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To test the hypothesis that subjects' expectations influence responses to Schutz's FIRO-B questionnaire, 60 male and female undergraduate college students were tested under different sets of instructions. A between-within-within subjects three-factor mixed design was employed to determine score variance in each of Schutz's FIRO-B need areas as a result of the instruction and gender variables. The null form of all hypotheses was accepted and indicated that the instruction and gender variables had no significant effect on FIRO-B profiles. Significant findings were obtained due to variances among the need areas themselves. The significant differences resulted from unpredictable variances of Schutz's Control factor. These were not rational explanations of human behavior and indicated that the FIRO-B was not accurately measuring interpersonal needs in this sample. Some doubt is cast on the validity and reliability of the FIRO-B questionnaire and Schutz's theory of Fundamental Interpersonal Relationships Orientation which the FIRO-B was designed to assess.

THE EFFECT OF INDIVIDUAL EXPECTATIONS ON FIRO-B PROFILES

A Thesis

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter 1

INTRODUCTION

Schutz (1966) developed a formalized theory of interpersonal behavior in an attempt to organize and explain human interaction through the use of empirically supported postulates and theorems. This chapter considers that general theory and the instrument Schutz designed to assess it. Specific problems are discussed and detailed hypotheses presented. The purpose, significance, assumptions and limitations of this study are explained. All terminology is operationally defined.

THEORETICAL FORMULATION

The theory of Fundamental Interpersonal Relationships Orientation (FIRO) concerns itself with an individual's psychological need to express behaviors toward others and to receive behaviors in return. Included among the various testing instruments used by Schutz to assess his theory is the FIRO-B, a questionnaire purported to measure behavior. With such an instrument, one may compute mathematically the degree of need an individual has in different behavioral dimensions and the level of satisfaction of those needs by other people (i.e., compatibility).

Attempts at formalized theories in the behavioral sciences are infrequent and rarely attain the sophistication realized in the physical sciences. Schutz considered his postulate system a model for systematizing efforts and did not expect it to approach the rigor attained in a completely formal model. He stated, "The formal system is an ideal to be successively approximated" (1966, p. 7).

Schutz contended that all interpersonal behavior might be subsumed by the Inclusion, Control and Affectional needs of the individual. By measuring the behaviors expressed toward others and the behaviors one wants in return, it is possible to determine the psychological state in which an individual is functioning in all three areas. This is basically a matter of the degree to which an individual expresses a desire to include, control or be close to another person, and the desire that others include, control or be close to the individual (see Table 1, below).

TABLE 1

SCHEMA OF INTERPERSONAL BEHAVIORS (SCHUTZ, 1966, p. 59)

Dimension	Expressed Behavior	Wanted Behavior
Inclusion (I)	I initiate interaction with other people.	I want to be included.
Control (C)	I control people.	I want people to control me.
Affection (A)	I act close and personal toward people.	I want people to get close and personal with me.

The nature of Schutz's formulation requires the establishment of some balance between the self and other people in each area. Disequilibrium may result in anxiety, hostility or ambivalence. In the Inclusion area, the individual may range from the "oversocial," who does not function well alone, to the "under-social," who does not function well with others. In the Control area, the individual may range from the "abdicrat," who controls no one, to the "autocrat," who always must control others. In the Affection area, behavior may range from the "over-personal," who must be very close to others, to the "underpersonal," who dislikes emotional involvement.

The behavior of any individual at any given time can best be described as some combination of different behavior trends. Four types of behavior may be observed for any of the three need areas: (a) deficient--the individual is not trying directly to satisfy the need, (b) excessive--the individual is constantly trying to satisfy the need, (c) ideal--the individual's needs are satisfied, and (d) pathological. The predisposition toward certain behaviors is formed in childhood.

When one has an understanding of an individual's needs, both expressed toward others and wanted in return, it is possible to compare two or more poeple and predict levels of compatibility. This concept was designed to estimate how well people will interact to attain a specific goal. It does not necessarily imply liking. Schutz (1966)

has defined three types of compatibility and a total compatibility score which may be computed with his empirically derived formulas. Reciprocal Compatibility (rK) reflects the degree to which members of a dyad satisfy each other's behavior preferences. Originator Compatibility (oK) is similar to Reciprocal Compatibility but is based more upon an originate-receive dimension. Two types of Originator conflict which may arise between individuals are: (a) competitive Originator incompatibility, between two originators, and (b) apathetic Originator incompatibility, between two receivers. Interchange Compatibility (xK) refers to the high or low mutual exchange of the commodity of a given need area (see Figure 1, below).

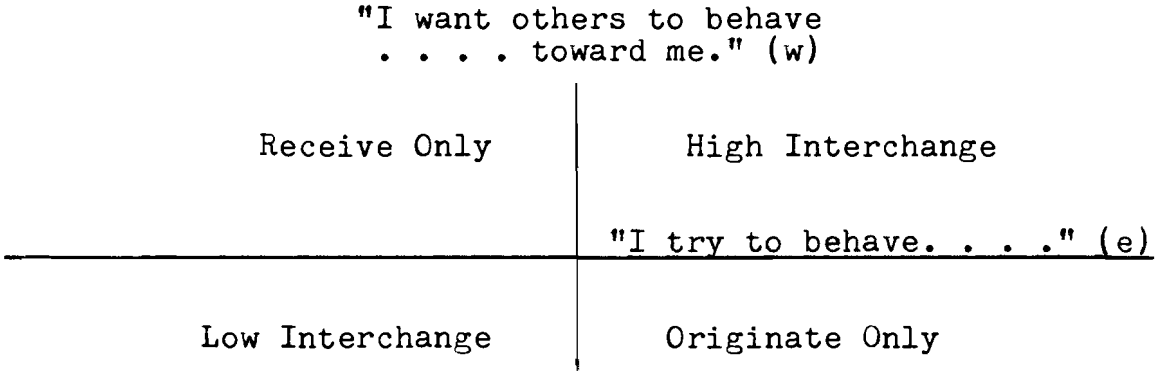

Figure 1

General Schema for Interpersonal Behavior Measured by FIRO-B (Schutz, 1966, p. 107)

In order to test his theory, Schutz developed a 54-item questionnaire called the FIRO-B. This testing instrument was intended to measure behavior and is distinguished from his other instruments, such as FIRO-F, which

he designed to measure feelings. The behaviors being measured with this device are actually responses to questions on a six point scale ranging from "usually" to "never," or from "most people" to "nobody." An answer key is used to determine scores for each of the six need areas: Expressed Inclusion, Expressed Control, Expressed Affection, Wanted Inclusion, Wanted Control and Wanted Affection. The scores range from a low of zero to a high of nine and are used to predict behavior in each need area and to compute the interpersonal compatibility indices mentioned above. Because it is possible to compute these compatibility indices, it is also possible to predict scores that would be perfectly compatible with any given profile.

Schutz (1966) supported his theory and his measuring instrument with well-collected empirical data. Other researchers, including Ullman, Krasner and Troffer (1964), contributed support for the FIRO-B in many situations. Replications of Schutz's work yielded significant data with increased numbers of subjects (Gilligan, 1973).

Ryan, MaGuire and Ryan (1970) indicated, however, that the FIRO-B was not an adequate measure of the FIRO theory. Froehle (1970) criticized the construct validity of the instrument, and Rosenfeld (1971) criticized both the instrument and the theory itself. Much of the critical literature does include statements supporting some aspects

of the FIRO-B as useful, however, and most encouraged future research, as did Schutz himself.

The contradictive nature of the literature suggests, among other things, that raw data are varying among studies. It appears likely that individual expectations may serve to color a subject's responses. Hinrichsen, Gryll, Bradley, and Katahn (1975) found significant evidence of undetected faking when subjects were instructed to "fake good" or "fake bad" on the FIRO-B. Vesprani and Seeman (1974), Weiss and Moos (1965), and Finney (1965) all demonstrated that different sets of instructions have significant effects on MMPI responses. Ellis (1977) presented more than 50 experimental sources supporting the hypothesis that expectancy influences behavior. He stated, "When people expect that something will happen or expect that others will act or respond in a certain way, they act significantly differently than when they have other kinds of expectancies" (p. 46).

One may be predisposed toward certain types of behavior due to heredity and learning during the formative years, but adult expectations would seem to play a large part in decision making and response behavior in adult interpersonal relationships. Failure of the FIRO-B and the FIRO theory to take expectations into account, in addition to attitude formation, may be the uncontrolled variable accounting for differences among studies.

If the FIRO-B is an accurate measure of interper-

sonal needs, then it is possible to determine if these needs change according to the individual's expectations of differing situations, or if an individual's needs remain the same in any situation. When presented with instructions implying consideration for employment and instructions implying consideration for marriage, will responses differ from a control FIRO-B administered normally (i.e., without specific instructions)? Will responses vary between the two sets of instructions? If so, it becomes necessary to administer separate FIRO-B questionnaires in each situation that presents itself, and to carefully consider each subject's expectations of that situation before performing any analysis or prediction. If the subject's responses remain consistent between both sets of instructions and the control questionnaire administered without instructions, one FIRO-B profile may be considered an accurate assessment of that individual's needs in varying situations. Analysis and prediction may proceed without undue concern for altered circumstances or expectations affecting the data. The theory of FIRO is enhanced as well.

In addition, since one may predict compatibility, how will predictions with Schutz's formulas compare with the individual's expectations for himself/herself? If the subject is instructed to complete a questionnaire as a preferred mate would complete it, will that profile resemble the predicted optimal mate that Schutz can determine

mathematically? If a mathematically constructed optimal mate does not conform to the expectations of the individual, then either the FIRO-B does not control for the expectations of the subject, or the subject's expectations cloud his perception of what that optimal mate should be like.

Consciously or unconsciously an individual may frame his responses to suit his expectations of a given situation. This study investigated those effects and also attempted to determine if gender played a part in one's expectations. Concerns with gender have generated data demonstrating significant differences in FIRO-B profiles between males and females for which Schutz has not controlled (Baumgartel & Goldstein, 1967; Mendelsohn & Rankin, 1969; Moos & Speisman, 1962; Schutz, 1966; Ullman et al., 1964). Do culturally inherent ideas about roles and the perceived requirements for those roles by males and females affect the variability of responses on the FIRO-B? Variability of responses due to uncontrolled experimental or situational details casts doubt on any analysis of that data. Variability due to a lack of consideration for an individual's expectations for himself/herself casts doubt on the validity of the testing instrument and perhaps the theory of FIRO as well.

THE PROBLEM

This study investigated the effects of subjects' expectations on the scores and consequent compatibility indices which constitute a FIRO-B profile. The stability of responses to the FIRO-B questionnaire under different sets of instructions was determined and the degree to which a subject's expectations of a situation affected his responses in that situation was diagrammed. Comparisons were also made for subjects' expectations for themselves and Schutz's predictions of optimally compatible profiles. The effect of gender on expectations was also examined.

Statements of the Problems

Will there be a significant difference between responses to a FIRO-B administered with instructions and responses to a FIRO-B administered without instructions?

Will there be a significant difference between responses to a FIRO-B with instructions to "Fill out this questionnaire as if you were applying for a job and your employer wished to know a little more about you," and responses to a FIRO-B with instructions to "Fill out this questionnaire as if you were about to be married and your spouse wished to know a little more about you"?

Will there be a significant difference between responses to a FIRO-B with instructions to "Fill out this questionnaire as you would want your future (or present)

husband or wife to fill it out," and Schutz's prediction of the scores which that optimal mate would have?

Will there be a significant difference between males and females in the variability of their responses to a FIRO-B administered with instructions and a FIRO-B administered without instructions?

