3600	.647
29.	-.0532	2.8800	2.6800	.800
30.	-.0467	4.5200	4.6000	.825
31.	.0420	4.2000	4.3200	.842
32.	.4192	4.0800	4.3200	.037*
33.	.3100	2.1600	2.7200	.132
34.	..1758	2.2800	2.8400	.401
35.	-.1316	3.2400	3.6800	.531
36.	-.1297	3.3200	3.2400	.537
37.	.2041	1.4231	1.5769	.317
38.	.0898	1.4231	1.5769	.663
39.	-.2500	1.5556	1.4444	.209

TABLE 6 (Cont.)

Item	r	$\bar{X}$	$\bar{Y}$	Level of Significance
40.	-.1739	1.6786	1.7857	.376
41.	.2131	1.4815	1.6296	.286
42.	-.2081	1.1538	1.1923	.308
43.	-.1674	1.3077	1.2308	.414
44.	-.0501	2.3600	2.0400	.812
45.	.1845	1.6923	1.3846	.367
46.	-.0976	1.4615	1.3846	.635
47.	-.2076	1.7308	1.8846	.309
48.	-.0577	1.8846	1.8462	.779
49.	-.0518	1.7308	1.9615	.802
50.	-.0707	1.5000	1.6538	.731
51.	-.1859	1.7308	1.8846	.363
52.	.1075	1.8846	2.0000	.601
53.	.1939	1.7600	1.8800	.353
54.	-.1195	2.3846	2.3846	.561
55.	.1060	2.4615	2.5000	.606
56.	.3723	1.1923	1.4231	.061
57.	.2469	1.3846	1.4231	.224
58.	-.1238	1.6538	1.7308	.547
59.	-.0268	1.8462	1.9231	.897
60.	-.0199	1.1923	1.4231	.923
61.	.1960	1.2308	1.1923	.337
62.	.0972	1.3077	1.3077	.637
63.	..1686	1.5556	1.5926	.401
64.	.3450	1.6154	1.5769	.084
65.	.3500	1.2308	1.2308	.080
66.	.1835	1.7600	2.0400	.380
67.	.2087	1.8462	1.8077	.306
68.	.1047	1.8462	1.9615	.611
69.	-.0337	1.9615	1.7308	.870
70.	-.4246	2.1154	2.0769	.031
71.	-.1818	1.1538	1.1538	.374
72.	.3113	1.3846	1.5769	.122
73.	.2698	1.5385	1.4615	.183
74.	.5110	1.7308	1.7308	.008**
75.	.4417	1.7692	1.5000	.024*
76.	.1590	1.2692	1.3077	.438
77.	.3782	1.3846	1.4615	.057
78.	-.1895	1.3462	1.3462	.354
79.	-.0665	1.6538	1.6923	.747

TABLE 6 (Cont.)

Item	r	$\bar{X}$	$\bar{Y}$	Level of Significance
80.	-.1593	1.2083	1.3750	.457
81.	.3108	1.8846	2.0385	.122
82.	.2062	1.3600	1.4000	.323
83.	.0898	1.4231	1.5769	.663
84.	.2425	1.3462	1.5000	.233
85.	.2860	2.0385	1.8462	.157
86.	.1823	2.0769	1.9615	.373
87.	-.1363	1.7692	1.6538	.507
88.	-.1072	1.3846	1.2692	.602
89.	.3120	1.4231	1.2692	.121
90.	.2631	1.7692	1.7308	.194
91.	-.2665	1.6154	1.6538	.188
92.	.0522	1.1154	1.2692	.800
93.	-.0602	1.0400	1.0800	.775
94.	.0404	1.3462	1.3077	.845
95.	.1961	19.8400	20.4400	.347
96.	.3162	1.5000	1.3846	.116
97.	.9287	1.2692	1.3642	.001****

****p < .001

***p < .005

**p < .01

*p < .05

TABLE 7
Correlation Coefficients, by Item, for the Control Condition (N=26)

