

OPERANT CONDITIONING OF
PERSON PERCEPTION IN
A SHY POPULATION

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PREFACE

This study is concerned with conditioning of three types of verbalizations in order to measure effects on two measures of person perception in a shy population. The objective of the present study was to relieve symptoms of shyness while simultaneously measuring changes in person perception and determining predictors of accuracy in perception.

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CHAPTER I

REVIEW OF THE LITERATURE

Within the field of psychology much emphasis is placed upon defining and categorizing mental illness. This is evident in the flood of abnormal psychology textbooks now available and in the present controversy surrounding the recategorization of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (Goleman, 1978). Unfortunately, not nearly as much literature specifying what constitutes mental health is available. Simply because an individual moves away from symptoms of mental illness does not necessarily imply that one is mentally healthy. Rather than only considering moving away from the negative end of the continuum towards mediocrity, one would optimally move toward the positive end of the mental health continuum.

Several authors have attempted to define or establish the criteria for positive mental health. Jahoda (1958) analyzed many definitions and compiled a set of criteria. Among her criteria, Jahoda listed

Attitudes toward the self; they include the accessibility of the self to consciousness; the correctness of the self-concept; its relation to the sense of identity and the acceptance by the individual of his own self . . . Perception

of reality; a relative freedom from need-distortion and the existence of empathy (p. 96)

Simply stated, health implies that one can accurately perceive oneself and others. Rogers (1963) emphasized the capacity for awareness and openness to experience as criteria. Both of these concepts are based on accurate perception of the self and others. Gordon Allport (1961) emphasized realistic perception as a salient quality of the "mature personality". Korchin (1976) listed a strong sense of personal identity, realistic self-esteem, detachment, and sensitivity to the self and others as basic elements in a healthy, mature personality.

Beck (1976) described man as having the key to understanding and solving his psychological disturbance within the scope of his own awareness. Beck conceptualized man as a scientist, capable of functioning well within the complexities and pressures despite conflicts and demands made upon him. Continuing the analogy, Beck described psychological problems as thoughts and actions based on faulty learning, incorrect information, or on an inability to differentiate imagination from reality. These problems can be mastered by the individual only when one sharpens discriminations, corrects misperceptions, and learns more adaptive attitudes. Beck labeled his approach as cognitive therapy. Beck's concepts seem to focus on perception of reality, most notably the accurate perception of the self and others, as a prerequisite to adequate functioning in interpersonal relationships.

One could argue that positive mental health is dependent on accurate perception. An individual could not function well, if at all, without an accurate awareness of reality. Man has progressed from the nearly solitary hunter-and-gatherer lifestyle to a totally interdependent lifestyle where contact with others in both survival and leisure activities is nearly constant. In that process where one seems to be constantly rubbing shoulders with another, man has shifted from a primary need to perceive environmental reality to a need to accurately perceive interpersonal reality. Since person perception is so necessary to function adequately, it is well to define further and specify its elements.

Perception and Psychotherapy

In their recent book Bandler and Grinder (1975) clearly developed the concept that individuals do not operate directly on the world, but rather operate on the world through their perception or model of the world. This perception develops within the limitations of an individual's personal experiences, neurological constraints, social constraints, and individual constraints. Consequently, when individuals face identical "real world" situations, each individual perceives reality in a unique way. What may be experienced by one person as a challenge and an opportunity for creative problem solving may be experienced by another person as a painful, paralyzing situation that leaves him or her with

no choice or freedom of action in the situation. Whether one sees options and possibilities or painful and paralyzing fear is quite dependent on that person's model of the world.

Given Bandler and Grinder's arguments and examples, it seems appropriate to explore this area. Presumably, an experimenter could select a topic, devise a scheme for enabling subjects to sharpen their perception of reality, and then show some evidence of increased functioning or growth within that sample of subjects. If an individual can be taught to perceive interpersonal relationships more clearly, that person should be able to operate more effectively in a social environment. If an individual can gain a more accurate model of interpersonal relationships, that individual should be able to approach social situations as challenges with freedom and choices rather than fearful, paralytic traumas. It seems appropriate, therefore, to sample a population of individuals that experience distress and limited options in interpersonal or social situations and attempt to determine if person perception can be altered and consequently result in changes in interpersonal functioning.

Defining and Measuring Person Perception

Cronbach (1955) reviewed "social perception" research and demonstrated that prior research in this area was confounded by mathematical dependencies. Cronbach asserted that simple, operationally defined measures of perception contained mathematical artifacts that could conceal impor-

tant variables or depend heavily on unwanted components. As such, then-current analyses were confounded and uninterpretable. While Cronbach was highly critical of perception research from a mathematical viewpoint, Cline (1964) reviewed other complications of a more theoretical nature, e.g., the accuracy of one type of perception may be dependent upon another perception. That is, measures of subtypes of perception may be conceptually dependent even if mathematically independent. Cline also discussed variance within predictions as it relates to measuring perception.

Among the perception variables that have received the most attention in the literature are variants of Accuracy and Empathy, although definitions of these concepts are not always consistent and consequently result in much confusion. These most basic perceptions are here defined as (a) Accuracy: the degree of one's ability to predict how another individual rates one's self. (b) Stereotypic Accuracy: the degree of one's ability to predict the average of how two or more others rate one's self. (c) Empathy: the degree of one's ability to predict another's rating of him or herself. (d) Stereotypic Empathy: the degree of one's ability to predict the average of two or more others' self ratings. Another important aspect of person perception is the variance of predictions. As Cronbach (1955) demonstrated, strong differentiation (i.e. making strong statements) tends to result in far more serious absolute errors than moderate differentiations. That is, one's accuracy of predictions is enhanced

if that individual makes and uses fine rather than gross discriminations in rating the self or others. As such, it is important to include the variance of ratings and predictions of ratings when considering person perception.

In general, person perception is an important topic because of its relevance to mental health and psychotherapy. While there are inconsistencies and difficulties in the perception literature, several definable concepts are of theoretical as well as practical interest and merit further study.

Person Perception

For the purposes of this study, person perception can be divided into two major types. The first major type, Perception, is composed of two subtypes. Self Perception and Other Perception are truly perceptions since they have referents in the "real world". The second major type of perception is best labeled as Meta-Perception, since it is actually a perception of a perception. This can also be divided into two subtypes, Self Meta-Perception and Other Meta-Perception. The first involves one's perception of another's perception on oneself and the second involves one's perception of another's self perception (i.e. perception of another's Other Perception and Self Perception, respectively). Table I demonstrates these relationships. These terms can be restated more concretely as (a) Self Perception: how I see myself (b) Other Perception: how I see you (c) Self

Meta-Perception: how I see you seeing me and (d) Other
 Meta-Perception: how I see you seeing yourself. These four
 elements of person perception are the primary focus of this
 study, since they are the most basic premises on which one
 bases his or her human interactions. The accuracy of those
 basic perceptions and meta-perceptions determine an individ-
 ual's ability to deal effectively on an interpersonal basis,
 as misperceptions would hinder meaningful and productive
 interchange on a daily basis by precluding intimacy, under-
 standing, and trust in a relationship where one could not
 predict to a fair degree how another views oneself and him-
 self.

TABLE I
 PERSON PERCEPTION TERMS

	Perception	Meta-Perception
Self	one's perception of oneself	one's perception of another's perception of oneself
Other	one's perception of another	one's perception of another's perception of himself or herself

Self Perception

Bernard Chodarkoff (1954) investigated the field of

self perception with special reference to adjustment and defensiveness. In this complex study 30 (presumably normal) male college students took the Rorschach test, the Thematic Apperception Test, and a word association test; they also filled out a biographical inventory and described their self-concepts using a Q-sort. Subjects' defensiveness was measured with a specially devised perceptual-defense test. Judges that were clinical psychologists had access to all the subjects' data except their Q-sorts. Judges then constructed a Q-sort for each subject and indicated the adequacy of subjects' adjustment. The subjects' Q-sorts were then correlated with the judges' Q-sorts of the subjects. Results indicated that subjects whose self-descriptions agreed closely with the judges' descriptions of them were rated as better adjusted than subjects who agreed less closely with the judges. Subjects that agreed with the judges were also less defensive. Thus, seeing oneself similarly to a psychologist's view of oneself correlates positively with more effective adjustment and less defensiveness. An alternative explanation is that seeing oneself as "normal" or "average" might result in a spuriously high degree of agreement between Self ratings and judges' Other ratings.

Janis (1955) looked at the effect of another's perception of a person on that person's self-perception. Janis found that subjects' self-perceptions were markedly influenced by others' perception. The obverse does not seem to be true, however. Self-perception did not seem to influence

other's perceptions. This seems to imply that in a social situation an Asch-like effect occurs (Asch, 1951). Individuals tend to alter self-perception to reflect, or be congruent with, others' perceptions rather than others altering their perceptions to concur with an individual's self-perception.

Hass and Maehr (1965) also looked at the effect of others' perceptions on self-perception. Subjects' self-conceptions were experimentally altered as a result of exposure to another's discrepant reaction. The dramatic effect persisted and was measured on a six-week follow-up after a single exposure. Even more dramatic and persistent effects occurred after two such exposures. These authors, like Janis (1955) clearly point to the importance of others' perceptions and the tendency to change the self-perception to be congruent with others' perceptions, especially consistent perceptions.

Gerzen and Wishov (1965) conducted a study that showed the importance of others' self-perceptions on one's own self-perception. Subjects were told they would interact with another person that was either a self-enhancing, average self-evaluative, or self-derogatory person. Subjects emphasized aspects of themselves on a self-rating measure that were congruent with the hypothetical "other's" self-perception. Self-perception is somewhat a function of others' self-perception.