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Will there be a significant difference between males and females in the variability of their responses to a FIRO-B administered with instructions to "Fill out this questionnaire as you would want your future (or present) husband or wife to fill it out," and Schutz's prediction of the scores which that optimal mate would have?

Statements of the Hypotheses

There is no significant difference between responses to a FIRO-B administered with instructions and responses to a FIRO-B administered without instructions.

There is no significant difference between

responses to a FIRO-B administered with instructions to "Fill out this questionnaire as if you were applying for a job and your employer wished to know a little more about you," and a FIRO-B administered with instructions to "Fill out this questionnaire as if you were about to be married and your spouse wished to know a little more about you."

There is no significant difference between responses to a FIRO-B administered with instructions to "Fill out this questionnaire as you would want your future (or present) husband or wife to fill it out," and Schutz's prediction of the scores which that optimal mate would have.

There is no significant difference between males and females in the variability of their responses to a FIRO-B administered with instructions and a FIRO-B administered without instructions.

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There is no significant difference between males and females in the variability of their responses to a

FIRO-B administered with instructions to "Fill out this questionnaire as you would want your future (or present) husband or wife to fill it out," and Schutz's prediction of the scores which that optimal mate would have.

Assumptions of the Study

Due to the questionnaire format of the study instrument, it was necessarily assumed that all subjects responded in an open and honest manner. It was also assumed that the subjects attended to each set of instructions and responded in accordance with their expectations of the behavioral requirements those instructions implied. In addition, it was assumed that the specific sets of instructions used in this study represented adequate differences in interpersonal need requirements, if those differences do exist.

Purpose of the Study

The purpose of the study was to investigate the effects of individuals' expectations on responses to the FIRO-B. Do responses, and therefore interpersonal needs as measured by the FIRO-B, change according to the particular instructions a subject receives prior to the administration of the questionnaire? In addition to a control test administered with non-suggestive instructions, one test was administered with instructions designed to register needs which relate to business or career, and another was preceeded by instructions designed to register

needs related to marriage. The design of the study was such that variability of responses for any individual would imply a change of response according to that individual's expectations of the differing behavioral requirements in each situation.

The subjects also responded to instructions to complete the questionnaire as they would want their future or present spouse to complete it. This determined the scores for a preferred optimal mate. The relationships between the subjects' preferred optimal mates and Schutz's predictions of how each optimal mate should score were then examined. In addition, the variability of responses between males and females was considered. This comparison was made between control and instructional questionnaires, the business and marital questionnaires, and the preferred and predicted optimal mates, in order to determine if gender had an effect on individual expectations. The purpose here was to investigate areas not generally considered in the analysis of a FIRO-B profile: culturally inherent ideas about roles, and the perceived requirements for those roles by males and females.

Significance of the Study

If the FIRO-B is an accurate measure of interpersonal needs (as defined by Schutz, 1966) and the responses of individuals vary among different sets of instructions, then one may not interpret a single FIRO-B

profile among situations. Expectations of the interpersonal need requirements of differing situations have altered the scores and will affect the resultant compatibility indices. Therefore, a separate FIRO-B must be administered in each situation, taking into account the subject's expectations of that situation prior to any analysis or prediction.

If the FIRO-B responses do not vary among different sets of instructions, then any single FIRO-B profile will assess the current interpersonal needs of the individual. Thus, the behavior of that individual may be predicted without reference to differing situational concerns which may present themselves.

If each subject's responses for a preferred optimal mate do not conform to Schutz's predicted responses for that optimal mate, then the FIRO-B compatibility indices need reassessment. It must be concluded that the FIRO-B profile does not take into account the expectations of the subject, or that the subject's expectations distort his perception of what his optimal mate should be like.

If the subject's responses for a preferred optimal mate do conform with Schutz's prediction of how that optimal mate should score, then the FIRO-B may be considered a useful and accurate measure of compatibility. This would include an assessment of the subject's interpersonal needs, and his expectations, with which one may predict behavior and success or failure probabilities with another

FIRO-B profile.

If responses of males on the FIRO-B differ significantly from the responses of females, it becomes imperative to control for this variable prior to making any predictive determinations. Compatibility indices would be meaningless if gender distorts the data. Individual expectations, perhaps colored by perception of role in society, may serve to alter behavior in all of the above mentioned circumstances.

DEFINITION OF TERMS

The following definitions were taken from Schutz (1966). For the purposes of this study they were operationally defined although Schutz presented them as being behaviorally defined. Definitions of the various compatibility indices were included in order to accurately represent the entirety of Schutz's FIRO theory.

Interpersonal Situation

An interpersonal situation is operationally defined as two or more individuals taking one another into account for some purpose, over a specified amount of time.

Inclusion

The interpersonal need for Inclusion (I) is operationally defined as the need to establish and maintain a satisfactory relation with people with respect to

interaction and association.

Control

The interpersonal need for Control (C) is operationally defined as the need to establish and maintain a satisfactory relation with people with respect to control and power.

Affection

The interpersonal need for Affection (A) is operationally defined as the need to establish and maintain a satisfactory relation with others with respect to love and affection. This always refers to a dyadic relation.

Satisfactory Relation

Satisfactory relation includes: (a) A psychologically comfortable relation with others somewhere on a continuum from always initiating behavior with everyone to never initiating behavior with anyone; (b) A psychologically comfortable relation with people with respect to eliciting behavior from them on a continuum ranging from their always initiating behavior toward one's self to their never initiating behavior toward one's self.

Reciprocal Compatibility

Reciprocal Compatibility (rK) reflects the degree to which members of a dyad reciprocally satisfy each other's behavioral needs.

Originator Compatibility

Originator Compatibility (oK) is similar to Reciprocal Compatibility but is based more upon the originate-receive dimension. Two types of Originator conflict which may result between individuals are: (a) Competitive originator incompatibility, between two originators, and (b) Apathetic originator incompatibility, between two receivers.

Interchange Compatibility

Interchange Compatibility (xK) refers to the high or low mutual exchange of the commodity of a given need area (i.e. Affection may be an important determinant for only one member of a dyad resulting in discordant affectional interchange). Two individuals' scores in this category should be similar, not reciprocal as with rK and oK, for maximum compatibility.

Total Compatibility

Total Compatibility (totK) is defined in two manners. The sum of the Reciprocal, Originator and Interchange Compatibility scores results in a totK which reflects relationships among different types of compatibility. The sum of the Inclusion, Control and Affection Compatibility scores results in a totK which reflects the effects of each interpersonal need area. Both are mathematically equivalent, but they have interesting psychological

differences (see Appendix E).

LIMITATIONS OF THE STUDY

The level of intelligence of each subject was not controlled for. The experimental sample consisted of students enrolled in the English Composition courses at Emporia State University. Generalizations have been limited to undergraduates registered for the summer semester at the University.

Chapter 2

REVIEW OF THE RELATED LITERATURE

This chapter presents summaries of the research conducted by Schutz and other investigators who have supplied normative, reliability and validity data supporting both the FIRO-B and the FIRO theory. Included also are studies by a significant number of researchers who have, as a result of their investigations, criticized both the instrument and the theory. Many of the non-supportive studies did maintain that the FIRO-B may have some practical use, however, and most urged further research. The relative sparsity of investigations concerning the FIRO and the contradictory nature of the literature were primary factors in the decision to conduct this investigation. This review is arranged roughly in a pro to contra order, although some studies are contradictory within themselves.

McElheny (1957), under the supervision of Schutz, constructed a political attitude scale and examined the relationship between subjects' opinions of significant aspects of political events, with an emphasis on their interpersonal characteristics, and scores on two predecessors of the FIRO-B. The scales represented political issues typically under general discussion and relating to the salient concerns of the 1956 Presidential election.

It was hypothesized that the FIRO area of Inclusion would be significantly related to Political Individual Significance. The Expressed Control area was expected to relate to the Political Autocrat, while the FIRO Wanted Control area would relate to the Political Abdicrat. The Political Personal Scale would hypothetically demonstrate a significant relationship to the FIRO Affection area and, in addition, it was expected that these would be the only significant relationships out of 16 possible correlations.

McElheny employed the FIRO-4 and the FIRO-5B3, forms which were earlier versions of the current FIRO-B, in addition to his Political Attitudes questionnaire. This approach stemmed from Schutz's contention that:

> It seems reasonable to expect that an individual's orientations toward his own interpersonal relations will parallel closely his attitudes toward the interpersonal elements of external affairs such as political events. When a person is confronted with a large, sweeping issue involving, for the most part, factors with which he has had no firsthand information, he must try to place the situation in a familiar framework which he can understand and toward which he can react (1966, p. 68).

The results of the first three hypotheses were significant and the fourth demonstrated a trend in the expected direction. People who liked to associate with other people tended to feel that the individual is significant in politics (Inclusion), people who liked to control others tended to support autocratic behavior in politics (Expressed Control), and people who wanted to be controlled by others tended to have the attitude that political

power should be abdicated or minimized (Wanted Control). The relationship between the Political Personal Scale and FIRO Affection demonstrated that many of the subjects felt that close friendships were either beneficial or damaging to political associates.

McElheny's correct selection of the significant correlations (hypotheses) from the 16 possible relations may be due to random chance less than one time in 100 attempts. The results provided support for the concurrent validity of the FIRO-B (the refined successor to the FIRO-4 and the FIRO-5B3) with respect to discrimination of individuals with divergent political attitudes. In addition, support was lent to the proposition that interpersonal relations orientation is significantly related to specific political attitudes. The exploratory nature of the study, the small number of items in each scale, and the method of dichotomizing the response categories were notable drawbacks to the strength of his findings.

Schutz (1966) investigated his contention that occupations have strong interpersonal elements by administering the FIRO-4 to different occupational groups. He hoped to detect differences among Air Force Senior Officers, Industrial Supervisors, Public School Administrators and Student Nurses. Mean scores on each scale were divided at the median for all groups and each subject was scored either high or low on each FIRO-4 scale. No prediction was made for Inclusion since Schutz did not

consider it to be relevant to the study in the FIRO-4 form. The results are represented in Table 2, below.

TABLE 2

FIRO-4 SCORES FOR VARIOUS OCCUPATIONAL GROUPS (SCHUTZ, 1966)

	Affection	Expressed Control	Wanted Control
Officers	low	high	high
Supervisors	high	high	high
Administrators	high	low	low
Nurses	high	low	low

This dichotomous approach apparently did indicate a congruency between the FIRO-4 profiles and general role stereotypes. Schutz properly warned, however, that "Beyond speculative interest, interpretation is risky" (p. 73). Further research was recommended using the more refined FIRO-B and more careful analysis of the interpersonal properties of various occupations. This study was offered by Schutz as support, in part, for the concurrent validity of the FIRO-B.

Another study conducted by Schutz (1966) was similar to the occupational group investigation mentioned above, but employed the FIRO-B questionnaire. He attempted to demonstrate a measurable difference between students being trained for industrial leadership (graduate students at the Harvard Business School) and freshmen at both

Harvard and Radcliffe. The differences in gender between the two freshman classes resulted in some interesting differences in responses to the FIRO-B.

Means were calculated for each FIRO-B need area in all three groups. The Business School group demonstrated a significantly higher need to control and influence others (Expressed Control). Their general need to have extensive relationships with people was also more intense than either freshman group. This appears consistent with certain stereotypes of businessmen. No other relationships were significant for the business group.

Of particular interest were the scores of the female Radcliffe freshman class. Their Expressed Control need was significantly lower than both male groups. Expressed Inclusion was also significantly lower than the other groups and Expressed Affection was significantly lower than the male Harvard freshmen. Schutz's only comment about these differences concerned the higher Expressed Control scores of the male groups, which provided the only significant support for his Business School student expectations. There was no elaboration and no suggestion of gender effect on the FIRO-B. Other researchers (Baumgartel & Goldstein, 1967; Mendelsohn & Rankin, 1969; Moos & Speisman, 1962; Ullman et al., 1964) demonstrated the necessity of controlling for this variable. Schutz's study did offer some support for the concurrent validity of the FIRO-B, however, and once again

demonstrated its ability to distinguish among groups.