Item	r	$\bar{X}$	$\bar{Y}$	Level of Significance
1.	-.0670	2.7692	2.7692	.745
2.	-.0542	4.4231	4.4615	.793
3.	-.0579	2.5000	2.7308	.779
4.	-.2376	4.8846	4.3846	.243
5.	-.1409	2.4615	2.2308	.492
6.	-.2212	4.4231	4.3846	.278
7.	-.3023	1.8462	1.5769	.133
8.	.1228	4.1154	4.3462	.550
9.	-.0712	1.8077	1.6923	.730
10.	-.4536	4.1923	4.6923	.020
11.	.4360	2.9231	2.5769	.026*
12.	-.0367	2.7692	2.4615	.859
13.	.0268	2.7308	2.6923	.897
14.	-.2944	4.6154	4.2692	.144
15.	.0618	4.2692	4.1154	.764
16.	-.2369	3.4615	3.7308	.244
17.	.2888	3.1538	2.8846	.152
18.	-.4596	1.8077	1.9231	.018
19.	.0807	2.8846	2.4615	.695
21.	.0488	4.5385	4.9615	.813
22.	.2201	4.3077	4.4615	.280
23.	.0780	3.5385	3.8846	.705
24.	-.1305	3.3077	3.3077	.525
25.	-.1805	3.7308	3.5769	.378
26.	-.1895	2.8000	2.7600	.364
27.	.1174	2.5600	2.6400	.576
28.	-.0525	3.3600	3.5200	.803
29.	.1892	2.6667	2.7500	.376
30.	.1950	4.5600	4.5200	.350
31.	.1633	4.2000	4.2000	.435
32.	-.0741	4.2800	4.0000	.725
33.	.2307	2.6800	2.5600	.267
34.	.0848	2.8800	2.3200	.687
35.	.0817	3.6400	3.4000	.698
36.	-.3117	3.2000	3.3600	.129
37.	-.1231	1.6154	1.5000	.549
38.	.4598	1.5769	1.5769	.018
39.	.1983	1.4000	1.5200	.342
40.	-.0108	1.7692	1.6538	.958

TABLE 7 (Cont.)

Item	r	$\bar{X}$	$\bar{Y}$	Level of Significance
41.	-.2741	1.6154	1.8077	.175
42.	.0134	1.1923	1.3846	.948
43.	.0059	1.2692	1.4231	.977
44.	.0320	1.9615	2.1923	.877
45.	-.0649	1.4231	1.3077	.753
46.	-.2121	1.3462	1.5000	.298
47.	.1484	1.9231	1.6538	.469
48.	.4402	1.8462	1.7692	.024*
49.	.3962	1.9615	1.6538	.045*
50.	-.2429	1.6154	1.6538	.232
51.	.2735	1.8846	1.7692	.176
52.	-.3122	1.9615	1.8462	.120
53.	-.0333	1.8800	1.9200	.875
54.	-.2353	2.3077	2.2692	.247
55.	-.0082	2.4231	2.4615	.968
56.	.3313	1.4615	1.1923	.098
57.	-.3624	1.4615	1.3846	.069
58.	.1849	1.7308	1.8846	.366
59.	.2653	1.8846	2.0000	.190
60.	.1701	1.4231	1.3462	.406
61.	.3085	1.1923	1.2692	.125
62.	.0404	1.3077	1.3462	.845
63.	.0476	1.5769	1.5769	.818
64.	-.3603	1.5385	1.6154	.071
65.	.2923	1.2308	1.2308	.147
66.	-.1234	2.0769	1.8462	.548
67.	-.4242	1.8462	1.7308	.031
68.	-.0362	1.8462	1.6923	.861
69.	-.0362	1.6923	1.8462	.861
70.	.2911	2.0769	2.2692	.149
71.	-.2335	1.1538	1.2308	.251
72.	-.2968	1.5769	1.5000	.141
73.	-.0708	1.4231	1.6154	.731
74.	.3140	1.7308	1.8077	.118
75.	.3067	1.4615	1.7692	.127
76.	.3052	1.3462	1.5385	.129
77.	.0833	1.4615	1.5385	.686
78.	-.0707	1.3462	1.5000	.731
79.	.1261	1.7308	1.8462	.539
80.	.1307	1.3600	1.4400	.533

TABLE 7 (Cont.)

Item	r	X	Y	Level of Significance
81.	-.1443	2.0000	2.0000	.482
82.	-.3101	1.3846	1.4231	.123
83.	-.1717	1.5769	1.6154	.402
84.	-.4668	1.5385	1.4231	.016
85.	-.0205	1.8846	1.9231	.921
86.	-.2261	1.9615	1.8846	.267
87.	-.5079	1.6923	1.7308	.008
88.	-.1011	1.2308	1.6154	.623
89.	.1295	1.2692	1.7308	.528
90.	.2502	1.7308	2.0769	.218
91.	.0192	1.6154	1.9231	.926
92.	.1439	1.2692	1.1923	.483
93.	-.0833	1.0769	1.0769	.686
94.	-.0533	1.3077	1.1538	.796
96.	.0545	1.4231	1.4231	.791
97.	-.0965	1.3462	1.0769	.639

****p < .001

***p < .005

**p < .01

*p < .05

TABLE 8
Comparison of the Number of Items Significant at Various Levels Across
the Two Sub-Groups (N=57 vs. N=26) and Across Group Comparisons

SUBJECT vs. FRIEND
(EXPERIMENTAL)

	.001	.005	.01	.05	.20
N=57	3	5	6	15	30
N=26	1	2	4	8	26

SUBJECT vs. RANDOM OTHER
(CONTROL)