In sum, studies indicate that Self Perception can be

influenced by several interpersonal factors. Among those factors that can be influential are another's Self Perception and another's Other Perception of oneself (i.e. another's view of us).

Other Perception

Perceiver Variables. The second type of person perception is the perception of others, Other Perception. The perception of another by an individual can be a function of a variety of factors.

Crockett and Merdinger (1956) found that some subjects tend to rate their peers as similar to themselves. High authoritarian subjects tended to rate their peers as high authoritarian regardless of their peers' actual authoritarianism. Low authoritarian subjects were variable, but tended to rate their peers as high or moderate in authoritarianism. Generally, subjects in this study perceived their peers more on the basis of their own idiosyncrasies rather than on the basis of reality. Jones (1955) also found that authoritarian subjects were less sensitive to psychological and personality characteristics and were less accurate on personality perception measures than were non-authoritarian subjects. He also found that authoritarian subjects rated leaders more positively than did non-authoritarian subjects. Apparently, some inaccuracies in Other Perception were a result of role stereotyping or halo effects. High authoritarian subjects erred by mistakenly rating others as similar to themselves.

Dittes (1959) also found that the perceiver variable of self-esteem is a factor in the perception of others. Subjects were exposed to either a warm, accepting group or a cool, poorly accepting group. Not surprisingly, subjects perceived the warm, accepting group as more attractive than the other group. This was especially true for low self-esteem subjects. The interaction of self-esteem and acceptance or warmth greatly affected the perception of others by the subjects.

It is apparent from these studies that several perceiver variables can affect Other Perception. Among these are the perceiver's authoritarianism and self-esteem. Presumably, extremely positive or negative perceiver variables will have a profound effect on the accuracy of person perception.

Variables Within the Perceived Other. Other Perception can also be influenced by personality factors of the perceived individual, as one might logically assume. In terms of the personality factor of conformity, Streufert (1965), in a study of conformity versus deviance and its relationship to interpersonal distance, found that subjects' attitudes toward conforming group members became more favorable as interpersonal distance (in terms of spatial distance and temporal duration of interaction) decreased. Additionally, subjects' attitudes toward a deviant member became more unfavorable as interpersonal distance decreased. Interpersonal distance was shown to be a factor in the perception of others,

since subjects rated deviants more negatively and conforming members more positively as members became closer.

Goodchilds (1959) looked at types of wit as a factor in Other Perception. Subjects rated fictional characters in terms of perceived popularity and power after reading fictional conversations. The results showed that the type of wit the individual displays was a factor in how that individual was rated.

Jones, Hester, Farina, and Davis (1959) looked at the factor of adjustment in the perceived person. The study involved pairs of subjects and pairs of confederates. One confederate made derogatory comments about one of the subjects while the other confederate was non-committal and mildly sympathetic. In one condition the derogator was identified as maladjusted while the non-committal confederate was identified as well-adjusted. In another condition the identifications were reversed. Results indicated that the targets of the derogation perceived the maladjusted derogator to be more likeable than the well-adjusted derogator. However, the well-adjusted derogator was rated as more credible. The bystander subject rated the maladjusted derogator as less likeable than did the target of the derogation. This shows that the label of adjustment or maladjustment affects the perception of that person by an individual. When subjects (targets) were aware of the label, they discounted the derogation from the maladjusted confederate and found him (her) more likeable than the credible,

well-adjusted derogator and more likeable than bystanders, who were unaware of the labels, found either derogator.

Relationship Factors Affecting Other Perception. The Jones et al. (1959), study also points to differences in Other Perception that are a function of the type of relationship that exists between two individuals. Walster, Walster, Abrahams, and Brown (1966) looked at the effects of the respect one person has for another on Other Perception. Specifically, this study looked at the effect of erroneously given respect or disrespect on subsequent perceptions of respectability. Some subjects discovered that they had accorded relatively more or less respect than the other person deserved. Each condition produced a temporary overcompensation for the earlier error on the subsequent perception of the other person's respectability. Thus, it seems apparent that perception of another can be affected not only by misperception, but overcompensation following an earlier misperception.

Another relationship factor affecting Other Perception is compatability. Spolsky (1965) examined compatability between a doctor and a patient using the Fundamental Interpersonal Relations Orientation-Behavior. The results of this study indicated that compatability had an effect on the way the patient perceived the doctor, which in turn, had implication for treatment outcome effects.

Several corollary studies point to another factor in-

fluencing Other Perception. Podell and Amster (1966) found that the more positive (or negative) information a subject had about another, the more his perception of that other is polarized on a good-bad dimension. Himmelfarb (1972) looked at both the amount and the source of information about the other person. Two factors of the source of information seem important. For a given amount of information, the more sources that information was compiled from, the greater its effect on Other Perception. Secondly, the more diverse the situations in which a source had observed another, the greater the effect the information had on Other Perception. Taken together, these two studies indicate that the volume of information, the diversity of sources, and diversity of the sources' information each influences how much a given amount of information will affect Other Perception.

Meta-Perception

Self Meta-Perception. The first type of Meta-Perception to be considered is one's perception of how a second person perceives oneself. For purposes of this study, the term Self Meta-Perception will be used.

Several studies have shown Self Meta-Perception to be quite important in social interaction. Goslin (1962) indicated that adolescent boys and girls who were unable to predict accurately how their peers perceived them tended to be isolated from their peers. The question is somewhat open concerning causation. In essence, did the social isolation

reduce potential information upon which to make accurate self-other perception predictions; did the inaccurate Self Meta-Perception produce social isolation; is there a vicious circle effect; or were both caused by one or more other unidentified factors? Kleinfield (1972) showed that Self Meta-Perception is important not only in the level of interpersonal interaction, but also that it is related to one's self-concept. Kleinfield looked at black and white school children's academic self-concepts in relation to their parents' and teachers' Other Perceptions of the children's academic selves. Results indicated that white children's self-concepts were more strongly related to their prediction of their parents' Other Perception than to their prediction of their teachers' Other Perception of them. An opposite trend occurred for blacks and was significant for females. Black children's self-concepts, especially black females' self-concepts, were more strongly related to teachers' than to parents' Other Perceptions of them.

Broxton (1963) also pointed to the importance of Self Meta-Perception. Broxton looked at the level of interpersonal attraction in college roommates. Results clearly indicated that interpersonal attraction in a dyad is more closely related to one's Self Meta-Perception than to how one's partner actually perceives oneself. Broxton's study, like Bandler and Grinder's (1975) assertions, point towards the greater importance of the perception of reality than of reality itself.

Backman and Secord (1962) found that among intact living groups the liked persons (to a significantly greater extent than disliked persons) were seen by others in the group as having an Other Perception that was congruent with one's own Self Perception. If an individual liked another person, that person was seen as attributing to the individual the same traits that he/she attributed to himself/herself. In a similar study Deutsch and Soloman (1959) found that if one's Self Perception is perceived to be similar to another's perception of oneself, one tends to like that person more. Additionally, these investigators found that when one's Self Perception is seen as confirmed by another, one tends to think better of himself or herself. Sigall and Landy (1973) looked at the effect of the attributes of one's associates on his predicted Self Meta-Perception. College males predicted others' ratings of them as favorable when they were paired with an attractive female associate, intermediately when they were not paired with a female associate, and most unfavorably when they were paired with an unattractive female associate. Thus, it seems that one's Self Meta-Perceptions are based in part on characteristics of one's associates. Presumably, some characteristics within the other person can affect one's Self Meta-Perception.

Other Meta-Perception. The second type of Meta-Perception is one's perception of another person's self perception, here defined as Other Meta-Perception. One example of this type

of person perception is a study by Gray and Gaier (1974). They examined parents' and friends' perceptions of female high school seniors' self perceptions. Single friends were found to have the greatest accuracy in their Other Meta-Perceptions, but friends in general were more variable in their degree of accuracy than parents were. Both parents and friends had fairly accurate Other Meta-Perceptions, but best friends were more accurate while parents were more consistently accurate.

Person Perception and Emotional Adjustment

While the cited literature does point out some determinants of person perception and a few studies show that it can be experimentally manipulated, readily available studies do not establish an unequivocal relationship between accurate person perception and positive emotional adjustment or mental health. The Chodarkoff (1954) study does point out such a relationship, but is open to interpretation because of its general nature. The Janis (1955), Hass and Maehr (1965), and Gerzen and Wishov (1965) studies showed that the accuracy of Self Perception can be reduced experimentally and one might conclude that reduced accuracy is apt to interfere with one's adjustment, but this is hardly a convincing argument in support to the relationship of person perception and mental health.

Person Perception in Four-Person Groups

Fromme (Reference Note 1) has developed a paper-and-

pencil instrument, the Group Perceptions Test (GPT) that overcomes many of the difficulties discussed by Cronbach (1955) and Cline (1964). The GPT (Appendix A) permits one to quantify simultaneously the perceptions of each person in a four-person group. Using a Likert-type format, individuals rate themselves and the other group members on a series of 10 adjectives in terms of Self Perception, Other Perception, Self Meta-Perception, and Other Meta-Perception. These four types of raw scores are correlated and transformed into z scores in such a way to yield scores on a series of 20 scales of person perception. Several of these scales parallel perception concepts found in the literature (Cronbach, 1955; Tagiuri, 1969; and Lorber, 1973) and other scales show promise as useful concepts. Marcy (Reference Note 2) has demonstrated in a preliminary study that the GPT is a valid instrument that can detect several types of meaningful perception.