In order to support his Postulate of Compatibility, an index generated by FIRO-B scores, Schutz utilized a study done by Alexander, Gonzales, Herminghaus, Marwell and Wheeless (1957). The investigation explored the relations between interpersonal orientations and specific dyadic associations in a group. The FIRO-5B3 and a sociometric questionnaire were administered to all subjects in order to test the hypothesis that the likelihood of continued personal contact increases as the compatibility of a dyad increases. All subjects were compared with each group member and compatibility or incompatibility was noted according to score positions above or below the median for each FIRO area. Comparisons were then made with choices for roommate, traveling companion and fraternity officer based on the sociometric questionnaire.

The FIRO compatibilities and sociometric choices for roommate correlated significantly for 7 of 13 measurements at the .001 level. All Affection measures were significant and lent support to Schutz's contention that the development of interpersonal relations goes through an orderly sequence of Inclusion, Control and Affection emphases. Longer and closer relations, such as roommate, become primarily Affectional. Other significant relationships in this part of the study included all Originator Compatibilities, Control Area Compatibility and Total Compatibility. Further analysis indicated that sociometric

choices for roommate were 2½ times as frequent in Schutz's Reciprocal and Originator Compatibility areas as chance would dictate. Interchange Compatibility showed slightly less than twice the number of choices expected at random.

The relationship between FIRO compatibility and choices for a traveling companion was significant in 4 of 13 possible comparisons. The emphasis here, in a short-term relationship, was on Control, again supporting Schutz's proposition that relationships are formed in the Inclusion, Control, Affection sequence. Sociometric choices for traveling companion were significant at the .001 level in the FIRO areas of Reciprocal and Originator Compatibility. Interchange Compatibility results were less than significant, suggesting perhaps that measurement in this area may be more appropriate for groups larger than dyads.

Comparisons between FIRO compatibility and the sociometric choices for fraternity officers resulted in 16 significant relationships of a possible 52. There existed a tendency toward emphasis in the Inclusion area, a generalization which supported Schutz's hypothesis of relationship development. Relationships where contact is more sporadic will involve more Inclusion need than Control or Affection needs. Several Control and Affection relationships were significant, however.

Alexander's data lent credence to Schutz's Postulate of Compatibility in that the likelihood of

continued personal contact increased as compatibility increased. It also supported the ordered emphasis on Inclusion, Control and Affection in the formation of a relationship. More importantly, this appeared to be one of the strongest demonstrations that the FIRO is a meaningful representation of actual behavior.

Ullman, Krasner and Troffer (1964) collected data from college students and psychiatric in-patients in an attempt to contribute to the normative strength of the FIRO-B. Intercorrelations were computed among the six FIRO scales and the California Personality Inventory (CPI) Dominance scale (Do) for male and female undergraduates. Significantly different scores between males and females in the Control area indicated a need to correlate separately for each sex. This is supported by other researchers, previously noted. Both the Expressed and Wanted Control areas correlated significantly with CPI Dominance when gender was controlled.

Intercorrelations among the six FIRO-B scales and an empirically derived Minnesota Multiphasic Personality Inventory (MMPI) scale were examined for male psychiatric in-patients. The MMPI scale measures facilitation-inhibition of recognition of threatening stimuli. The FIRO-B Wanted Control scale had the only significant relationship with the MMPI scale. Ullman stated that his finding was "consistent with formulations that the compliant patient role may be fostered by institutions and used to

avoid close personal relationships" (p. 242).

By comparing the college student group and the psychiatric group it was noted that intercorrelations among the FIRO-B scales and standard deviations were closely approximate. The means were significantly different, however, and on five of the six FIRO-B scales the psychiatric group demonstrated greater social isolation. These data augmented some of Schutz's own research in terms of intercorrelations among scales, construct validity of the Control scales and applicability to hospitalized psychiatric patients.

Gilligan (1973) attempted to provide more relevant FIRO-B norms and reliability coefficients for researchers using subjects from land grant universities. He also contributed reliability data for Schutz's Expressed plus Wanted scales, Expressed minus Wanted scales, composite Expressed and Wanted scales, and overall scores. Gilligan selected his sample from students enrolled in an introductory psychology course on the premise that over 90% of the university students took this course and it was therefore representative of the freshman class.

Comparisons between the land grant university subjects and Schutz's data (1967) revealed somewhat lower means and reliability coefficients for Gilligan's sample. Further analysis indicated that the sum of all six need area scores provided a highly reliable (r=.81) measure of change in interpersonal behavior between test and retest.

Sums across need areas (r=.75 for both Expressed and Wanted) and sums within need areas (for I, r=.77; for C, r=.73; for A, r=.74) provided slightly less reliable but perhaps more useful measures of change.

Kramer (1967) examined FIRO-B profiles and self-ratings in order to help establish construct validity for the FIRO. No absolute criteria exist against which the test can be validated, so he stated, as did Schutz (1966), that any demonstration of behavioral traits correlating significantly with the FIRO-B profile contribute to its presumptive validity. Kramer had previously found that normal subjects responding to the questionnaire demonstrated an awareness that interpersonal relations were involved, but none were able to discriminate Schutz's specific need areas. In this case the FIRO-B was administered to students at the beginning of a college class session. A short lecture followed, explaining the dimensions the FIRO-B was designed to measure. Nothing was said about typical profiles or sections and items relating to specific scores. Subjects were then required to rate themselves on the Expressed and Wanted areas of Inclusion, Control and Affection.

Rank-order correlations between the initial FIRO-B profile and the self-rating profile were significant in every need area with the one exception of Expressed Inclusion. (The *rho* for Expressed Inclusion was .33, and the *rho* for Wanted Control was .39, which was significant

at the .05 level.) All other correlations were significant beyond the .01 level. Kramer's results certainly appeared to contribute to the validity of the questionnaire, but Froehle (1970), to be discussed shortly, was unable to replicate the study.

Schutz and Allen (1966) studied the effects of a T-group laboratory on interpersonal behavior using the FIRO-B and an "open-ended" questionnaire. The groups were described as being characterized by emphasis on "here and now focus, individual emphasis, increasing personal growth, lack of structure, and unconscious level" (p. 65). The subjects responded to the FIRO-B before training, after training (two weeks), and following a six month waiting period, in order to determine changes that may have occurred as a result of the T-group. A second questionnaire, also collected after a six month waiting period, requested a subjective report of positive or negative changes that the respondant felt were due to the group experience. A control group of non-T-group participants received the FIRO-B three times, with a two week interval and a three month interval between administrations.

Schutz and Allen sought changes over time that were selective and dependent upon the initial personality. That is, the overly dominant would become less dominant, the overly submissive would become more assertive, etc. Correlations between changes in the experimental group and changes in the control group differed significantly. The

greatest differences occurred between the second and third administrations for the experimental group, but tendencies toward change were evident between the first and second administrations (during the training period) also. Correlations between the second and third administrations for the control group indicated that the FIRO-B scores were quite stable over the experimental period.

Although the self-report method of data collection and a significant difference in original FIRO-B profiles between the experimental and control groups raised some methodological questions, the results indicated significant change as measured by the FIRO-B. This included differences on all scales of the FIRO-B when groups were compared. The comparisons with the subjective questionnaire lent support to the validity of the FIRO-B. An interesting sidelight here was the suggestion that expectations of the T-group situation by the members of the experimental group may have influenced their responses to the FIRO-B. It is possible that this effect progressed over time as expectations for the group were altered through learning.

Kerckhoff and Davis (1962) conducted a longitudinal examination of the relationship between progress in the mate selection process in the premarital period and measures of homogamy and complementarity. Unmarried couples were analyzed for degree of progress toward a permanent union, degree of consensus on family values, degree of need complementarity, and length of relationship. Need comple-

mentarity was determined by computing Reciprocal Compatibility with the FIRO-B scales. Notably, however, Kerckhoff and Davis elected to reduce the size of the scales to five (instead of nine) items each for statistical reasons and, more importantly, because of strong doubts about the redundancy of items (Ryan, B. A., et al., 1970, and Rosenfeld, 1971, also questioned the redundancy of items). In addition, the authors decided that measurements of both Interchange and Originator Compatibilities, as defined by Schutz (1966), should be discarded on the basis that "Neither of these measures seems to involve the reasoning normally used in discussions of need complementarity" (Kerckhoff & Davis, 1962, p. 298).

Value consensus was the only variable related to progress toward permanence for the experimental sample. However, when the sample was divided into long-term and short-term couples, the value consensus was only significant for the short-term couples. The FIRO-B measures of need complementarity were then discovered to be related to the long-term couples, with the Inclusion area significant at the .02 level and the Control area significant at the .05 level. The Affection area demonstrated the same directional trends but did not attain statistical significance. The FIRO-B did not appear to support Schutz's theory of relationship development with Affectional needs being met in the longer-term relationships. It did permit Kerckhoff and Davis to generally support their own

contentions and conclude that a series of filtering mechanisms operate in mate selection, including social variables in the early stages, value consensus later on, and need complementarity following that. They attributed the lag in importance of need complementarity to the "unrealistic idealization of the loved one in the early stages of courtship" (p. 303). The FIRO-B data proved to be instrumental to the success of the study, but the researchers leveled serious criticism at the theory upon which the FIRO-B is based.

Doll, Gunderson and Ryman (1969) demonstrated some applicability of the FIRO-B scales among a variety of predictors in the process of investigating predictive specificity in occupational performance. The experimental groups consisted of Navy construction personnel, Navy technical and administrative personnel, and scientists. All were volunteers assigned to United States Antarctic stations for one year. The predictor sources were subsumed by: (a) Personality Scales (6 FIRO-B scales and 20 scales developed especially for Antarctic screening); (b) Clinical Evaluations; (c) Opinion Survey; (d) Hobbies; and (e) Personal History. Performance criteria were based upon independent ratings by supervisors and peers. These consisted of: (a) Emotional Stability; (b) Task Motivation; (c) Social Compatibility; (d) Leadership Ability; and (e) Overall Performance.

Correlations among the different three-way combinations varied widely, as one might expect, but indicated specific predictor sources relevant to certain performance criteria and/or occupational groups. The FIRO-B was not dealt with exclusive of 20 other Personality Scales, but Doll's findings did suggest that the FIRO-B may be applied in developing specific predictor sources for different criteria and occupational groups. The extreme nature of the groups studied here, however, strictly limited the generalizations which might be made.

Baumgartel and Goldstein (1967) explored the effects of human relations training on the interpersonal orientations and generalized values of college students. Correlations were examined between peer rankings, a factual questionnaire (demographic and descriptive information), a scale of values (theoretical, aesthetic, social, political and religious) and Schutz's FIRO-B questionnaire. The basic assumption of the study was that the training program, if successful, would effectively orient members toward characteristics of persons esteemed by the group and presumably possessing high interpersonal competence. These changes would be expected to demonstrate themselves through variances in the pre-training and post-training FIRO-B profiles and value scores which were positively related to peer rankings.

Expressed Control was the only FIRO-B need area

to be significantly related to the critical peer rating of preference as a working partner. Basically, students who were judged as valued associates at the end of the training course scored higher on the Expressed Control variable at the beginning of the course. The FIRO-B area of Expressed Control and Political Value showed a highly significant correlation and were viewed as associated measures (McElheny, 1957, found similar results.) Highly valued group members, therefore, were characterized by high Expressed Control and interest in the political dimension. Variance of response between males and females required the controlling of this variable for analysis of the hypothesis.