	.001	.005	.01	.05	.20
N=57	0	0	0	3	12
N=26	0	0	0	3	14

TABLE 9

Chi-Square Data Matrix Containing the Number of Significant and Non-Significant Items for the Experimental and Control Conditions for One Level of Significance ($\alpha=.05$) and Summed Over the Two Sub-Groups (N=57; N=26)

	SIGNIFICANT ITEMS	NON-SIGNIFICANT ITEMS	
EXPERIMENTAL	11.5	85.5	Total=97
CONTROL	3.0	94.0	Total=97
	Total=14.5	Total=179.5	

TABLE 10

Chi-Square Data Matrix Containing the Number of Significant and Non-Significant Items for the Experimental and Control Conditions for One Level of Significance ($\alpha = .20$) and Summed Over the Two Sub-Groups (N=57; N=26)

	SIGNIFICANT ITEMS	NON-SIGNIFICANT ITEMS	
EXPERIMENTAL	28.0	69.0	Total=97
CONTROL	13.0	84.0	Total=97
	Total=41.0	Total=153.0	

TABLE 11

Z-Scores for Differences Between Correlation Coefficients for Experimental and Control Conditions, by Item (N=26)

Item	Z-score	Level of Significance
1.	2.140	**
2.	-.794	X
3.	-.743	X
4.	2.330	***
5.	-.580	X
6.	.078	X
7.	2.330	***
8.	.899	*
9.	1.980	**
10.	2.810	***
11.	-1.770	X
12.	-.105	X
13.	-.214	X
14.	1.167	X
15.	.393	X
16.	.214	X
17.	-.889	X
18.	.970	*
19.	-.010	X
21.	.536	X
22.	1.251	*
23.	-.170	X
24.	1.740	**
25.	.766	X
26.	.020	X
27.	-.980	X
28.	-.146	X
29.	-.824	X
30.	-.834	X
31.	-.410	X
32.	1.770	**
33.	.295	X
34.	.315	X
35.	-.730	X
36.	.651	X
37.	.285	X
38.	-1.380	X
39.	-1.546	X

TABLE 11. (Cont.)

Item	Z-score	Level of Significance
40.	-.560	X
41.	1.682	**
42.	-.760	X
43.	-.590	X
44.	-.278	X
45.	.851	*
46.	.397	X
47.	-1.221	X
48.	-1.798	X
49.	-1.597	X
50.	.597	X
51.	-1.591	X
52.	1.462	*
53.	.780	X
54.	.397	X
55.	.387	X
56.	.163	X
57.	2.137	**
58.	-1.055	X
59.	-1.007	X
60.	-.651	X
61.	-.404	X
62.	.193	X
63.	.414	X
64.	2.496	***
65.	.217	X
66.	1.048	*
67.	2.252	**
68.	.478	X
69.	.007	X
70.	-2.551	X
71.	.183	X
72.	2.123	**
73.	1.180	*
74.	.807	X
75.	.539	X
76.	-.519	X
77.	1.068	*
78.	-.410	X
79.	-.658	X

TABLE 11 (Cont.)

Item	Z-score	Level of Significance
80.	-.990	X
81.	1.580	*
82.	1.797	**
83.	.895	*
84.	2.550	***
85.	1.068	*
86.	1.404	*
87.	1.435	*
88.	-.020	X
89.	.651	X
90.	.044	X
91.	-.994	X
92.	-.315	X
93.	.078	X
94.	.315	X
96.	.922	*
97.	5.891	***

*** $p < .01$ ** $p < .05$ * $p < .20$ X $p > .20$ or sign is
negative

TABLE 12

t-values for Differences Between Experimental and Control Conditions by Item, (for Items with Negative t-scores Only), with Accompanying Levels of Significance (N=57)

Item	t-score	Level of Significance
1.	-.6031	X
2.	-.7401	*
4.	-.2728	X
6.	-.1796	X
7.	-3.1010	****
9.	-1.2895	*
10.	-2.7731	****
14.	-.5915	X
15.	-1.1098	*
16.	-.6641	X
18.	-.8281	*
20.	-2.0056	**
21.	-.4034	X
22.	-.3648	X
23.	-.5381	X
24.	-1.7892	**
25.	-.9136	*
26.	-.2700	X
28.	-.3434	X
30.	-.6440	X
32.	-.4308	X
33.	-1.1681	*
36.	-1.1599	*
41.	-2.1822	**
43.	-.7664	*
44.	-.2067	X
45.	-.2341	X
50.	-1.0647	*
51.	-.3622	X
52.	-.6307	X
54.	-.3411	X
55.	-.7606	*
56.	-.4460	X
57.	-.7532	*
61.	-.2734	X
62.	-.5346	X
63.	-1.8008	**

TABLE 12 (Cont.)