Two of the GPT scales, Accuracy and Empathy (Self Meta-Perception and Other Meta-Perception, respectively) and their obverse scales, Interpersonal Openness and Personal Openness (another's Self Meta-Perception and another's Other Meta-Perception, respectively) are discussed in the social perception literature referred to above. Accuracy and Empathy (sometimes referred to as Self Accuracy and Other Accuracy) are two perceptions that are logical bases from which to expand the study of person perception as a whole. They are prototypical perceptions that are logical prere-

quisites to effective intra-personal and inter-personal functioning.

Accuracy

Accuracy, one's ability to predict another's rating of oneself (Self Meta-Perception) is logically dependent upon the amount of information the two individuals have about each other. Another must have some information base from which to make his or her judgements about one. One can make inferences about how another may see oneself if one is aware of the amount and type of information another has about him or her. An argument can be made, therefore, that one can be accurate only to the degree that one has been willing to disclose information of a historical or emotional nature about oneself. To the degree that one is open and easy to read, others can rate oneself accurately and one can predict those ratings.

Perhaps the most notable of those who write about the importance of self-disclosure is Sidney Jourard. Jourard defines self-disclosure as "talking about oneself to another person" (Jourard, 1964, p.19) or as the process of making the self known to other persons (Jourard and Lasakow, 1958). Self-disclosure is the most important mode of interpersonal interaction, according to Jourard. Self-disclosure is not only a therapeutic factor in the treatment of psychopathology, but lack of disclosure is the prime etiological mechanism. All psychopathology is due to a lack of

self-disclosure since a person who fails to disclose to some optimal degree fails to truly know him/herself (Jourard, 1964). Jourard (1958) also indicated that self-disclosure is also a symptom of mental health, since unless we present an undistorted view of ourselves to others, we will receive feedback that is itself distorted and thus will develop self-views that are distorted.

Despite the importance of self-disclosure, disclosing behavior is very rare in most relationships. Jourard (1964) indicated that people play social roles in so many of their transactions that there are almost no real person to person transactions. The reason that there are so few self-disclosures according to Jourard is that non-disclosure is a rule broken only

when we experience it is safe to be known and when we believe that vital values will be gained if we are known in our authentic being or lost if we are not (p. 28).

Other writers agree that disclosure is a rarity. Laing (1967) indicated that people present an edited version of the self in most transactions. Similarly, Pearce and Sharp (1973) indicated that very little disclosure occurs in most communication. Thus, it seems that in self-disclosure we have a very important but very rare phenomenon.

Self-disclosure is a type of statement that seems to be of great value in a group setting. When a person discloses himself to another group member it may have several significant effects. First, the person who disclosed has taken an important interpersonal risk. He/she has clearly indicated

that he/she is willing to take this risk in the context of his/her relationship with the other person. This, of course, is an indication of trust in the other person. It is impossible to communicate trust in another more clearly than to disclose significant affect-laden information to him/her. A second significant effect of self-disclosure is that it may greatly aid a person's interpersonal relations since others can truly know him/her. It is impossible to relate effectively to another person if you know nothing of importance about him/her. The best source of important information about a person is the person him/herself. Thus, a prerequisite to an effective interpersonal relationship is self-disclosure among the parties of that relationship. A third effect of self-disclosure is that the person who discloses is likely to know him/herself better. A person may have vague feelings about his/her past actions, beliefs, or other aspects of self which come clearly into focus when they are expressed to another. This is the case since self-disclosure requires a successful effort at clear contact with the aspect of self to be verbalized. A person can't verbally communicate something about him/herself to another if he/she doesn't have awareness of that aspect of self.

It can be argued that there is a strong, positive relationship between one's ability and willingness to self-disclose emotional states and his or her ability to make predictions about others' opinions of him or her. Because of its relationship to mental health, it can be seen that

the Accuracy concept of person perception is an important as well as a logical base from which to study person perception.

Empathy

Empathy, one's ability to predict another's rating of himself or herself is logically dependent on one's ability to see reality from another's point of view. In order to accomplish this, one might either passively accumulate incidental information about the other person or one might actively attempt to share another's opinions, experiences, and feelings.

Rogers (1951) stressed empathic understanding as a fundamental therapeutic principle in the relationship between therapist and client. Rogers' definition of empathy is synonymous with the term "vicariousness" in that one takes the place of another through imagined participation in another's experience. Other authors (e.g., Truax and Carkhuff, 1967) have supported this concept and its importance within a therapy relationship.

Several articles have asserted the importance of empathy for every day living (Greif and Hogan, 1973; Aspy, 1970; Goodman and Ofshe, 1968). In fact, one study (Borke, 1971) indicated that empathy is an important interpersonal developmental task that is accomplished by children as young as three years old. Thus, our empathic ability importantly influences our interpersonal functioning throughout most of our life.

Many studies have dealt with the attributes of high empathic versus low empathic subjects. For example, Mehrabian and Epstein (1972) found that high empathy subjects were less likely to engage in aggressive behavior than were low empathy subjects. High empathy subjects in this study were also more likely to engage in helping behavior than their less empathic counterparts. Pierce and Zark (1972) indicated that high empathy subjects had significantly better interpersonal effectiveness than did subjects with low empathic ability. Also, the high empathy subjects in this study attended to the feelings of others much more than low empathy subjects. Schoen (1970) also looked at differences between high empathy and low empathy subjects and found that high empathy subjects are much better in predicting the behavior of others. Thus, the results of Mehrabian and Epstein (1972), Pierce and Zark (1972) and Schoen (1970) clearly assert that empathy is related to a constellation of adaptive interpersonal skills. In a study of interpersonal attraction, Phares and Wilson (1971) indicated that high empathy subjects were attracted to other high empathy subjects while low empathy subjects were attracted to other low empathy subjects. This may be due to subjects feeling more comfortable with people of comparable interpersonal skills. A study by Vespianti (1969) concerning empathy and the depression and psychasthenia scales of the M.M.P.I. resulted in the finding that high empathy subjects were likely to have lower scores on each of these scales when compared to low empathy subjects.

Thus, low empathy has been shown to be related to two measures of psychopathology while high empathy is related to a relative absence of these traits.

As it relates to mental health, Empathy as it relates to person perception is also an important as well as logical base from which to begin and expand the study of person perception.

Changing Person Perception

Considering the literature that supports strong, positive relationships between self-disclosure and mental health, one might expect that teaching individuals to disclose would increase their individual Accuracy scores. Furthermore, one would expect that encouraging self-disclosure in terms of a here-and-now expression of one's emotions would increase Accuracy scores more so than would self-disclosure of historical or factual information. A summary of the rationale for this assertion states that when one's feelings are known, others can respond with more realistic feedback, reducing the need to distort feedback about oneself. Indeed, Fromme and Marcy (1976) demonstrated that reinforcing here-and-now expression of feelings yielded more positive group interactions than reinforcement of there-and-then feelings within a similar group situation.

In a like manner, encouraging individuals to attempt to experience another's point of view should result in those individuals being better able to predict another's Self

Perception. Verbalizations of an attempt to "stand in another's shoes" would certainly be either accepted or corrected by the other individual so long as they were of a non-threatening nature. As a result, individuals could be expected to increase in their ability to make predictions of a general nature about another's Self Perception as a result of this training and group interaction.

Following these arguments, this study will attempt to change person perception using self-disclosure of emotions, self-disclosure of historical information, and empathic verbalizations as independent variables. An operant conditioning paradigm will be used to encourage individuals to make appropriate disclosure or empathic statements within four-person groups.

Operant Verbal Conditioning

Literature relating to the conditioning of verbal behavior dates back to 1939 (Humphreys, 1939), and has resulted in a great deal of interest and controversy. Verbal conditioning has been reviewed extensively and need not be duplicated here. It is sufficient to say that the literature supports the existence and use of the phenomenon as a means of significantly increasing specific types of verbal behavior. Beyond its interest as a phenomenon, it has been explored in therapy situations. Hauserman, Zweback, and Plotkin (1972) used a token economy to increase verbal interactions in a group of typically non-verbal hospitalized

adolescents. Kruger (1971) also used a token economy. Using male adolescent delinquent groups, Kruger found that verbalization could be dramatically increased in a group therapy situation.

Beyond tokens that can be exchanged for more basic reinforcers, social reinforcement has also been shown to be effective in increasing verbalizations in group therapy. Wagner (1966) reinforced half of a eight-member group and showed significant differences in number of verbalizations until an equalization occurred at the sixth session. Dinoff, Horner, Kurpiewski, Rickard, and Timmons (1960) found significant increases in target verbal behavior in a group of hospitalized male schizophrenics. Heckel, Wiggins, and Solzberg (1962) also reported success in verbal conditioning in group therapy. Rather than a token economy or social reinforcement as reported above, however, these researchers used punishment of silence, the experimenters initiated a punitive noise that terminated when any verbal behavior was emitted. This technique produced dramatic results, but seems to have little value outside a theoretical framework.

One line of research that has been developed within the area of the conditioning of verbal behavior within groups combines elements of several of the above-mentioned studies. Fromme and Close (1976), Fromme and Marcy (1976), and Fromme, Whisenant, Susky and Tedesco (1974) used an operant technique to explore verbal conditioning. In each study, groups of four subjects were given instructions regarding specific

types of verbal responses. It was found that specific verbal behavior could be increased to a high level. Reinforcements were delivered to the subject via a digital counter and audible clicks whenever responses fit specified categories. In addition to the individual visual and auditory positive reinforcements, all subjects were given a brief flash of light as a punishment if no reinforceable responses were emitted in any three-minute period of time. Also, if one or more subjects' total reinforcements were ten or more behind the subject with the most reinforcements, a red light above that subject's digital counter served as a punishment that could be terminated by emitting enough reinforceable responses to bring the count difference to less than ten.