Baumgartel and Goldstein were unable to demonstrate their contention that participants in the course would show an increase in Expressed Control and Political Value but some interesting unexpected changes were noted. Wanted Control increased significantly primarily due to changed interpersonal orientations on the part of highly valued females and undervalued males, both of whom scored relatively low at the beginning of the course. Highly valued females also showed a significant decrease in Wanted Affection after demonstrating the highest need originally. Both changes, it was concluded, were the result of experiences in the training group and therefore indicated some usefulness of the FIRO-B in measuring treatment effect.

Moos and Speisman (1962) conducted a study of

group compatibility and productivity in an effort to explain the effects of divergent individual needs, in the area of dominance-submission, on group performance. The authors specified this dominance variable as merely one important determinant of group interaction, since one may establish compatibility in a number of other areas. The effectiveness of a group was determined by its specific problem solving skills, personality compatibility (Reciprocal Compatibility, Schutz, 1966), and role compatibility (individual task assignment). The subjects were scored on FIRO-B Expressed Control and Wanted Control, Gough's California Personality Inventory Dominance Scale, the Managerial Autocratic and Dominant-Dependent Scales of Leary's Interpersonal Check List, and the Thorndike and Gallup Vocabulary Scale (as a measure of intellectual functioning). These scores were used to obtain 30 compatible and 30 incompatible same-sexed dyads. Different combinations of compatibility-incompatibility were formed for groups containing 10 dyads (i.e., one group appeared as: FIRO compatible, personality incompatible, role compatible). A task was assigned awarding specific dominant or submissive roles to the individual members.

The Thorndike and Gallup Vocabulary Scale indicated a probable non-effect of intellectual functioning on differences in performance between compatible and incompatible groups. A total time score and a total

moves score were calculated for each group. The moves criterion provided significant discriminations between compatible and incompatible groups, while the time criterion, in general, did not. Compatible groups made fewer false starts or wrong moves. Females, while equal to males in number of moves, took significantly longer to complete them. This was attributed to a greater sociological requirement of submissiveness. The finding reiterated the necessity of controlling for gender with the FIRO-B while acknowledging its ability to discriminate among groups.

Sapolsky (1960) investigated the effect of interpersonal relationships upon verbal conditioning. He hypothesized that the experimenter (E) would exert more influence (stronger conditioning) on a compatible subject (S) than on an incompatible subject. His first experiment established a significant positive relationship between conditioned verbal response and S's perception of E as "high-attractive" rather than "low-attractive." In the second experiment, discussed below, groups were selected according to their high or low compatibility as measured by the FIRO-B.

Since E's role in the conditioning process was essentially a controlling one, each was selected on the basis of high scores in the Control area. Inclusion and Affection scores were permitted to vary. The Ss were matched with the Es and two groups were formed, highly

compatible and highly incompatible, with no other significant differences between them. The Es established criterion levels of response in pronoun selection/sentence creation exercises. They then attempted to verbally reinforce ("mm-hmm") specific pronoun usage.

The results confirmed the hypothesis that the qualities of the interpersonal relationship between E and S have related effects upon Ss' performances in a verbal conditioning situation. When S and E were defined as compatible, the reinforcing value of "mm-hmm" was enhanced and a typical learning curve was obtained during the acquisition stage. No significant increase in the use of the reinforced pronouns occurred during the acquisition stage when E and S were defined as incompatible. The E actually took on the qualities of an aversive stimulus. In the extinction phase, removal of the aversive stimulus (E) resulted in a significant increase in the use of the reinforced pronouns by the incompatible group. This has implications in treatment situations where incompatibility between client and therapist may result in a suppression of treatment effect until the client leaves the influential setting. The subjects and experimenters in the study rated themselves as liking or disliking one another in the expected direction at a .001 level of significance. The FIRO-B effectively discriminated between groups in this case.

Sapolsky (1965) investigated several hypotheses

concerning patient-doctor compatibility, mutual perception of that compatibility, and outcome of treatment. In his first experiment Sapolsky divided female voluntary in-patients into two groups, compatible and incompatible, by comparing their FIRO-B profiles with those of the doctors and splitting the sample at the median compatibility score. No significant differences existed between the groups. Sapolsky speculated that the greater the compatibility existing between patient and doctor, the greater the improvement would be in the patient's condition at time of discharge. Correlations between the patient-doctor compatibility score and supervisors' ratings of patient improvement were statistically significant. A transfer of patients to other doctors yielded a negative correlation which supported the contention that improvement was due to high compatibility with the original doctor.

In the second experiment, female in-patients completed the FIRO-B and the Semantic Differential Scale. Two groups were again formed on the basis of compatibility and no other significant differences were noted. It was hypothesized that the greater the degree of compatibility, the smaller the difference would be between three sets of instructions (rate self, rate doctor, guess doctor's rating of self) used to administer the Semantic Differential Scale. At the time of initial testing no significant correlations were found, indicating that compatibility was not related

to patient-doctor mutual perception at that stage of contact. At the time of discharge, however, the post-testing revealed significant correlations which supported the contention that as compatibility increased, so would patients' feelings of being understood by the doctor and feelings of similarity to the doctor. Interestingly, considering Sapolsky's (1960) earlier findings, all subjects demonstrated improvement, but the incompatible group displayed an apparent delay in the crystallization of positive overt attitudes toward the doctor.

Sapolsky again demonstrated the ability of the FIRO-B to discriminate between groups, and in this case, assist in the selection of compatible patient-doctor dyads which foster clinical improvement through increased physician influence. Several researchers, including Mendelsohn and Rankin (1969) objected to the extremely small size of the sample, however, and criticized the relative inexperience of the clinicians (one second year and two first year psychiatric residents).

Gard (1964) compared the interpersonal relations theory formulated by Schutz (1966) to traditional clinical categories. It was expected that schizophrenics would score lower than all other groups on the FIRO-B scales of Expressed Inclusion and Wanted Inclusion. Obsessive-compulsives were expected to score higher than all other groups on the FIRO-B scale of Expressed Control and the remaining neurotic groups were expected to show more

dispersion in Expressed and Wanted Affection. The groups, including normals, were controlled for age and social class in addition to receiving rigorous diagnostic evaluations.

The results indicated that schizophrenics scored significantly lower on both the Expressed and Wanted Inclusion scales than did anxiety hysterics and normals, but did not differ from obsessive-compulsives and depressives. Gard suggested that this made sense clinically and proposed that:

> . . . with refined categorization and/or measuring devices it could be shown that schizophrenics are lower in inclusion than obsessive-compulsives and depressives who, in turn, are lower than anxiety hysterics and normals. (p. 519)

The obsessive-compulsives failed to demonstrate Control pathology as hypothesized, and once again Gard believed that the content of the FIRO-B might be at fault. The difficulty of the obsessive-compulsives in the Control area would be more along the line of self to self which is not measured. For hypothesis number three, the neurotics, exclusive of the obsessive-compulsives, showed greater dispersion (both overexpression and underexpression) in the Expressed Affection area. They did not, however, vary significantly in Wanted Affection.

Gard concluded that Schutz's assumptions were generally well supported. The seven diagnostic groups which were measured produced over 35 significant differences in FIRO-B profiles. He contended that the FIRO-B was not designed to discriminate clinical groups and stated

that the general difficulties mentioned about the instrument should not negate its value. Schutz has implied, however, that both his theory and the instrument designed to measure it are capable of classifying all behavior, be it normal or pathological.

Gard and Bendig (1964) conducted a factor analytic study of Eysenck's and Schutz's personality dimensions among psychiatric groups. A 97-item true-false personality inventory was developed from scales already in existence. Its measurements included extroversion, neuroticism, overt hostility, covert hostility, and non-subtle defensiveness in responses. A second questionnaire consisted of the 54-item FIRO-B scales. Behavior ratings were collected via a specially designed check list in order to provide validation for the FIRO-B. Seven groups were established, including three schizophrenic types, three neurotic categories, and one group of normals who had been hospitalized for non-psychiatric medical reasons. In all, 25 variables were intercorrelated for the 112 subjects.

Correlations between the behavioral check list and the FIRO-B indicated that both were valid measures of the same traits. The check list demonstrated less reliability than the FIRO-B but the measurements of the FIRO-B questionnaire were indeed expressed in the behavior of the psychiatric subjects and could be objectively reported by observers. The hypothesized factor loadings of the groups

on Schutz's traits failed to appear, however. Expressed and Wanted Inclusion both appeared to be synonymous with Social Extroversion-Introversion (SEI). Expressed Affection was contaminated by an SEI component also and indications were that the entire Affection factor might be better defined by its Wanted aspect. Expressed Control was also contaminated by the SEI dimension and demonstrated a relationship with an Ascendence or Dominance factor which is part of that dimension.

The Control scales showed some of the distinctions between the hebephrenic and paranoid classifications of schizophrenics, and the undifferentiated schizophrenics loaded negatively in the area. The paranoids also loaded negatively on Affection. Gard and Bendig pointed out that the relation between neurotic diagnoses and Affection probably could not be expected to be confirmed by this type of statistical analysis because Schutz predicted a high or low variability for this trait. It remains, however, that the factor analysis did not demonstrate a valid relationship between Schutz's trait system and certain diagnostic categories of the present psychiatric system. It would have been possible to assume that since the behavioral check list and the FIRO-B demonstrated a similar validity, the fault lay with the present psychiatric system of diagnostic classification. Gard and Bendig chose to conclude that Schutz's system needed to be explored more sufficiently, however, and that its

substitution for the existing system was premature and nonfruitful.

Mendelsohn and Rankin (1969) conducted a study involving client-counselor compatibility and treatment success. Because their data were collected prior to the appearance of Sapolsky's (1965) paper, they considered their study to be complementary to his research rather than replicative. The results of the two works differed significantly. The clients in this case were walk-ins to a counseling center staffed by professionals with varying levels of experience. All of the volunteer subjects completed the FIRO-B and two other self-report inventories prior to being assigned a counselor. The duration of treatment was short, eight contacts being the maximum in the sample. Three months following the last recorded interview an evaluation questionnaire was mailed and 71% of the initial sample returned usable data.

Upon analysis it was determined that correlations between the compatibility indices of the FIRO-B and the other measures of general evaluation were significant for females only. Thus, FIRO-B compatibility was not a useful predictor for males. For females, Control Compatibility was related to favorable outcome of treatment and Inclusion and Affection Compatibility were indicative of unfavorable outcome.

A second finding was the failure of the Total Compatibility score to significantly predict any outcome

of treatment for either sex. For females, this failure occurred despite the presence of a substantial number of significant correlations between the outcome measures and the individual compatibility scores which are the components of Total Compatibility. This was a consequence of combining compatibility scores that did not all correlate with Total Compatibility in the same direction (a method approved by Schutz) and therefore canceled one another out. Mendelsohn pointed out, for example, that the negative score for apathetic Originator incompatibility actually served to increase Total Compatibility by lowering the Total score toward zero, or maximum compatibility. He also mentioned difficulties in spotting individual components which might predict better than Total Compatibility, equally weighted components possibly canceling each other out, and the generally difficult task of interpreting Total Compatibility, especially when it is not differentially weighted. Again, the effect of gender on responses to the FIRO-B was of serious concern.

Froehle (1970) replicated and elaborated upon Kramer's (1967) validation study of the FIRO-B. His subjects were naive concerning the questionnaire, and his procedure followed Kramer's. An initial FIRO-B was collected prior to a lecture on the subject. Froehle included two handouts, reproduced from Schutz's Manual, which contained a description of the FIRO-B and a graphic representation of Schutz's model with precise behavioral

descriptions of the six need areas. The subjects were directed to estimate their own FIRO-B profiles when the lecture was completed.