Item	t-score	Level of Significance
64.	-1.5420	*
65.	-.2155	X
69.	-.6635	X
71.	-.4965	X
72.	-1.6963	**
73.	-1.1876	*
74.	-.5038	X
75.	-.8692	*
77.	-.1836	X
78.	-1.0000	*
79.	-.2868	X
80.	-.1989	X
81.	-1.5900	*
82.	-1.8281	**
83.	-1.7706	**
84.	-2.3841	**
86.	-.3068	X
88.	-.8441	*
89.	-1.1552	*
90.	-.4907	X
91.	-.7413	*
92.	-.4693	X
95.	-1.8239	**
96.	-1.4810	*
97.	-2.3075	**

****p < .005

***p < .01

**p < .05

*p < .25

Xp > .25

TABLE 13

t-values for Differences Between Experimental and Control Conditions by Item, (for Items with Negative t-scores Only), with Accompanying Levels of Significance (N=26)

Item	t-score	Level of Significance
1.	-1.2259	*
2.	-1.6966	*
4.	-1.5292	*
6.	-.7751	*
7.	-2.3760	**
8.	-1.5455	*
9.	-.6687	X
10.	-3.0897	****
14.	-.8639	*
15.	-1.6250	*
16.	-1.7641	**
20.	-.7682	*
22.	-1.4424	*
24.	-2.1939	**
25.	-.7821	*
26.	-.1889	X
28.	-.6788	X
30.	-.1761	X
32.	-.8197	*
33.	-.1821	X
36.	-.6595	X
41.	-.7693	*
42.	-.7693	*
45.	-.2384	X
46.	-.4923	X
50.	-.2730	X
52.	-1.4425	*
53.	-.9412	*
54.	-1.8944	**
55.	-.4404	X
56.	-.4420	X
57.	-2.5607	***
61.	-.4420	X
62.	-.2384	X
63.	-1.0718	*
64.	-1.7641	**
65.	-.6991	*

TABLE 13 (Cont.)

Item	t-score	Level of Significance
71.	-.8112	*
72.	-2.3066	**
73.	-1.1536	*
74.	-1.0718	*
75.	-.7213	*
77.	-1.1634	*
79.	-.3590	X
80.	-.2959	X
81.	-1.1634	*
82.	-2.8570	****
83.	-1.2241	*
84.	-2.5200	***
85.	-1.3649	*
86.	-2.0881	**
87.	-.4923	X
88.	-.6812	X
89.	-1.7641	**
93.	-.5500	X
95.	-1.8550	**
96.	-.7693	*
97.	-2.4435	**

****p < .005

***p < .01

**p < .05

*p < .25

Xp > .25

TABLE 14

List of items used (by number) accompanied by short descriptions of the content of each item.

Item No.	Item Description
1.	Western movies and television programs
2.	Situation comedies
3.	Belief in God
4.	Smoking
5.	Comedians who use satire
6.	Acting on impulse
7.	Birth control
8.	Classical music
9.	Sports
10.	Premarital sex
11.	Science fiction
12.	Money
13.	Group opinion
14.	One true religion
15.	Musical comedies
16.	Preparedness for war
17.	Welfare legislation
18.	Creative work
19.	Dating
20.	Red China & The U.N.
21.	Novels
22.	War
23.	Tipping
24.	College Education
25.	Divorce
26.	Self-concept (Goodness)
27.	Self-concept (Usefulness)
28.	Self-concept (Superiority)
29.	Self-concept (Smartsness)
30.	Self-concept (Squareness)
31.	Self-concept (Toughness)
32.	Self-concept (Selfishness)
33.	Self-concept (Friendliness)
34.	Self-concept (Kindness)
35.	Self-concept (Importance)
36.	Self-concept (Physical Attractiveness)

TABLE 14 (con't)

Item No.	Item Description
37.	
38.	
39.	Intellectualism
40.	
41.	
42.	
43.	Kindness
44.	
45.	
46.	
47.	
48.	Social Skills
49.	
50.	
51.	
52.	
53.	
54.	Loyalty
55.	
56.	
57.	
58.	
59.	Academic Achievement
60.	
61.	
62.	
63.	Physical Development
64.	
65.	
66.	
67.	
68.	Status
69.	
70.	

TABLE 14 (con't)

Item No.	Item Description
71.	Honesty
72.	
73.	
74.	
75.	Religiousness
76.	
77.	
78.	
79.	
80.	Self-Control
81.	
82.	
83.	
84.	
85.	Creativity
86.	
87.	
88.	
89.	
90.	
91.	Independence
92.	
93.	
94.	
95.	
96.	Age
97.	Sex
98.	Marital Status

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