Using this operant technique, Fromme et al. (1974) were able to increase the frequency of feelings statements, giving and seeking feedback, clarifying the nature of another's affective state, and seeking information regarding another's affective state. These researchers compared the results of their operant technique with results produced by therapists within equivalent groups. The results of the two approaches were equivalent, although subjects viewed the therapist condition more positively than the operant condition.

Fromme and Close (1976) looked at the effect of matching subjects within the groups, using the Fundamental Interpersonal Relations Orientation-Behavior (FIRO-B), (Schutz, 1958) to match subjects and then used the same response categories as did the Fromme et al. (1974) study. Results indicated

that FIRO-B compatible groups expressed more affective responses than FIRO-B incompatible groups. In general, this study also supported the use of the operant technique as a method of significantly increasing target verbal behavior.

Marcy (Reference Note 2) demonstrated that the operant technique could be used to investigate the effects of different modes of interpersonal interaction. That study indicated cohesiveness and self-disclosure were related to the typical mode of interaction in groups and that the method has definite possibilities as a therapeutic tool.

Along with these three published studies concerning the operant technique are several studies supporting generalization, resistance to extinction, (Fromme and Duvall, 1976) and the capability of increasing verbalizations concerning social attitudes (Reference Note 3).

These studies clearly demonstrate that the operant technique is a powerful device with a potentially broad range of far-reaching capabilities. Its importance is even more clearly focused by its application to functional group interactions. It is also of theoretical value in its potential for separating the most essential elements from the chaff in the process of discovering what is important in facilitating an intimate or productive relationship among several individuals. It seems appropriate, then to use this technique in exploring the possibility of changing person perception. If specific types of key interactions can be increased it may be possible to significantly alter one or more subtypes of person perception.

Shyness

An important investigator within the area of shyness has been Zimbardo. Zimbardo, Pilkonis, and Norwood (1975) reported a number of interesting statistics about shyness. After surveying more than 800 students at two major universities and a high school, Zimbardo reported that over 40 percent of the respondents reported themselves as currently shy. Additionally, 82 percent describe themselves as having been dispositionally shy at some time during their lives. Indeed, only one percent of the entire sample, eight people out of 817, report themselves as never, ever having experienced shyness (Reference Note 4).

Watson and Friend (1969) developed a Social Avoidance and Distress (SAD) scale in an attempt to measure anxiety experienced in social situations. While these authors did not define their scale as a measure of shyness, per se, their operational definition as reflected in the SAD item content was a nearly perfect overlap with Zimbardo's (1975) list of seven behavioral and emotional indicators of shyness. Therefore, Watson and Friend's SAD scale was selected as a measure of shyness. The SAD is presented in Appendix D.

The selection of a shy sample for use as subjects in this study is based on the argument that shy individuals have difficulties with person perception. It can be argued that the self-imposed prison that Zimbardo, et.al. described is the shy individual's response to perceived threats to or serious questions about his or her self worth. One might

hope that this study can provide relief from distress while it explores the question of whether or not person perception can be changed as proposed. Increasing the correctness of person perception should eliminate misperceived threats and result in reduced shyness.

Summary

This study looks closely at the topic of person perception. Using a shy sample, subjects were instructed in appropriate verbalizations so as to increase the degree of accuracy in the specific target perceptions of Accuracy and Empathy.

The SAD (Watson and Friend, 1969) will be used as a pre-post measure to define the shy sample and measure predicted symptom relief. It was expected that the reinforcement of statements that forced shy subjects to look beyond their "self-imposed prison" to the feelings of others would result in the greatest reduction of shyness in the Empathy condition, followed by the Expression and Historical Information conditions, respectively.

The GPT (Appendix A) was used to measure treatment differences between conditions and changes within subjects in person perception. The GPT was used as a dependent measure and was subjected to analysis to determine predictive factors of person perception.

A paper-and-pencil measure of empathy, the Elm's Empathy Scale (Appendix B) was used as a dependent measure. This

scale was selected as a manipulation check for the Empathy instructions condition and was expected to be a predictor of Empathy person perception.

Jourard's Self-Disclosure Questionnaire (Jourard, 1971) was selected as a manipulation check for the Accuracy instructions condition. Because of the instructions and reinforcement on expression of feelings, it was expected that subjects in the Accuracy condition would report a greater willingness to self-disclose and that self-disclosure will be a predictor of Accuracy. The Jourard Self-Disclosure Questionnaire is presented in Appendix E.

Considering the arguments that accurate person perception and self-disclosure are indicative of positive mental health, individuals that perceive accurately and self-disclose should score higher on a measure of mental health. Shostrum (1963, 1964) developed a diagnostic inventory of personal values related to positive mental health, the Personal Orientation Inventory (POI). The POI focuses on self-actualization, a concept attributed primarily to Maslow (1954). Self-actualization is viewed as a process by which a person becomes more and more capable of using his or her talents and capacities in an autonomous, inner-directed fashion. The POI will be used in this study to determine if there are differential effects in the experimental conditions and to determine characteristics of persons that score high in person perception.

As a measure of the ease of using the instructions in

the experimental conditions, the number of reinforced responses will be tabulated. While differences across treatment conditions are expected, this data is not of primary interest in this study since other researchers (e.g. Fromme et.al., 1974) have shown that statements such as the ones to be used in this study can be predictably increased with this operant technique.

The final dependent measure to be used is a logically derived, four-item questionnaire (Appendix C) that looks at group cohesiveness, attractiveness, meaningfulness, and enjoyment. These measures are also not of primary interest, but will be included to attempt to augment interpretation of changes in person perception and shyness.

Statement of the Problem

Accurate person perception is an important element of mental health. Because of the lack of a technique for effectively conceptualizing and quantifying person perception, research in this area has been difficult to interpret.

Recent development of a technique for measuring person perception in groups (Fromme, Reference Note 1) has made it possible to define and detect differences in person perception. Preliminary research (Schaefer, Reference Note 5) indicates that person perception can be altered experimentally in meaningful ways using an operant group technique similar to that used by Fromme et.al. (1974).

There is support for the argument that shyness can be

a function of inaccurate person perception. The incidence and pain of shyness (Zimbardo et.al., 1975) suggest this poorly-developed area of human problems as a worthwhile area of research.

The Present Study

This study will compare three ways of improving person perception within a sample of shy subjects. Specifically, this study will attempt to increase Accuracy or Self Meta-Perception and to increase Empathy or Other Meta-Perception by encouraging self-disclosure of one's feelings, self-disclosure of personal historical information, or empathic statements about another person in a group setting. Additionally, this study will attempt to reduce shyness as a function of subjects' increases in accuracy of person perception.

Hypotheses for this study are:

1. The treatment condition "Emotional Expression" (self-disclosure of one's feelings), will show the highest mean scores for Accuracy (Self Meta-Perception).
2. The treatment condition "Empathy" (empathic statements about another's experiences), will show the highest mean scores for Empathy (Other Meta-Perception).
3. Comparison of mean scores will show an increase in subjects' Accuracy and Empathy scores across time spent in four-person group settings.
4. Comparison of mean scores will show a decrease in

shyness as a function of improved person perception. It is expected that the "Empathy" condition will show the greatest reduction in shyness.

Additional important questions within this study are relevant to defining:

- (1) Characteristics of a sample of shy individuals.
- (2) Predictive elements of Accuracy and Empathy in person perception.

CHAPTER II

METHOD

Subjects

Subjects were 48 white, middle-class individuals between the ages of 18 and 26. The majority of the subjects were undergraduates attending Oklahoma State University.

Subjects were first recruited to participate in a "shy clinic" given free as a service of the Department of Psychology. Unfortunately, not enough individuals volunteered to fill the design. Of those individuals that contacted the "shy clinic" and met the prescribed criteria of being a native-born, Caucasian individual between 18 and 26 and scoring above the median on the SAD (Watson and Friend, 1969), six males and six females were randomly assigned to groups in Replication #1. The remaining individuals were given the advertised service of the clinic and data were collected, but not used in this study.

The remaining three replications were formed of individuals enrolled in undergraduate psychology courses at Oklahoma State University who met the criteria described above, but were recruited as research subjects for extra credit and were not informed prior to the study as to the precise nature of their selection or the true nature of the study. Classes

were asked to respond to a questionnaire to provide normative data for a study. Individuals that responded as shy in terms of social avoidance or social distress were called and asked to participate in a group interaction research project. Because of the differences in recruitment and reasons for participation, there were clearly different attitudes and expectations across Replication #1 and Replications #2,3, and 4. These replication differences do create problems of data interpretation, but afford more generalization of results and conclusions. Overall, twelve four-person groups were formed and each was randomly assigned to one of three experimental conditions within each of the four replications.

Apparatus

The experimental room was an eleven by twelve foot room with a one-way mirror situated in one of the twelve-foot walls. Subjects were seated at a rectangular table in an alternating fashion such that each person sat diagonally from another same-sex individual. Each session was monitored by the experimenter via the one-way mirror and a microphone. A four-channel relay control panel was used to record those instances where the experimenter judged that a group member's statement fit the criteria as a reinforceable response as explained in the specific instructions. A digital counter was located on the table in front of each subject. When a reinforcement was given, the individual subject's digital counter was advanced, producing an auditory click as well

as the visual display. A red light located on top of each digital counter provided two additional types of informational cues. First, all four red lights were flashed automatically by an interval timer whenever no reinforcements were given for a period of three minutes. This feedback was used to help direct the group's attention toward the emission of appropriate responses. Second, an individual's red light was turned on whenever that subject was ten or more counts behind the subject with the most counts. The light remained lit until that subject emitted enough responses to bring the difference between his count and the highest count to less than ten.