When correlations were computed, five of the six need areas failed to obtain significance and two were actually negative. The area of Expressed Control was significant, but at the .05 level, not the .01 level achieved by Kramer. Froehle drew no conclusions concerning the disparity between the two studies but speculated that the scale relevance to individual subjects might affect the relationship between estimated and measured scores. This concept is central to the present study in that the subjects's expectations of the situation may serve to vary the FIRO-B profile.

Loevinger (1957) listed three required components of construct validity which determine the degree to which a test accurately reflects the psychological determinants of behavior. These components--substantive, structural, and external--were the bases of an evaluation of the FIRO-B done by Ryan, B. A., et al. (1970). The authors expressed concern about the scarcity in the literature of FIRO-B validity data not compiled by Schutz himself. The theory which the FIRO-B measures is implied to be generally applicable to all people, so the researchers evaluated the test's scale characteristics on a non-college population and utilized more adequate external criteria in investigating the relations between test and non-test behavior.

Traffic patrolmen and social service volunteers were selected to represent groups with strong needs for Control and Affection, respectively. Both choices stemmed from Schutz's (1966) suggestions concerning occupational groups and predominant need areas.

In the substantive component area of constructive validity it was determined that although the individual items could be clearly explained by the theory, the variety of items was too narrow to encompass the scope of behaviors postulated by the theory. In addition, the similarity of behaviors reflected in the Inclusion and Affection scales presented a problem in distinguishing the essential differences between them. The requirements of the structural component were not met, either, due to the failure of the Inclusion and Control scales to obtain a .90 reproducibility coefficient as required by the Guttman scaling procedure cited by Schutz as his structural model. Although all of the scales except Expressed Inclusion ($\underline{r}$=.80) obtained coefficients of $\underline{r}$=.85 or better, Ryan refused to make allowances for his more rigorous statistical techniques because the items were so homogeneous. The requirements of Loevinger's third component, the external factors, were also not met, indicating that all six need areas were not being adequately measured. Only Wanted Control, Expressed Control and "amount of interaction" seemed to be meaningful and consistent with predictions. Ryan concluded that the FIRO-B did not

possess construct validity.

Rosenfeld (1971) conducted five investigations to study three types of hypotheses in a critique of Schutz's theory and measuring instrument. The first investigation studied hypotheses derived from questions related to the theory, the second investigation studied hypotheses derived from questions related to the measuring instrument, and the third, fourth, and fifth investigations studied application of the theory in specific cases. Rosenfeld's basic concern was to investigate Schutz's interpersonal behavior postulates in order to derive a workable theory of communication behavior in small groups.

The first investigation concerned the underlying structure of Schutz's interpersonal needs and relationships among the various measures of compatibility. Hypothetical dyads were formed and compatibility indices computed for the profiles of university students. A matrix of the intercorrelations among the variables indicated that the FIRO-B tapped three distinct variables: Inclusion, Control and Affection. The conceptually independent types of compatibility postulated by Schutz, however--Reciprocal, Originator, and Interchange--were not practically distinguishable. They correlated very highly with one another and displayed the same factor loadings. In addition, they did not account for equal proportions of Area Compatibility variance, although the proportions did remain somewhat stable within groups (Schutz, 1966, has

proposed weighting the variables in order to compensate for this). Rosenfeld also discovered that the number of calculations needed to compute Total Compatibility may be reduced to fewer than the 13 required by Schutz due to the redundancy of terms. He was able to account for almost 86% of the variance of Total Compatibility using a short-cut method. He noted that all three of his findings might have been group-specific, however, and recommended further exploration.

The second investigation by Rosenfeld concerned the possibility of interpersonal need hierarchies being reference-group bound. The groups consisted of Civil Service employees, students diagnosed as reticent, and FIRO-B profiles generated from random numbers. Hypothetical dyads were formed within groups, and an analysis of the compatibility indices demonstrated an inability of the FIRO-B to distinguish between groups. Since one of the groups consisted of random numbers, not human responses, inability to differentiate implied more than the fact that interpersonal need hierarchies are not reference-group bound. Rosenfeld stated:

> If data that is random is interpreted in essentially the same way as data that is presumably orderly (the reliability coefficients for each of the FIRO-B scales indicate that subjects are not completing the questionnaire in random fashion), the obvious conclusion is that the order imposed by the theory is meaningless. (p. 90)

In addition, within the need hierarchy itself, the area of Control appeared to be systematically less important

than Inclusion or Affection. Since the groups could not realistically be considered commonly biased against the need of Control, the bias must have existed in the test itself.

Rosenfeld's third investigation concerned the relationship between compatibility, perceived group function and preference for continued personal contact. Students were asked to rank-order members of their assigned groups to determine preferences for future group membership. Dyadic compatibility scores were computed and rank-ordered for each group. Preference for continued personal contact was generally positively related to Affection on the FIRO-B and negatively related to Inclusion and Control. This tendency was less pronounced in groups designating their function as primarily task-oriented rather than socially-oriented. The literature is contradictory on this issue, and Rosenfeld's small group size did little to effectively eliminate those contradictions.

The fourth investigation conducted by Rosenfeld concerned the ability of the FIRO-B to describe the observable behavior of students diagnosed as reticent. He based his comparisons solely upon the six need area scores due to his earlier findings that the compatibility scores were unable to distinguish between groups. The reticent students were indeed distinguishable from the non-reticent students. While acknowledging the impropriety of doing so, Rosenfeld then made a comparison of the compatibility

indices and concluded that Interchange Compatibility was dominant for each need area of reticent student dyads. The dominant type of compatibility varied with each need area for non-reticent students.

Rosenfeld's fifth investigation attempted to systematically vary levels of Control Compatibility, while keeping Inclusion and Affection Compatibility constant, in order to measure differential outcomes of interpersonal behavior in dyads. The FIRO-B was administered twice, with a three week interval, and the test-retest reliability was similar to that reported by Schutz (1966). Females were eliminated from the investigation, insuring that behavioral interaction was free from courting behavior. This also avoided response differences attributable to gender. Group 1 consisted of dyads defined as compatible in all three need areas. Group 2 dyads were defined as compatible in Inclusion and Affection but only moderately compatible in Control (i.e., the mean for Control Compatibility). Group 3 dyads were compatible in Inclusion and Affection but incompatible in Control. Each dyad performed two tasks and completed two questionnaires. No group was distinguishable from any other on the dimensions of interaction measured. Varying the levels of interpersonal need compatibility did not affect the behavioral outcomes of the dyads; it did, however, affect the measures of Total Compatibility.

The numerous negative findings led Rosenfeld to

conclude that the FIRO theory and the FIRO-B questionnaire were contraindicated as objects of study. He credited Schutz's instrument with some gross predictive applicability but termed the theoretical framework upon which it is based unreasonable. The predictive qualities of the questionnaire did not lead to a significant increase in the understanding of human behavior.

Hinrichsen, et al., (1975) examined the extent to which the FIRO-B questionnaire is susceptible to undetected faking. Each subject completed the FIRO-B under three different sets of instructions: (a) Normal condition, or honest responses to the test items; (b) Fake-good, or role play a job applicant seeking to appear psychologically well-adjusted; (c) Fake-bad, or role play impressions of a psychologically maladjusted person. Upon completion of each questionnaire, the subjects recorded descriptions of the personality profile they had tried to render. The three over-all mean FIRO-B profiles were given to each of four experienced clinical psychologists for independent blind interpretation.

No significant effects of gender or order were found, but the main effect, instructions, was significant at the .001 level. All FIRO-B dimensions were statistically significant. Individual comparison of means revealed fake-good scores generally higher than both fake-bad and normal scores. The two exceptions to this finding were in fake-good Wanted Control, which was lower than normals, and

in fake-bad Wanted Control, which was higher than the normals.

Clinical interpretations of the profiles were highly consistent across the four expert interpreters and the interpretations were highly consistent with the descriptors used in conjunction with each subject's profiles. Significantly, none of the interpreters suspected that any of the tests had been faked.

The literature presented in this chapter, pro or contra, gives the impression of usefulness for Schutz's instrument. The present study was intended to determine if one major variable, expectations of the subject, is a causative factor in the contradictory nature of the previous studies. If error can be controlled for in an instrument already described as useful, then the strength of that instrument is vastly improved. Consideration of situational effects and subjects' perception of those circumstances may help control moderator variables (Ghiselli, 1963) which could improve predictive power in any instrument.

Chapter 3

METHODS AND PROCEDURES

This chapter presents the steps taken in the experimental process employed for this study. The population and sampling are discussed, as are the materials and instrumentation. The methods and procedures for data collection and the design of the study are explained.

POPULATION AND SAMPLING

The experimental sample consisted of college students enrolled in the Introductory English Composition courses of Emporia State University. The sample included part-time as well as full-time students and had no reference to age, goals or major field of interest. A total of 72 students were enrolled in the English Composition courses, 60 of whom were present on the day of testing. Since attempts were made to control for intervening variables, such as subjects' discussion of the FIRO-B questionnaire and the implications of the study, all absentees from class on the day of testing were eliminated from the study. All subjects were contacted and tested in their regularly scheduled classes.

MATERIALS AND INSTRUMENTATION

The FIRO-B is a 54-item questionnaire (see Appendix A) developed by Schutz to measure his theory of Fundamental Interpersonal Relationships Orientation. It is intended to measure behavior through written responses ranging from "usually" to "never," or "most people" to "nobody." An answer key (see Appendix B) is employed to determine a numerical score for each of six interpersonal need areas: (a) Expressed Inclusion; (b) Expressed Control; (c) Expressed Affection; (d) Wanted Inclusion; (e) Wanted Control; (f) Wanted Affection (see Appendix C). The scores range from a low of zero to a high of nine and may be interpreted as the individual's state of psychological need for each particular area. Schutz considers these six need areas to be inclusive of all interpersonal behavior. By using the scores in empirically developed formulas supplied by Schutz (see Appendix D), one may compute various compatibility indices. This information may then be used to predict compatibilities for dyads or groups.

DATA COLLECTION

Students enrolled in the Introductory English Composition courses during the summer session at Emporia State University were tested. Only those in attendance on the day of testing were included in the study. Four FIRO-B profiles were obtained for each subject by consec-

utively administering four identical FIRO-B questionnaires. A fifth profile was obtained by the experimenter predicting each subject's optimally compatible mate using Schutz's formulas (1966). The different sets of instructions presented prior to the administration of each questionnaire and the computations for each subject's predicted optimal mate were identical for all subjects. No time was allowed between the administrations of the questionnaires. There was no time restriction for subjects to complete the questionnaire, but all subjects managed to finish each test in under 15 minutes. The total time for the data collection process was approximately one hour for each group.

Assistants to the study read the different sets of instructions from previously composed cards. None of the assistants had any detailed knowledge of the actual evaluation the data were to undergo. This double-blind method insured greater protection from experimenter bias. Each subject recorded personal data directly on the first questionnaire booklet. These included age, birthdate, marriage date (if applicable), class (i.e., freshman), and gender. Subjects were assured that this information was for statistical purposes only and that individuals' data would remain confidential. Questionnaires had been previously numbered in sets of four to insure that each subject's data remained intact.

One FIRO-B questionnaire was given to each subject

and the personal data referred to above were requested. Directions for filling out the questionnaire were read from the test itself. These consisted entirely of the mechanics required to fill out the form correctly and an appeal for honesty. The results of this first administration were considered to be the control test for experimental purposes. The assistants reclaimed each questionnaire when all subjects had completed it. Prior to the administration of the second questionnaire, the assistants read the first set of experimental instructions: "Fill out this questionnaire as if you were applying for a job and your employer wished to know a little more about you." After reclaiming the second questionnaire, the assistants repeated this same procedure for the second experimental set of instructions, "Fill out this questionnaire as if you were about to be married and your spouse wished to know a little more about you" (third questionnaire), and the third set of instructions, "Fill out this questionnaire as you would want your future (or present) husband or wife to fill it out" (fourth questionnaire). This completed the collection of the data; the predictions from the control questionnaire, indicating Schutz's idea of how each optimal mate should score, were completed at a later time and formed the fifth FIRO-B profile for each subject.