Response Instructions

Subjects in each of the three experimental conditions were given a rationale and specific instructions regarding how to respond in order to gain reinforcements. These instructions are included verbatim in Appendix G. In addition to orally presented instructions and examples, brief definitions and examples were placed in front of each subject throughout the three sessions of group interaction.

Reliability of discrimination and reinforcement of responses was recorded during extensive pilot work and again during the second replication. Reliability between the experimenter and a judge was .96 and .97 respectively.

Procedure

Each group met for three fifty-minute sessions of group

interactions and a follow-up post-testing session. The first group interaction session consisted of the rationale for the type of group interactions, instructions, a warm-up procedure, a fifty-minute period of interaction, and a brief post-testing period. The warm-up procedure consisted of having individual subjects look into another's eyes for ten seconds and then have them each verbalize a response that fit the interactions. Correct responses were verbally reinforced and incorrect responses were corrected or shaped to fit the criteria. This process served to lower inhibitions toward interaction and to enable the experimenter to specify reinforceable responses. Subjects were given a brief explanation of the digital counters and associated apparatus.

At the end of each session the number of reinforcements was recorded as a measure of the relative ease of using the instructions and as a rough measure of the level of interaction of the group.

At the end of the first session subjects responded to a four-item measure of group attractiveness (Appendix C) and a group perception measure (Appendix A). From the group perceptions instrument 13 measures were derived for analysis. Of these 13, two were the measures of primary interest, Accuracy and Empathy.

The second and third sessions were begun with brief instructions (Appendix G) and the groups again interacted for fifty minutes with continuous reinforcement. Following

the third session subjects responded to the same four-item questionnaire and group perception measure as followed the first session.

During the fourth session subjects met to complete additional measures that included a self-disclosure measure (Appendix E); an empathy measure used as a manipulation check (Appendix B), a personality assessment device, the POI; and a measure of shyness.

Following the fourth session each of the groups were debriefed as to the nature of the study, the selection of the independent and dependent variables, and were shown the entire apparatus. Subjects were encouraged to respond to open-ended questions regarding their attitudes while participating in the study and their reactions to the experimental design and predictions. In addition each subject in the "shy clinic" was promised a summary of the analysis and discussion along with an opportunity to participate in small group interactions that would be patterned after the most successful experimental technique.

CHAPTER III

RESULTS

Four-person groups met for three interaction sessions and one post-test session. The Social Avoidance and Distress (SAD) Scale was administered prior to any group interaction during the screening and recruitment period and then again during the post-test (fourth) session. The Group Perceptions Test (GPT) and the Group Attractiveness Questionnaire were administered immediately following the first and third sessions. The Jourard Self-Disclosure Scale, the Elm's Empathy Scale, and Shostrum's Personal Orientation Inventory (POI) were administered (with the SAD) during the fourth session. In addition, the number of reinforced statements per subject was noted after each of sessions one, two, and three. Appendix F contains data that are not specifically discussed in the text.

Reinforced Statements

The number of reinforced statements per group per session are displayed in Table II. An analysis of variance of the summed group reinforced responses yielded a significant difference in treatment means, $F(2,11) = 33.417$, $p < .001$. Column totals were compared using the Tukey HSD (Kirk, 1968).

TABLE II
OPERANT REINFORCEMENTS

	Empathy	Expression	Information	Totals
Replication #1				
Session 1	60	14	139	
Session 2	18	1	26	
Session 3	19	14	53	
Total	97	29	218	344
Replication #2				
Session 1	28	7	139	
Session 2	7	10	71	
Session 3	4	8	102	
Total	39	25	312	376
Replication #3				
Session 1	29	1	92	
Session 2	33	12	122	
Session 3	16	4	128	
Total	78	17	342	437
Replication #4				
Session 1	11	14	211	
Session 2	10	17	104	
Session 3	13	19	97	
Total	34	50	412	496
TOTALS	248	121	1284	1653

Pairwise comparison showed that all the column totals were significantly different from each other, implying that the treatment conditions produced markedly different response patterns.

Group Attractiveness

The Group Attractiveness score is derived from the four-item questionnaire presented in Appendix C. Preliminary analysis revealed that subject's responses to the original four items were so highly correlated that it was essentially meaningless to look at each question individually. Consequently, these four items were collapsed into a single score of group attractiveness. Table XXVIII (Appendix F) contains the correlation matrix for the four-item questionnaire and the collapsed score. Table III relates the Group Attractiveness scores summed across groups and the design factors. Analysis of variance of group attractiveness following the third session indicated that differences existed, but only approached significance, $F(2,36) = 2.699$, $p = .07$. The Expression condition was experienced by the subjects as least attractive overall, while the Empathy condition produced the most extreme scores of attractiveness/unattractiveness.

Social Avoidance and Distress (SAD)

The SAD Scale is presented in Appendix D. See Table IV for Groups' post-test SAD scores. Analysis of the pre

and post-test SAD scores revealed no significant differences for treatments, replications, sessions, or interactions. The reader will note a wide variety of scores and a dramatic difference between Replication #2 and Replications #1,3, and 4. Recall that subjects were screened with the SAD and all met the criterion of scoring below the median score. Unfortunately, subjects in Replication #2 clustered nearer the median than the remaining subjects.

Self-Disclosure

Data from the Jourard Self-Disclosure Scale (Appendix E) is presented in Table V. Analysis of variance of subjects' scores revealed nearly significant differences existed, $F(2,36) = 3.1127$, $p = .0548$. Subjects in the Empathy and Expression treatments were more willing to disclose than were subjects in the Historical Information treatment.

Elm's Empathy Scale

Group's summed scores on the Elm's Empathy Scale (Appendix B) are presented in Table VI. Analysis of variance did not detect any significant differences among subjects' scores.

Personal Orientation Inventory (POI)

Intercorrelations of the POI Scale scores are included in Table VII (Appendix F). Scale scores were not directly compared, but do serve as predictors in the Maximum R^2 Re-

gression procedure and are included in the Factor Analysis.

Group Perceptions Test (GPT)

The target person perception variables of Accuracy and Empathy were each examined with an analysis of variance. Table VIII displays the results for Accuracy. Table IX displays the results for Empathy.

Accuracy

The Analysis of Variance for Accuracy yielded significant results for Treatments, $F(2,36) = 3.079$, $p < .05$, for Treatment x Replications, $F(6,36) = 2.556$, $p < .03$, and nearly significant results for Treatment x Sessions, $F(2,36) = 2.723$, $p < .07$. Planned comparison of treatment means summed across Replications and Sessions showed that, as predicted, the mean of the Expression condition was significantly greater than the Empathy condition, $t(36) = 1.935$, $p < .05$ one tail. Contrary to predictions, however, the mean of the Expression was not significantly greater than the mean of the Information condition and, in fact, was even slightly smaller. While the mean Accuracy score is smaller for the Expression treatment than that for the Information treatment for Session #1, the reader will note that the predicted relationship exists for Session #3. When treatment means for Session #3 are compared, the Expression treatment mean is greater than the mean of the Empathy treatment, $t(36) = 1.38$, $.05 < p < .10$, and is greater than the mean of

TABLE III
GROUP ATTRACTIVENESS

	Empathy	Expression	Information	Means
Replication #1	3.0	2.06	2.38	2.48
Replication #2	1.81	1.75	2.81	2.12
Replication #3	2.81	2.19	2.12	2.37
Replication #4	2.94	1.94	1.69	2.19
Means	2.64	1.99	2.25	2.29

TABLE IV
COMPARISON OF SAD SCORES FOR GROUPS

	Empathy	Expression	Information	Means
Replication #1	11.5	17.25	13.75	14.16
Replication #2	9.75	14.00	6.5	10.17
Replication #3	18.5	11.25	14.75	14.83
Replication #4	10.5	11.0	15.0	12.13
Means	12.53	13.38	12.57	12.83

TABLE V
COMPARISON OF SELF-DISCLOSURE FOR GROUPS

	Empathy	Expression	Information	Means
Replication #1	68.0	60.5	55.75	61.42
Replication #2	63.75	65.5	57.5	62.25
Replication #3	61.75	63.25	58.5	61.17
Replication #4	70.25	68.5	62.25	67.00
Means	65.94	64.44	58.5	62.96

TABLE VI
COMPARISON OF ELM'S SCORES FOR GROUPS

	Empathy	Expression	Information	Means
Replication #1	34.5	30.0	32.5	32.5
Replication #2	35.0	31.75	27.5	31.41
Replication #3	34.5	33.0	38.75	35.42
Replication #4	37.7	33.0	33.25	34.67
Means	35.44	31.94	32.94	33.44

the Information, but not significantly so by traditional criteria. Perhaps one more session would have resulted in significant differences. Planned comparisons across sessions showed Accuracy scores increased significantly across sessions for the Expression condition as predicted, $t(36) = 1.44$, $< .05$ $p < .10$ one tail, Accuracy scores also increased for the Empathy condition but decreased for the Information condition. See Figure 1 for a display of these changes. Table VIII presents the analysis of variance.