DESIGN OF THE STUDY

A 2x3x6 analysis of variance was employed in the first part of the study. Adjustments in computations were made since the numbers of male and female subjects were unequal but proportional (Linton & Gallo, 1975). A between-within-within subjects three-factor mixed design was used. Hypotheses numbers one, two, four and five were studied first. The independent variables consisted of factor A, gender; factor B, instructions; factor C, need area. Factor A had two levels and was a between subjects measure. Factor B had three levels and was a within subjects measure. Factor C had six levels and was also a within subjects measure. The dependent variable was the scores, purported to measure behavior, obtained with the scoring key to the FIRO-B questionnaire.

A 2x2x6 analysis of variance was then employed with hypotheses numbers three and six, again with proportional numbers of males and females. Factor A was gender and had two levels to be compared as between subjects measures. Factor B was instructions and had two levels to be compared as within subjects measures. One of the levels in this case was the predicted FIRO-B scores, obtained with Schutz's formulas, of each subject's optimally compatible mate. Factor C had six levels, each interpersonal need area, and was a within subjects measure.

Tests for variability included differences among

the A factors; differences among the B factors; differences among the C factors; two-way interactions between A and B, A and C, and B and C; and triple interaction among the A, B, and C factors. Following the analyses of variance for all hypotheses, specific comparison measures were employed in order to determine which variables were responsible for all significant variances. The Newman-Keuls' test (Linton & Gallo, 1975) was used for all significant interactions between groups of equal numbers. Scheffé's specific comparisons measure (Roscoe, 1969) was employed for the significant interaction involving gender due to the unequal size of the groups. The eta strength of association measure (Linton & Gallo, 1975) was then computed for all significant variances to determine the degree of experimental effect.

Chapter 4

DATA ANALYSIS

This chapter presents the statistical data compiled to prove or disprove the hypotheses presented in Chapter 1. The first analysis of variance measured the differences in FIRO-B scores recorded under control, marital and occupational instructions. Differences in responses between males and females were also determined. The Newman-Keuls' specific comparisons test was then run for significant findings between groups with equal numbers of subjects, and the eta strength of association test was employed to determine the degree of experimental effect (Linton & Gallo, 1975). The second analysis of variance measured the differences between subjects' perceptions of how their optimal mates would score on the FIRO-B and Schutz's statistical prediction of how their optimal mates should score. Males and females were again analyzed for differences in responses. The Newman-Keuls' specific comparison measure was utilized to examine significant findings between groups with equal numbers of subjects. Scheffé's specific comparison test (Roscoe, 1969) was used for interactions where the numbers of subjects in each group were unequal. The eta strength of association measure was again employed to determine the degree of experimental effect.

RESPONSE ANALYSIS

All subjects were tested in their regularly scheduled classes. Their ages ranged from 17 to 42 years with a mean age of 21.87. Eleven subjects were married and 49 were considered single (including three subjects who stated they were divorced). The sample contained 32 freshmen, 12 sophomores, 8 juniors, 6 seniors, and 2 no data. Males numbered 16 and ranged in age from 17 to 31 years. Their mean age was 22.25. Three were married and 13 were single. Class status reflected 6 freshmen, 2 sophomores, 5 juniors, 2 seniors and 1 no data. The females numbered 44, with an age range of 17 to 42 years, and a mean age of 21.73. Eight were married and 36 were single. There were 26 freshmen, 10 sophomores, 3 juniors, 4 seniors and 1 no data.

STATISTICAL ANALYSES

An analysis of variance was employed to determine the relationships among gender, different sets of instructions, and FIRO-B need areas, according to responses to the FIRO-B questionnaire. A total of 60 subjects, 16 male and 44 female, were studied. The instructions, in addition to a control, consisted of directions to respond to the questionnaire as if the FIRO-B had implications of success in marriage and success in business. The FIRO-B need areas were defined as Expressed Inclusion, Expressed Control,

Expressed Affection, Wanted Inclusion, Wanted Control, and Wanted Affection. This generated a total of 2160 scores in a 2x3x6 between-within-within subjects design.

As shown in Table 3, two of seven possible F statistics were significant. The first, variance between levels of FIRO-B need areas, could be due to random chance less than one time in 1000 comparisons. The variance was due to Expressed Control and Wanted Control scores according to the Newman-Keuls' specific comparisons measure. Both differed significantly from all other need areas but the variance between Expressed and Wanted Control was not significant. The eta strength of the association measure indicated that 9% of the variance might be attributed to experimental effect.

The second significant finding, the interaction of instructions and FIRO-B need areas, was due to random chance less than 5 times in 100 trials. In order to explain this significance, 153 specific comparisons were made using the Newman-Keuls' formula, and 74 were beyond the critical value necessary to demonstrate causal relationship. Table 4 shows these relationships grouped according to FIRO-B need area. Expressed Control and Wanted Control were again the primary sources of the variance. The eta strength of association measure indicated that 0.4% of the variance was due to experimental effect.

A second analysis of variance was employed to determine the relationship between gender, FIRO-B need

TABLE 3

ANALYSIS OF VARIANCE FOR THE INVESTIGATION OF EFFECTS OF GENDER, INSTRUCTIONS AND SCHUTZ'S NEED AREAS ON FIRO-B SCORES

Source of Variance	df	SS	MS	F
Between Ss	59	2599.93		
Gender (A)	1	17.73	17.73	0.40
Error Between Ss	58	2582.20	44.52	
Within Ss	1020	6745.39		
Instructions (B)	2	9.87	4.94	1.76
Need Areas (C)	5	813.49	162.70	11.40*
AB	2	7.23	3.62	1.29
AC	5	84.93	16.99	1.19
BC	10	40.91	4.09	1.84**
ABC	10	36.87	3.69	1.66
Error Within Ss	986	5752.09		
$Error_1$ Within Ss	116	325.63	2.81	
$Error_2$ Within Ss	290	4137.29	14.27	
$Error_3$ Within Ss	580	1289.17	2.22	
Total	N=1080	9345.32		

*Significant at the .001 level.
**Significant at the .05 level.

TABLE 4

SUMMARY OF NEWMAN-KEULS' SPECIFIC COMPARISONS
MEASURES FOR INTERACTIONS OF FIRO-B
NEED AREAS AND INSTRUCTIONS

	EI	WI	EC			WC			EA			WA	CV**
			Control	Business	Marriage	Control	Business	Marriage	Control	Business	Marriage		
Expressed Inclusion (EI)													
Control Instructions	No significant differences between sets of instructions	No significant differences between sets of instructions	2.1*	1.7	1.9		1.1	1.5				No significant differences between sets of instructions	.87
Business Instructions			2.9	2.5	2.7	1.7	2.0	2.3	1.1	1.1			.94
Marriage Instructions			2.6	2.2	2.4	1.4	1.7	2.0					.93
Wanted Inclusion (WI)													
Control Instructions			2.0	1.7	1.9		1.1	1.5					.85
Business Instructions			2.6	2.2	2.4	1.4	1.7	2.0					.92
Marriage Instructions			2.2	1.8	2.0	.96	1.3	1.6					.88
Expressed Control (EC)													
Control Instructions													
Business Instructions													
Marriage Instructions													
Wanted Control (WC)													
Control Instructions			1.2	.85	1.1								.77
Business Instructions			.92		.77								.73
Marriage Instructions													
Expressed Affection (EA)													
Control Instructions			1.8	1.4	1.7		.88	1.2					.82
Business Instructions			1.8	1.4	1.6		.85	1.2					.79
Marriage Instructions			2.0	1.7	1.9		1.1	1.5					.83
Wanted Affection (WA)													
Control Instructions			2.5	2.2	2.4	1.3	1.6	2.0					.91
Business Instructions			2.5	2.1	2.3	1.2	1.5	1.9					.90
Marriage Instructions			2.4	2.0	2.2	1.1	1.4	1.8					.89

*Differences between means significant at the .05 level.

**Critical Values

area, and two remaining sets of data. One set of data consisted of responses to the FIRO-B as each subject would wish his/her preferred mate to respond. The second consisted of scores, predicted from the control instructions according to Schutz's formulas, of a perfectly compatible mate. A total of 58 subjects, 16 male and 42 female, responded to this administration of the FIRO-B. Since two of the subjects from the initial sample failed to respond, their scores were generated from the means for statistical purposes. This corrected the total to 60 subjects, 16 male and 44 female, and provided 1640 scores for analysis in a between-within-within subjects design.

As shown in Table 5, three of seven possible F statistics were significant. The first, variance of responses between the six FIRO-B need areas, was significant at the .01 level. The differences were accounted for by Expressed Control and Wanted Control scores according to the Newman-Keuls' specific comparisons measure. Both differed significantly from all other need areas (Expressed Inclusion, Expressed Affection, Wanted Inclusion and Wanted Affection) and, in addition, were significantly different from each other. The eta strength of association measure indicated that 8.8% of the variance in scores could be attributed to experimental effect.

The second significant finding stemmed from the interaction of gender and the six levels of FIRO-B need areas. This could be attributed to random chance less

TABLE 5

ANALYSIS OF VARIANCE FOR THE INVESTIGATION OF EFFECTS OF GENDER, INSTRUCTIONS AND SCHUTZ'S NEED AREAS ON FIRO-B SCORES

Source of Variance	df	SS	MS	F
Between Ss	59	1647.14		
Gender (A)	1	12.53	12.53	0.44
Error Between Ss	58	1634.61	28.18	
Within Ss	660	4485.55		
Instructions (B)	1	4.20	4.20	0.61
Need Areas (C)	5	540.81	108.16	15.02*
AB	1	9.56	9.56	1.40
AC	5	109.29	21.86	3.04*
BC	5	75.06	15.01	3.51*
ABC	5	21.47	4.29	1.00
Error Within Ss	638	3725.16		
$Error_1$ Within Ss	58	397.53	6.85	
$Error_2$ Within Ss	290	2087.95	7.20	
$Error_3$ Within Ss	290	1239.68	4.28	
Total	N=720	6132.69		

*Significant at the .01 level.

than one time in 100 comparisons. The significance of the finding was solely the result of the differences in scores between male Expressed Inclusion and female Wanted Control, according to Scheffé's specific comparisons measure for groups with unequal numbers of subjects. The eta strength of association measure indicated that 1.8% of the finding might be attributed to experimental effect.

The third significant difference was the result of the interaction between subjects' preferred mate, predicted optimal mate, and the six FIRO-B need areas. This finding was also significant at the .01 level. In order to explain the variance, a total of 66 specific comparisons were made using the Newman-Keuls' formula, and 28 were significant. Table 6, arranged according to FIRO-B need areas, demonstrated that both Expressed and Wanted Control were again the influencing factors. As in other comparisons in this study, the significant differences in scores were attributable to experimental effect only a small portion of the time. The eta strength of association measure indicated that only 1.2% of the significant interactions were directly accounted for by experimenter control.

From a total of 14 possible F statistics in these analyses, 5 were significant. The variance in each case was attributable to the Expressed and/or Wanted aspects of the FIRO-B need area of Control. The FIRO-B need areas of Expressed Inclusion, Expressed Affection, Wanted

TABLE 6

SUMMARY OF NEWMAN-KEULS' SPECIFIC COMPARISONS
MEASURES FOR INTERACTIONS OF FIRO-B
NEED AREAS AND INSTRUCTIONS

	EI	WI	EC		WC		EA	WA	
			Subject	Schutz	Subject	Schutz			CV**
Expressed Inclusion (EI)									
Subject's Preferred Mate	No significant differences between sets of instructions	No significant differences between sets of instructions	2.3*	1.3	2.6	2.5	No significant differences between sets of instructions	No significant differences between sets of instructions	1.25
Schutz's Predicted Mate			1.8		2.1	2.0			1.13
Wanted Inclusion (WI)									
Subject's Preferred Mate			2.2		2.5	2.4			1.21
Schutz's Predicted Mate			1.8		2.1	2.1			1.16
Expressed Control (EC)									
Subject's Preferred Mate									
Schutz's Predicted Mate					1.3	1.2			.98
Wanted Control (WC)									
Subject's Preferred Mate									
Schutz's Predicted Mate									
Expressed Affection (EA)									
Subject's Preferred Mate			1.2		1.5	1.4			1.04
Schutz's Predicted Mate			2.3	1.3	2.6	2.5			1.23
Wanted Affection (WA)									
Subject's Preferred Mate			1.9		2.2	2.2			1.19
Schutz's Predicted Mate			1.6		1.9	1.8			1.09

*Differences between means significant at the .05 level.

**Critical Values

Inclusion and Wanted Affection did not demonstrate any significant effect on variances of FIRO-B scores. The maximum amount of variance due to experimental effect, those variables controlled by the experimenter, was 9%.

Chapter 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This investigation explored the effects of individual expectations on profiles generated from FIRO-B scores. This chapter presents a summary of the research experiment and the results obtained through analyses of the data. A concluding discussion of the hypotheses is presented, and recommendations for further research are made.

SUMMARY

Schutz (1966) postulated a theory of behavioral interaction which he called the Fundamental Interpersonal Relationships Orientation, or FIRO. In order to test his theory, Schutz developed a 54-item questionnaire, purported to measure behavior, which he called the FIRO-B. This study hypothesized that individual expectations would affect FIRO-B profiles.

Four FIRO-B profiles were obtained for each subject (students at Emporia State University) by consecutively administering four identical FIRO-B questionnaires. This resulted in data representing a control FIRO-B profile, administered simply with directions on the mechanics of completing the form, a second profile administered with

instructions implying measurement for success in business, a third administered with instructions implying measurement for success in marriage, and a fourth profile which demonstrated the responses of each subject's preferred optimal mate. The latter involved the subjects responding as they would wish their future (or present) spouse to respond. A fifth profile was then obtained by experimenter prediction of each subject's statistically optimal mate from the control profile, utilizing Schutz's formulas.

From a total of 14 possible F statistics in these analyses, 5 were significant. The variance in each case was attributable to the Expressed and/or Wanted aspects of the FIRO-B need area of Control. The maximum amount of variance due to experimental effect, those variables controlled by the experimenter, was 9%.

CONCLUSIONS

Hypotheses numbers one and two predicted no significant variance between scores on the FIRO-B when the questionnaires were administered under control, business, and marital instructions. Since variance did not occur at a significant level, the null hypotheses were accepted. Subjects' expectations of different situations did not result in changes in their FIRO-B profiles.

Hypothesis number three predicted no significant difference between subjects' expectations of how an optimal mate would score on the FIRO-B, and Schutz's statistical

prediction of how that optimal mate should score. There was no significant variance between these two measures so the null hypothesis was accepted. The individual's expectations for an optimal mate did not differ significantly from the FIRO-B profile predicted for each individual's optimal mate.

Hypotheses numbers four and five predicted no significant effects of gender on the scores of FIRO-B questionnaires administered under control, business, and marriage instructions. No significant differences were found and the null hypotheses were accepted. Male and female FIRO-B profiles did not differ significantly between situations with varying behavioral requirements.

Hypothesis number six predicted no significant effects of gender on subjects' expectations for an optimal mate and the statistical prediction of that optimal mate's scores on the FIRO-B. There was no significant difference and the null hypothesis was accepted. Males and females did not vary significantly in FIRO-B scores for their preferred optimal mate and predicted optimal mate.

Statistical significance was achieved in the degree of variance between the six FIRO-B need areas. The significance was entirely accounted for by the differences in the scores of Expressed Control and Wanted Control, however. This apparently indicated that the need areas of Expressed Inclusion, Expressed Affection, Wanted Inclusion, and Wanted Affection were not significantly different

measurements. It is not reasonable to assume that all subjects tested would have less than a significant variance in all four of these areas, especially since Schutz differentiates them so precisely. This is more apparent when one considers the extreme variance of the Control factor, which was not due to any experimental effect. Other researchers have noted the overlap of the Inclusion and Affection measures. In one of the two comparisons of the need area factor, Expressed Control and Wanted Control did not vary significantly from each other.

Although the control, business, and marital instructions did not effect any significant variance of FIRO-B scores, significance was obtained when the different sets of instructions interacted with the six FIRO-B need areas. The variance was accounted for by the Expressed and Wanted aspects of FIRO-B Control and not the experimental condition of differing sets of instructions. Expressed Inclusion, Expressed Affection, Wanted Inclusion and Wanted Affection scores remained stable regardless of the specific instructions presented.

Differences in FIRO-B scores between subjects' preferred optimal mate and predicted scores for that optimal mate were not significant until interactions were measured with the FIRO-B need areas. This significant variance was also attributable solely to the effect of Expressed Control and Wanted Control. The difficulty is not that subjects have misconceptions about the type

of person they would be most likely to get along with (compatibility as measured by the FIRO-B) but with the FIRO-B instrument itself. The experimental effect was negligible.

Gender also interacted significantly with the FIRO-B need areas. This was attributable to male Expressed Inclusion scores and female Wanted Control scores, which varied significantly. Again, Wanted Control was the influencing measure. No other significant differences existed as a result of gender, and experimental effect was minimal.

The results of this study indicate that responses to the FIRO-B questionnaire do not vary with regard to situational concerns or gender. This generally supports the reliability of Schutz's instrument. Unexpectedly, however, the six FIRO-B need areas were found to vary significantly, due to the Expressed and Wanted aspects of Control. Expressed Inclusion, Expressed Affection, Wanted Inclusion, and Wanted Affection appeared to be indistinguishable from one another. Some important questions are raised concerning the use of Schutz's theory, upon which the questionnaire is based, in order to diagram psychological or behavioral profiles. If, as Schutz claims, all behavior may be subsumed by his three categories of Inclusion, Control, and Affection, then they must represent importantly different traits. The evidence suggests that something termed Control is

different from everything else. Although that data may possibly have some practical value, the specificity and descriptive power which Schutz ascribes to his FIRO is negated. College students enrolled in the summer semester at Emporia State University can generate profiles which differ significantly from test to test due to Schutz's Control factor. The differences do not appear to be rational explanations of behavioral changes but indicate some inadequacy of the test itself. Inclusion and Affection appear to be measuring the same thing, while Control varies unpredictably. An understanding of interpersonal behavior is not forthcoming from the FIRO theory as measured by the FIRO-B questionnaire in this situation.

RECOMMENDATIONS

A number of significant findings in this study indicated that FIRO-B profiles vary without regard to external criteria. Differences in scores were attributable to some variance within the test itself. It is recommended that further research be conducted with attempts to determine within test reliability, perhaps through the differential weighting of the six need area components. Improvements in technique may be achieved through the use of larger experimental samples and the incorporation of subjects other than university students. Without improved understanding of how each need area can affect the overall FIRO-B profile and the resultant compatibility indices,

it is impossible to accurately describe an individual's psychological needs as Schutz intended.

BIBLIOGRAPHY

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Alexander, W. B., Gonzales, R. A., Herminghaus, J. F., Maxwell, G., & Wheeless, L. Personality Variables and Predictability of Interaction Patterns in Small Groups. Unpublished term paper, Massachusetts Institute of Technology, 1957. Cited by Schutz, W. C. The Interpersonal Underworld. Palo Alto, California: Science and Behavior Books, 1966, p. 121.

Baumgartel, H. & Goldstein, J. W. Need and Value Shifts in College Training Groups. Journal of Applied Behavioral Sciences, 1967, 3, 87-101.

Berdie, R. F. Intra-individual Variability and Predictability. Educational and Psychological Measurements, 1961, 21, 663-676.

Dayton, C. M. The Design of Educational Experiments. New York: McGraw-Hill, 1970.

Doll, R. E., Gunderson, E. K., & Ryman, D. H. Relative Predictability of Occupational Groups and Performance Criteria in an Extreme Environment. Journal of Clinical Psychology, 1969, 25(4), 399-402.

Dyal, I., & Thomas, J. M. Operation KPE: Developing a New Organization. Journal of Applied Behavioral Science, 1968, 4, 473-506.

Ellis, A., & Grieger, R. RET: Handbook of Rational-

Emotive Therapy. New York: Springer Publishing, 1977.

Fimney, J. C. Effects of Response Sets on New and Old MMPI Scales. Psychological Reports, 1965, 17, 907-915.

Froehle, T. C. Construct Validity of the FIRO-B Questionnaire: A Failure to Replicate? Journal of Personality Assessment, 1970, 34(2), 146-148.

Gard, J. G. Interpersonal Orientations in Clinical Groups. Journal of Abnormal and Social Psychology, 1964, 69, 516-521.

Gard, J. G., & Bendig, A. W. A Factor Analytic Study of Eysenck's and Schutz's Personality Dimensions Among Psychiatric Groups. Journal of Consulting Psychology, 1964, 28, 252-258.

Ghiselli, E. E. Moderating Effects and Differential Reliability and Validity. Journal of Applied Psychology, 1963, 47(2), 81-86.

Gilligan, J. R. FIRO-B: Norms and Reliability Revisited. Journal of Clinical Psychology, 1973, 29(3), 374-376.

Hinrichsen, J. R., Gryll, S. L., Bradley, L. A., & Katahn, M. Effects of Impression Management Efforts on FIRO-B Profiles, Journal of Consulting and Clinical Psychology, 1975, 43(2), 269.

Hull, C. L. Clark L. Hull. In Lundin, R. W. Theories and Systems of Psychology. Lexington, Mass.: D. C. Heath, 1972.

Kerckhoff, A. C., & Davis, K. E. Value Consensus and Need Complementarity in Mate Selection. American Socio-

logical Review, 1962, 27, 295-303.

Kramer, E. A Contribution Toward the Validation of the FIRO-B Questionnaire. Journal of Projective Techniques and Personality Assessment, 1967, 31, 80-81.

Linton, M., & Gallo, P. S. Jr. The Practical Statistician: Simplified Handbook of Statistics. Belmont, California: Wadsworth Publishing, 1975.

Loevinger, J. Objective Tests as Instruments of Psychological Theory. Psychological Reports, 1957 (Monograph Supplement 9). Cited by Ryan, B. A., MaGuire, T. O., & Ryan, T. M. An Examination of the Construct Validity of the FIRO-B. Journal of Personality Assessment, 1970, 34(5), 419-425.

McElheny, V. Interpersonal Orientation and Political Opinion. Unpublished Honors Thesis, Harvard University, 1957. Cited by Schutz, W. C. The Interpersonal Underworld. Palo Alto, California: Science and Behavior Books, 1966.

Mendelsohn, G. A., & Rankin, N. O. Client-Counselor Compatibility and the Outcome of Counseling. Journal of Abnormal Psychology, 1969, 74(2), 157-163.

Moos, R. H., & Speisman, J. C. Compatibility and Productivity. Journal of Abnormal and Social Psychology, 1962, 65(3), 190-196.

Roscoe, J. T. Fundamental Research Statistics for the Behavioral Sciences. New York: Holt, Rinehart & Winston, 1969.