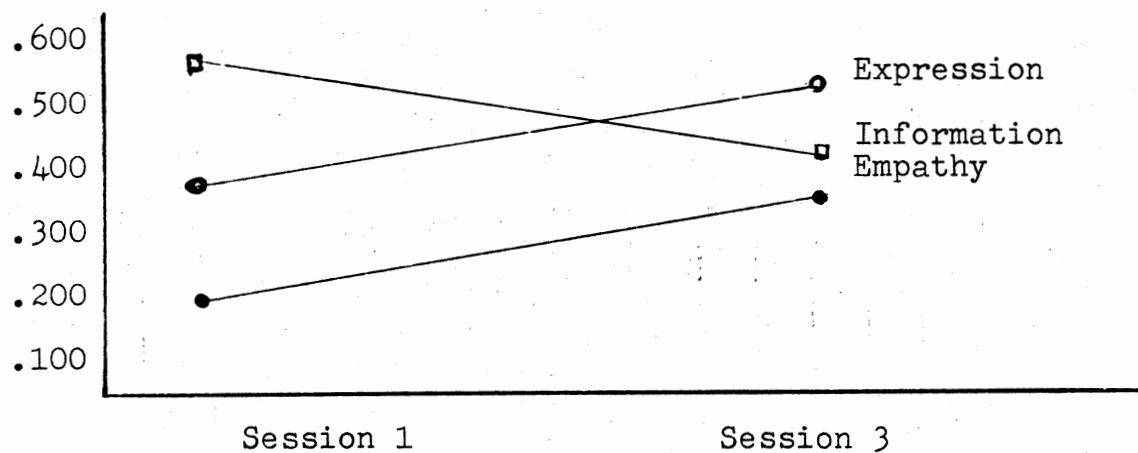


Figure 1 Accuracy: Treatment x Sessions, Cell Means

Empathy

The analysis of variance for Empathy showed significant results for Treatments, $F(2,36) = 7.202$, $p = .002$, for

TABLE VIII
 AOV FOR ACCURACY AND CELL MEANS FOR ACCURACY

Source	SS	df	MS	F	p
A Treatment	.8462	2	.4231	3.079	.05
B Replication	.2660	3	.0807	.654	
AB	2.1072	6	.3512	2.556	.03
S:AB Between	4.9436	36	.1374		
C Sessions	.0888	1	.0888	.302	
AC	.4420	2	.2210	2.723	.07
BC	.2224	3	.0741	.913	
ABC	.3510	6	.0585	.721	
CS:AB Within	2.9211	36	.0811		

Replication	Session #1			
	Empathy	Expression	Information	Means
#1	.547	.512	.555	.538
#2	-.017	.227	.855	.355
#3	.057	.232	.672	.320
#4	.227	.582	.200	.336
Means	.203	.388	.570	.387

Replication	Session #3			
	Empathy	Expression	Information	Means
#1	.647	.392	.342	.460
#2	.150	.500	.517	.389
#3	.267	.515	.482	.421
#4	.422	.727	.417	.522
Means	.371	.533	.440	.448

Grand Mean .418

Treatments x Replications, $F(6,36) = 5.873$, $p = .0004$, and for Treatments x Sessions, $F(2,36) = 7.328$, $p = .002$. Comparison of cell means summed across Replications and Sessions in Table IX reveals that the differences are not as predicted, however. Indeed, the Empathy condition resulted in significantly poorer GPT Empathy scores than the Expression condition, $t(36) = 3.482$, $p < .05$, and the Information condition, $t(36) = 3.068$, $p < .05$. A similar pattern of changes across sessions exists for Empathy as does for Accuracy, however. Subjects' scores in the Information condition dramatically decreased from Session #1 to Session #3 while subjects' scores in Empathy condition dramatically increased from Session #1 to Session #3, $t(36) = 1.965$, $p < .05$ one tail. Figure 2 presents Empathy scores across sessions.

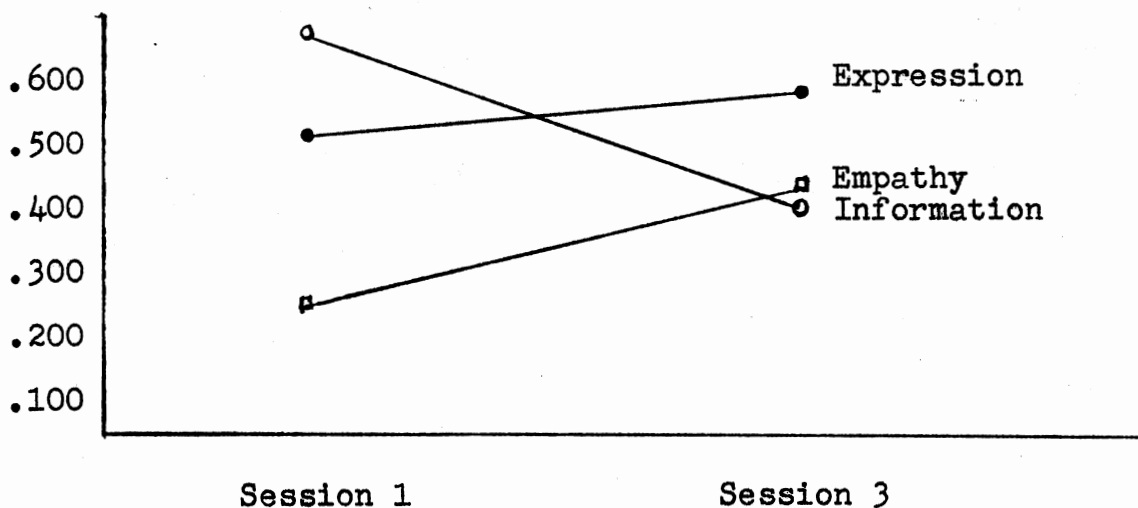


Figure 2 Empathy: Treatment x Sessions, Cell Means

TABLE IX
AOV FOR EMPATHY AND CELL MEANS FOR EMPATHY

Source	SS	df	MS	F	p
A Treatment	.7807	2	.3903	7.202	.002
B Replication	.3289	3	.1096	7.023	
AB	1.9096	6	.3183	5.873	.0004
S:AB	1.9509	36	.0542		
C Sessions	.0035	1	.0035	.078	
AC	.6531	2	.3266	7.328	.002
BC	.2719	3	.0906	2.034	
ABC	.5587	6	.0931	2.089	
CS:AB Within	1.6042	36	.0446		

Replication	Session #1			
	Empathy	Expression	Information	Means
#1	.470	.345	.250	.355
#2	.102	.677	.932	.570
#3	.075	.457	.902	.478
#4	.312	.505	.370	.395
Means	.240	.496	.613	.450

Replication	Session #3			
	Empathy	Expression	Information	Means
#1	.540	.495	.500	.511
#2	.415	.572	.550	.512
#3	.162	.487	.385	.345
#4	.460	.615	.072	.382
Means	.394	.542	.376	.437

Accuracy and Empathy

It was predicted that subjects' Accuracy scores would be higher in the Expression condition than in either the Empathy or Information conditions. This prediction was not supported in Session #1, since Accuracy scores were higher in the Information condition. Apparently, when group members casually exchanged historical information, during an initial interaction, individuals were fairly accurate in predicting how another group member would rate him or her. The reader must be cautioned, however, that simply because one could predict how another would rate oneself, this does not necessarily imply that another saw one's true self. Rather, in a casual, short-term encounter one could predict how another would rate one's self as presented in the encounter. Following Session #3, however, subjects could no longer make such predictions. Apparently, subjects in the Information condition were no longer able to predict if another would rate their social selves or their true selves and so were unable to predict how others rated them. On the other hand, subjects' Accuracy scores in both the Empathy and Expression conditions increased across sessions. While these two conditions did not enhance Accuracy during the first session, they facilitated an increase over the three sessions. This shift implies that different processes underlie Accuracy in short term relationships than in longer-term relationships.

A remarkably similar pattern is apparent when one compares cell means for Empathy (Table IX). In the short run the Information condition facilitated prediction of another's self rating and in the long run the Expression condition fostered the highest Empathy Score means. It is worthwhile to note the gains in Empathy Scores by subjects in the Empathy condition from Session #1 to Session #3. It is possible that the shift noted across sessions would have continued with more sessions and eventually resulted in the relationship that was predicted to occur in only three sessions.

In summary, after only one session, the Information condition yielded higher Accuracy and Empathy scores than the predicted conditions. After three sessions, however, the Expression condition yielded the highest Accuracy and Empathy scores. Despite the similarity of patterns across conditions and sessions, Accuracy and Empathy were essentially uncorrelated after three sessions.

Additional Analyses

Following analysis of variance for subjects' Accuracy and Empathy scores, two additional analyses were performed. A factor analysis and a Maximum R^2 analysis were performed to attempt to define the components that contributed significantly to the target measures of person perception. In each analysis, variables included "dummy" design variables, SAD scores, Group Attractiveness scores, POI scores, Elm's

Empathy scores, Self-Disclosure scores, and the GPT scores. The Maximum R^2 analysis was selected to define predictors of perceptions and the factor analysis was selected to determine relationships among predictors.

Factor Analysis

Overall, seventeen factors were found with Eigenvalues greater than 1.0. Of these seventeen, seven had Eigenvalues greater than 2.0. For ease of interpretation only these seven were identified and are discussed below. These seven accounted for 58.3 percent of the variance. Tentative factor labels and percent of variance accounted for are summarized in Table X and described further below. Unless otherwise noted, factors are based on a principal components analysis and include variables that had loadings of .25 or more. Varimax rotations for these factors are located in Appendix F.

Factor 1

Factor 1 is composed of 43 variables and accounts for approximately 18 percent of the variance. Variables listed below in Table XI are listed in decreasing order of absolute magnitude. Factor 1 is tentatively identified as a "Positivity/Negativity" dimension, since it appears to be based on very positive interactions among group members that enjoyed the group experience. Considering the criteria for selection of subjects, the existence of this factor is somewhat sur-

TABLE X
SUMMARY OF FACTOR ANALYSIS

Factor #	Factor Name	Eigenvalue	% Variance	% Cumulative Variance
1	Positivity/Negativity	10.81	18.3	18.3
2	Shyness/Stability	5.21	10.5	28.9
3	Neuroticism/Self-Acceptance	5.12	8.7	37.5
4	Perceived Discriminability/ Stereotypy	4.14	7.0	44.6
5	Opacity/Openness	3.08	5.2	49.8
6	Self-Disclosure/Non-Disclosure	2.56	4.3	54.1
7	Rejectivity/Acceptance	2.44	4.1	58.3

prising, since many of the variables that load here are indicative of very positive self-concepts and self-presentations, as well as positive attitudes toward others. It is, however, somewhat indicative of the validity of the SAD scale, since it loaded $-.41$ on this factor. Within this shy sample, shy subjects tended toward Negativity while non-shy subjects tended toward Positivity.

Concerning the numerous large Group Perceptions Test scale loadings, two interpretations are possible. If subjects attempted to appear socially desirable and consequently rated everyone very positively, the exchange of positive would yield GPT scores that would imply that subjects were accurately perceiving each other. Thus, an attempt to "fake good" would result in artifactual measures of accurate perception. An alternate interpretation is that the factor is a valid reflection of positive feelings and accurate perceptions. This latter interpretation is supported by the presence of the POI scales. As Shostrom (1974) pointed out in his POI Manual, "faking good" does not necessarily raise POI scale scores. Indeed, an attempt to put forth "a most favorable impression" resulted in lower scores on six of the twelve scales in one sample. The presence of the SAD and POI scales tends to support the latter interpretation of the Positivity/Negativity dimension.

When this factor was rotated, the number of variables dropped from 43 to 22. The type of variables that remained tended to be the more obvious and straight-forward scales

TABLE XI
 FACTOR 1 POSITIVITY/NEGATIVITY

Variable	Loading	Overlap with Vari-Max
1. Other Acceptance	.794	*
2. Conformity	.757	*
3. Assumed Similarity	.753	*
4. Congruence	.689	*
5. Other Good	.684	*
6. Perceived Concurrence	.683	*
7. Concurrence	.636	*
8. Other Intelligent	.591	*
9. Self Friendly	.579	*
10. Stereotypic Accuracy	.575	*
11. Self Warm	.547	*
12. Self Active	.547	*
13. POI Nature of Man	.537	*
14. Self Good	.535	*
15. Other Friendly	.528	*
16. Self Attractive	.526	*
17. POI Self Regard	.521	
18. Accuracy	.510	*
19. Self Intelligent	.510	*
20. POI Inner Directedness	.505	
21. POI Synergy	.490	
22. Other Warm	.589	
23. Self Dominant	.466	*
24. Self Other Variance	-.421	
25. Social Avoidance and Distress	-.418	*
26. POI Acceptance of Aggression	.405	
27. Self Strong	.396	*
28. POI Existentiality	.395	
29. Self Open	.387	*
30. Other Attractive	.383	
31. Commonality	.364	
32. Other Cautious	.354	
33. POI Self Actualizing Values	.353	
34. POI Capacity/Intimate Contact	.329	
35. Group Attractiveness	.326	
36. Other Active	.320	
37. POI Self Acceptance	.308	
38. POI Spontaneity	.295	
39. Stereotypic Empathy	.293	
40. Interpersonal Openness	.278	
41. POI Feeling Reactivity	.266	
42. Personal Openness	.266	
43. Empathy	.260	

* indicates overlap with Vari-Max Rotation.

such as the GPT and the SAD. The more subtle POI scales tended to load less positively or were dropped out. The table of variable loadings for the varimax rotation is contained in Appendix F.

Factor 2

Factor 2 included 22 variables with values greater than .25 and accounted for approximately 11 percent of the variance. Factor 2 is identified as a "Shyness/Stability" factor and is displayed in Table XII.

Factor 2 is notable in its inverse relationship between POI scales and GPT scales of perception and the inverse relationship between the POI and the SAD. Factor 2 also includes Replication #2 as a variable. Table VIII shows that Replication #2 had the highest post-test Accuracy scores and Table IV shows that Replication #2 had the lowest SAD scale scores. The inverse relationships seem to indicate clusters of scores where mental health was coupled with poor perception or poor mental health was coupled with accurate perception. Given the positive relationship of the POI and Replication #2 and the inverse nature of the SAD and Replication #2, one might conclude that these responses are characteristic of subjects that score low on the POI and high on the GPT, or vice versa. Either way, discomfort seems inherent here. One might be fairly well adjusted as measured by the POI but yet not be able to perceive what others think of him or themselves. Alternately, one might

TABLE XI
 FACTOR 2 SHYNESS/STABILITY

Variable	Loading	Overlap with Vari-Max
1. POI Inner Directedness	-.772	*
2. POI Spontaneity	-.675	*
3. POI Self Acceptance	-.643	*
4. POI Capacity/Intimate Contact	-.641	*
5. Accuracy	.638	
6. POI Self Regard	-.606	*
7. Stereotypic Accuracy	.604	
8. POI Self Actualizing Values	-.581	*
9. POI Feeling Reactivity	-.575	*
10. POI Acceptance of Aggression	-.519	*
11. POI Time Competence	-.494	*
12. POI Existentiality	-.470	*
13. Concurrence	.422	
14. Other Acceptance	.355	
15. Interpersonal Openness	.351	
16. Personal Openness	.330	
17. Other Open	-.318	
18. Perceived Concurrence	.317	
19. Replication #2	-.310	*
20. Other Cautious	.299	
21. Self Open	-.290	*
22. Perceived Realism	.250	

be poorly adjusted and yet have accurate enough perception to be well aware of the maladjustment.

When Factor 2 was rotated the number of variables dropped from 22 to 16. GPT perception variables tended to be dropped out and were replaced by the SAD scale. The inverse relationship between the POI scales and the SAD seems to define this as a shy-nonshy dimension where shyness is positively related to perception as reflected on the Accuracy scores.

Factor 3

Factor 3 includes 21 variables and accounts for approximately 9 percent of the variance. This factor is identified as a "Neuroticism/Self-Acceptance" dimension. Factor 3 is displayed in Table XIII.

Loadings on this factor are consistent with an "I'm not O.K., You're O.K." or an "I'm O.K., You're not O.K." orientation as reflected by the opposite loading for GPT "self" and "other" ratings. Despite the loadings of the straightforward self ratings of the GPT, the POI does not load on this factor. One can conclude that there was neither a consistently positive relationship between self-reports on the GPT and the POI for this factor. This pattern seems to indicate a tendency to use variable or extreme GPT adjectives for self-report.

An important component is the inverse relationship between GPT self ratings and the GPT perception variables.

TABLE XIII
 FACTOR 3 NEUROTICISM/SELF-ACCEPTANCE

Variable	Loading	Overlap with Vari-Max
1. Empathy	.825	*
2. Stereotypic Empathy	.653	*
3. Self Good	-.575	
4. Felt Openness	.572	*
5. Perceived Realism	.556	*
6. Self Dominant	-.555	
7. Self Open	-.483	
8. Self Friendly	-.421	
9. Interpersonal Openness	.412	*
10. Other Cautious	.382	
11. Other Attractive	.371	
12. Self Strong	-.342	
13. Other Intelligent	.339	*
14. Personal Openness	.331	*
15. Other Warm	.297	
16. Stereotypic Accuracy	-.294	
17. POI Existentiality	.281	
18. Replication #4	-.259	
19. Self Cautious	.253	
20. Expressive Treatment Condition	.251	

The pattern of variables indicates a positive relationship between Empathy and Other ratings and a positive relationship between Self ratings and Stereotypic Accuracy, but that these two relationships are inversely related. The inverse nature of Self and Other ratings on the GPT would imply a perceived difference or distance between these individuals.

The inverse relationship between Empathy and Replication #4 qualifies this factor somewhat, since cell means from Table IX show that Replication #4 had relatively poor Empathy scores and high Accuracy scores. This implies that individuals in Replication #4 (as opposed to Replications #1, 2, and 3) had positive Self ratings, negative Other ratings, poor Empathy scores, and high Accuracy Scores. The Expressive treatment condition tended to result in an opposite pattern of negative Self, positive Other, high Empathy, and poor Accuracy.

An interesting note is that while subjects predicted that others would agree with his/her self perception (Felt Openness) and that others could predict his/her self-concept (Personal Openness), those others did not agree with the subjects self-concept and did not rate him/her as he or she saw himself or herself. Others were aware of one's self-concept (whether positive or negative) as expressed by the Openness scores, but chose to actually rate one differently than one rated oneself. This is reflected by the Stereotypic Accuracy loading. Subjects predicted others would rate them as they rated themselves, but those others did not.

When Factor 3 was rotated, it contained two GPT other ratings and six GPT perception variables that were positively related. The varimax rotation of Factor 3 is contained in Appendix F.

Factor 4

Factor 4 (Table XIV) is composed of 18 variables and accounts for approximately 7 percent of the variance. This factor is identified as "Perceived Discriminability/Stereotypy". It reveals a pattern in which subjects were willing to use a wide range of rating levels with negative Other ratings. Alternatively, subjects used a narrow range or stereotyped way of rating others when Other ratings were positive.

The presence of Replication #2 implies that there is a positive relationship between being in this replication and using extreme ratings of others, rating others negatively, and finding the group experience unattractive.

When Factor 4 was rotated the inverse relationship between Other ratings and variance in ratings became even stronger. The varimax rotation includes the POI scale Self-Regard, which is positively related to GPT Other ratings and inversely related to variance in subjects' use of a broad range or extreme ratings on the Likert-type scales to describe themselves and others.