Rosenfeld, L. B. A Critique of William Schutz's Three-Dimensional Theory of Interpersonal Behavior Using His Measuring Instrument FIRO-B. Unpublished doctoral dissertation, Pennsylvania State University, 1971.

Ryan, B. A., MaGuire, T. O., & Ryan, T. M. An Examination of the Construct Validity of the FIRO-B. Journal of Personality Assessment, 1970, 34(5), 419-425.

Ryan, L. R. Clinical Interpretations of the FIRO-B. Palo Alto, California: Consulting Psychologists Press, 1971.

Sapolsky, A. Effects of Interpersonal Relationships Upon Verbal Conditioning. Journal of Abnormal and Social Psychology, 1960, 60, 241-246.

Sapolsky, A. Relationship Between Patient-Doctor Compatibility, Mutual Perception and Outcome of Treatment. Journal of Abnormal Psychology, 1965, 70, 70-76.

Saunders, D. R. Moderator Variables in Prediction. Educational and Psychological Measurement, 1956, 16, 209-222.

Schutz, W. C. The Interpersonal Underworld. Palo Alto, California: Science and Behavior Books, 1966. (Reprint of FIRO: A Three-Dimensional Theory of Interpersonal Behavior. New York: Holt, Rinehart, and Winston, 1960.)

Schutz, W. C., & Allen, V. L. The Effects of a T-group Laboratory on Interpersonal Behavior. Journal of Applied Behavioral Science, 1966, 2(3), 265-286.

Schutz, W. C. The FIRO Scales: Manual. Palo Alto, California: Consulting Psychologists Press, 1967.

Ullman, L. P., Krasner, L., & Troffer, S. H. A Contribution to FIRO-B Norms. Journal of Clinical Psychology, 1964, 20, 240-242.

Vesprani, G. J., & Seeman, W. MMPI X and Zero Items in a Psychiatric Outpatient Group. Journal of Personality Assessment, 1974, 38(1), 61-64.

Weiss, R. L., & Moos, R. H. Response Biases in the MMPI. Psychological Bulletin, 1965, 63(6), 403-409.

APPENDIXES

APPENDIX A

APPENDIX A

FIRO-B QUESTIONNAIRE

1977 EDITION

WILL SCHUTZ, Ph.D.

DIRECTIONS

This questionnaire explores the typical ways you interact with people. There are no right or wrong answers.

Sometimes people are tempted to answer questions like these in terms of what they think a person should do. This is not what is wanted here. We would like to know how you actually behave.

Some items may seem similar to others. However, each item is different so please answer each one without regard to the others. There is no time limit, but do not debate long over any item.

For each statement below, decide which of the following answers best applies to you. Place the number of the answer in the box at the left of the statement. Please be as honest as you can.

1. never 2. rarely 3. occasionally
4. sometimes 5. often 6. usually

1. I try to be with people.
2. I let other people decide what to do.
3. I join social groups.
4. I try to have close relationships with people.
5. I tend to join social organizations when I have an opportunity.
6. I let other people strongly influence my actions.
7. I try to be included in informal social activities.
8. I try to have close, personal relationships with people.
9. I try to include other people in my plans.
10. I let other people control my actions.
11. I try to have people around me.
12. I try to get close and personal with people.
13. When people are doing things together I tend to join them.
14. I am easily led by people.
15. I try to avoid being alone.
16. I try to participate in group activities.

For each of the next group of statements, choose one of the following answers:

1. nobody 2. one or two people 3. a few people
4. some people 5. many people 6. most people

17. I try to be friendly to people.
18. I let other people decide what to do.
19. My personal relations with people are cool and distant.
20. I let other people take charge of things.
21. I try to have close relationships with people.
22. I let other people strongly influence my actions.
23. I try to get close and personal with people.
24. I let other people control my actions.
25. I act cool and distant with people.
26. I am easily led by people.
27. I try to have close, personal relationships with people.

For each of the next group of statements, choose one of the following answers:

1. nobody 2. one or two people 3. a few people
4. some people 5. many people 6. most people

28. I like people to invite me to things.
29. I like people to act close and personal with me.
30. I try to influence strongly other people's actions.
31. I like people to invite me to join in their activities.
32. I like people to act close toward me.
33. I try to take charge of things when I am with people.
34. I like people to include me in their activities.
35. I like people to act cool and distant toward me.
36. I try to have other people do things the way I want them done.
37. I like people to ask me to participate in their discussions.
38. I like people to act friendly toward me.
39. I like people to invite me to participate in their activities.
40. I like people to act distant toward me.

For each of the next group of statements, choose one of the following answers:

1. never 2. rarely 3. occasionally
4. sometimes 5. often 6. usually

41. I try to be the dominant person when I am with people.
42. I like people to invite me to things.
43. I like people to act close toward me.
44. I try to have other people do things I want done.
45. I like people to invite me to join their activities.
46. I like people to act cool and distant toward me.
47. I try to influence strongly other people's actions.
48. I like people to include me in their activities.
49. I like people to act close and personal with me.
50. I try to take charge of things when I'm with people.
51. I like people to invite me to participate in their activities.
52. I like people to act distant toward me.
53. I try to have other people do things the way I want them done.
54. I take charge of things when I'm with people.

For each of the next group of statements, choose one of the following answers:

1. nobody 2. one or two people 3. a few people
4. some people 5. many people 6. most people

28. I like people to invite me to things.
29. I like people to act close and personal with me.
30. I try to influence strongly other people's actions.
31. I like people to invite me to join in their activities.
32. I like people to act close toward me.
33. I try to take charge of things when I am with people.
34. I like people to include me in their activities.
35. I like people to act cool and distant toward me.
36. I try to have other people do things the way I want them done.
37. I like people to ask me to participate in their discussions.
38. I like people to act friendly toward me.
39. I like people to invite me to participate in their activities.
40. I like people to act distant toward me.

For each of the next group of statements, choose one of the following answers:

1. never 2. rarely 3. occasionally
4. sometimes 5. often 6. usually

41. I try to be the dominant person when I am with people.
42. I like people to invite me to things.
43. I like people to act close toward me.
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45. I like people to invite me to join their activities.
46. I like people to act cool and distant toward me.
47. I try to influence strongly other people's actions.
48. I like people to include me in their activities.
49. I like people to act close and personal with me.
50. I try to take charge of things when I'm with people.
51. I like people to invite me to participate in their activities.
52. I like people to act distant toward me.
53. I try to have other people do things the way I want them done.
54. I take charge of things when I'm with people.

APPENDIX B

APPENDIX B

ANSWER KEY TO THE FIRO-B

Expressed Inclusion

*1. 1-2-3**	11. 1-2
3. 1-2-3-4	13. 1-2
5. 1-2-3-4	15. 1
7. 1-2-3	16. 1
9. 1-2	

Wanted Inclusion

28. 1-2	37. 1
31. 1-2	39. 1
34. 1-2	48. 1-2
42. 1-2	51. 1-2
45. 1-2	

Expressed Control

30. 1-2-3	36. 1-2
33. 1-2-3	50. 1-2
41. 1-2-3-4	53. 1-2
44. 1-2-3	54. 1-2
47. 1-2-3	

Wanted Control

2. 1-2-3-4	10. 1-2-3
6. 1-2-3-4	14. 1-2-3
18. 1-2-3	24. 1-2-3
20. 1-2-3	26. 1-2-3
22. 1-2-3-4	

Expressed Affection

4. 1-2	12. 1
8. 1-2	23. 1-2
17. 1-2	25. 4-5-6
19. 4-5-6	27. 1-2
21. 1-2	

Wanted Affection

29. 1-2	38. 1-2
32. 1-2	40. 5-6
43. 1	49. 1-2
46. 5-6	52. 5-6
35. 5-6	

*Number of Item
**Scored Responses

One point is counted whenever a number on the key matches a subject's response. Scores in each need area will range from a low of zero to a high of nine.

APPENDIX C

APPENDIX C

FIRO-B NEED AREAS

	Expressed Behavior	Wanted Behavior
Inclusion	I make efforts to include other people in my activities and to get them to include me in theirs. I try to belong, to join social groups, to be with people as much as possible.	I want other people to include me in their activities and to invite me to belong, even if I do not make an effort to be included.
Control	I try to exert control and influence over things. I take charge of things and tell other people what to do.	I want others to control and influence me. I want other people to tell me what to do.
Affection	I make efforts to become close to people. I express friendly and affectionate feelings and try to be personal and intimate.	I want others to express friendly and affectionate feelings toward me and try to become close to me.

Schutz designed the FIRO-B to measure both the Expressed and the Wanted aspects of three behavioral dimensions: Inclusion, Control and Affection (Schutz, 1967, p. 5).

APPENDIX D

APPENDIX D

FIRO-B COMPATIBILITY INDICES

By using the six FIRO-B scores in empirically developed formulas supplied by Schutz (1966, p. 113-114), one may compute various compatibility indices. This information may be used to determine compatibilities for dyads, for groups, or for prediction of the needs of the individual.

Reciprocal Compatibility (rK) i.e., Inclusion (I)

$$rK^{I}=\left|e_1^{I}-w_2^{I}\right|+\left|e_2^{I}-w_1^{I}\right|.$$

Originator Compatibility (oK) i.e., Control (C)

$$oK^{C}=(e_1^{C}-w_1^{C})+(e_2^{C}-w_2^{C}).$$

Interchange Compatibility (xK) i.e., Affection (A)

$$xK^{A}=\left|(e_1^{A}+w_1^{A})-(e_2^{A}+w_2^{A})\right|.$$

Area Compatibility (i.e., Affection)

$$K^{A}=f(rK^{A},oK^{A},xK^{A}).$$

Type Compatibility (i.e., Reciprocal Compatibility)

$$rK=f(rK^{I},rK^{C},rK^{A}).$$

e--Expressed
w--Wanted

FIRO-B Scores and Compatibility Indices, Example

FIRO-B Scores, Subject #1

	I	C	A
e	6	3	7
w	8	5	7

FIRO-B Scores, Subject #2

	I	C	A
e	7	2	5
w	7	4	6

AREAS OF COMPATIBILITY

	K^I	K^C	K^A	
rK	2	4	1	7
oK	-2	-4	-1	-7
xK	0	2	3	5
	0	2	3	5=totK

Since scores range from a low of zero to a high of nine, it is possible to quickly estimate the Expressed (e) and Wanted (w) needs of subjects numbers one and two in the Inclusion, Control and Affection areas. In addition, the 16 compatibility indices yield enough data to enable a prediction of the ability of these two subjects to work together toward a goal. Specific areas of difficulty can be determined. A compatibility index of zero shows perfect compatibility and this compatibility diminishes as scores increase. These two subjects have a fairly high Total Compatibility (see Appendix E). If difficulties arise, one may predict problems with Reciprocal Compatibility (rK) and Apathetic Originator Incompatibility (oK). Comments may be made on many other aspects of this profile.

APPENDIX E

APPENDIX E

FIRO-B TOTAL COMPATIBILITY

Types of Compatibility	Areas of Compatibility*			
	I	C	A	
r	rK^I	rK^C	rK^A	rK
o	oK^I	oK^C	oK^A	oK
x	xK^I	xK^C	xK^A	xK
	K^I	K^C	K^A	totK

The sums of rows define (r,o,x)K, while the sums of columns define $K^{(I,C,A)}$. Both the sums of rows and the sums of columns add to total K and constitute the definitions of Total Compatibility. Although the two definitions of totK are mathematically equivalent, they have interesting psychological differences. One set deals with compatibility for each interpersonal need area and the other with different types of compatibility.

*Key to Symbols

I = Inclusion
C = Control
A = Affection
r = Reciprocal
o = Originator
x = Interchange
tot = Total
K = Compatibility