Factor 5

Factor 5 is identified by 16 variables and accounts for

TABLE XIV

FACTOR 4 PERCEIVED DISCRIMINABILITY/STEREOTYPY

Variable	Loading	Overlap with Vari-Max
1. Other Variance	.711	*
2. Other Self Variance	.676	*
3. Other Strong	-.655	
4. Other Dominant	-.527	
5. Other Open	-.485	*
6. Self Intelligent	.417	
7. Other Intelligent	.368	*
8. Elm's Empathy	.362	
9. Other Good	-.361	*
10. Group Attractiveness	-.360	
11. Self Attractive	.359	
12. Congruence	-.339	*
13. Other Friendly	-.320	
14. Concurrence	.304	
15. Capacity/Intimate Contact	.298	
16. Jourard Self-Disclosure	.296	
17. Replication #2	.262	

approximately 5 percent of the variance. This factor is labeled "Opacity/Openness" and is displayed in Table XV. Two "anchor" variables help to interpret this factor. SAD scores and Replication #3 are positively related (see Table IV) and can be considered as reference points. To the extent that one is shy, others cannot predict how one rates oneself, others' self ratings are not similar to one's self ratings, others cannot predict that one's self rating is congruent with others' ratings of one, and one cannot predict that another will rate one as one rates oneself. To the extent that one is not shy, the inverse statements are true.

When the varimax rotation is considered, there is an interesting inverse relationship between Self-Disclosure and Stereotypic Empathy. To the extent that subjects were willing to disclose themselves, they were unable to predict another's self-concept. When one was less inclined to disclose, one could consider group members' points of view (i.e. when one is aware of others' self-concepts, one is less willing to self-disclose and vice versa).

When comparing the Principal Components and the varimax rotation, it is illustrative to note that shyness clusters with scores on Elm's empathy measure, but does not cluster with actually being able to predict another's self-concept.

An important loading, despite its absolute size, is the Treatment variable. Within this study, particularly with these subjects (the shyness as expressed by the SAD is a significant loading), opacity was inversely related to the

TABLE XV
 FACTOR 5 OPACITY/OPENNESS

Variable	Loading	Overlap with Vari-Max
1. Personal Openness	-.608	
2. Commonality	-.502	
3. Other Warm	.502	*
4. Self Cautious	.499	
5. Perceived Realism	-.497	
6. Other Active	.421	
7. Social Avoidance and Distress	.410	
8. Felt Openness	-.372	
9. Other Attractive	.324	
10. POI Self Actualizing Values	.300	
11. Elm's Empathy	.299	
12. Historical Information Treatment	-.271	
13. POI Feeling Reactivity	-.267	
14. Replication #3	.262	
15. Self Warm	.254	*

Information (as opposed to Empathy and Expression conditions). Within the matrix of shy subjects being compelled (by demand characteristics) to act and express themselves in a way that was surely stressful for them, being in an expressive or empathic condition indirectly served to impede clear perception. Subjects' self-concepts were not predictable by others. While this is contradictory to what was hoped, it does serve to point out that the manipulation did have some effect. The experimental conditions may have served to heighten defenses and thus disrupt perception for these shy subjects.

While some subjects saw themselves as Self-Actualized, but somewhat shy, others were not able to predict his/her self-concept accurately. Even though subjects responded as Self Actualizers, they still seemed to acknowledge a one-down position. Individual subjects rated others positively, but as expressed in Commonality, those others did not rate themselves similar to him/her. The reader may note an "other" orientation in this factor: others are rated positively, subjects reported an ability to take another's role on the Elm's Empathy Scale, subjects contrasted themselves as Shy and others as Active, Attractive, and Warm; additionally, subjects rated themselves as Cautious and insensitive to their own needs (POI Feeling Reactivity).

One might speculate that this "other" orientation may serve as a defense or smokescreen, since they are really opaque to others as expressed by Personal Openness, Per-

ceived Realism, and Felt Openness. One point of this dimension is a style of passivity or withdrawal as a behavioral style. Relative to a subject's own style, another is rated as more Active and Warm.

It is interesting to note that this factor contains a negative loading for the Historical Information Treatment condition. Whether because of the direct effects of sharing information about the self, even if trivial; or because of the relative ease of using these instructions and getting reinforced for this behavior, subjects in this treatment were least likely to be opaque. One might conclude that the Historical Information condition had beneficial effects for shy subjects in those groups.

Factor 6

Factor 6 is made up of 10 variables and accounts for approximately 4 percent of the overall variance. Components suggest a "Self-Disclosure/Non-Disclosure" theme. See Table XVI for a listing of variables.

Jourard's Self-Disclosure scores are inversely related to the Information condition and positively related to the Expression condition and to Replication #4. The reader may note in Table V that the Information condition did yield the lowest Self-Disclosure among the three treatment conditions and that Replication #4 did report the highest willingness to self-disclose. To the extent that subjects were willing to disclose, they were reluctant to use the full range of

TABLE XVI
 FACTOR 6 SELF-DISCLOSURE/NON-DISCLOSURE

Variable	Loading	Overlap with Vari-Max
1. Historical Information	-.669 **	*
2. Self-Disclosure	.658	*
3. Emotional Expression	.424	*
4. Self Warm	-.370	
5. Self Other Variance	-.355	
6. Replication #4	.331	
7. Other Variance	-.314	
8. Other Dominant	-.301	*
9. POI Existentiality	-.253	
10. POI Spontaneity	.251	

** signs were reversed for ease of interpretation.

the GPT adjective dimensions to rate others or to predict another's view of oneself. In other words, subjects were willing to disclose if they saw the group as composed of very similar people and were unwilling to disclose if others were seen as a heterogeneous group.

Two POI scales load on this factor. One might expect a positive relationship between Self-Disclosure and POI spontaneity and the data supports this expectation. The inverse relationship of Self-Disclosure and POI Existentiality is somewhat puzzling, however. Shostrom (1974) summarizes Existentiality as measuring the degree of flexibility or rigidity in the application of values to living. This flexibility is positively related to the GPT Variance scores in that to the extent that one was rigid, one used a narrow range to describe the self and others, while flexibility implies a willingness to use a wide range.

A weak, but surprising, incident is the inverse relationship of the GPT Self Warm scores and Self-Disclosure. Shy people may not see disclosure as well-adjusted or healthy behavior. Additionally, Self-Disclosure was inversely related to GPT Other Dominance as one might expect. To the extent that one saw others as dominant, one was unwilling to disclose and vice versa.

The varimax rotation does not change the essence of the Self-Disclosure theme. One loading that is interesting to note is that Self-Disclosure is inversely related to GPT Other Open for these shy subjects. It might seem paradox-

ical to disclose to a person one rates as "closed", but then for a shy person to disclose to an open, dominant person must surely be anxiety provoking.

Factor 7

Factor 7 (Table XVII) is based on 15 variables and accounts for approximately 4 percent of the variance. These variables indicate an orientation of "Rejectivity/Acceptance". Since three design variables appear as Factor 7 loadings, interpretation of this factor must be interpreted in that light.

Considering that Replication #2 reported the least shyness, the least group attractiveness, and the least willingness to fantasize about taking another's role (as expressed by the Elm's Empathy Scale), the variables that cluster with these anchors are a reluctance to describe others with the full range of the GPT Other adjectives, a tendency to rate others negatively on the GPT Other adjectives, positive GPT Self ratings, positive POI Self-Regard, and an ability to predict how others rated themselves (as expressed by the GPT Stereotypic Empathy. A pattern emerges wherein one rated others negatively (as they rated themselves) within a narrow range and was able to predict how the others rated themselves, simultaneously rating oneself positively, reporting less shyness and less group attractiveness. This pattern is positively related to Replication #2 and the Expression condition and negatively related to Replication #3. To the

TABLE XVII
 FACTOR 7 REJECTIVITY/ACCEPTANCE

Variable	Loading	Overlap with Vari-Max
1. Group Attractiveness	-.435	*
2. Replication #2	.418	
3. Elm's Empathy	-.408	
4. Other Variance	-.335	
5. Other Self Variance	-.333	
6. Other Friendly	-.332	*
7. Replication #3	-.331	
8. POI Spontaneity	-.324	
9. Other Strong	-.296	*
10. Emotional Expression	.293	*
11. Other Good	-.290	*
12. Social Distress and Avoidance	-.289	
13. Stereotypic Empathy	.284	
14. Self Good	.275	
15. POI Self Regard	.271	

extent that Replication #3 clusters with the positive aspects of this dimension, subjects reported higher POI Spontaneity and a willingness to fantasize taking on another's role, but earned lower POI Self-Regard and lower GPT Stereotypic Empathy scores.

The differences between Replications #2 and 3 are apparent in variables besides the subjects' scores. Recall from Chapter II that Replication #2 was comprised of summer session students whose SAD screening scores clustered closer to the median (cut-off) than the other three replications' screening scores. Additionally, they were slightly older. While this did increase unwanted variance in the study, it does make the results more generalizable.

Rotating Factor 7 did not change its theme. Replication variables dropped out, however. Considering the remainder, to the extent that one was in the Expression Condition, one saw the group experience as unattractive and saw others negatively on GPT Other ratings.

Summary of Factors 1 to 7

Factor titles, Eigenvalues, and variance accounted for are presented in Table X. Table XVIII lists all the variables included in this analysis and their loadings on the seven identified factors in the principal components analysis. Tables of rotated factors are listed in Appendix F. Of these seven factors, four contain loadings for treatment variables and six contain loadings for replications of groups.

Only Factor 1 does not contain design variables above the .25 level.

Factors and Treatments

Of the seven factors, two stand out as strongly related to the three treatment conditions. As displayed in Table XVIII, Factor 6 contains inverse loadings for the Empathy and Expression versus the Information conditions. Table V shows that subjects in the Information condition were least willing to self-disclose and Table II shows that subjects in the Information condition were reinforced 1284 times for self-disclosing or verbalizing historical information. Despite the frequency that these groups had disclosed historical information, they were much less willing to discuss the types of items Jourard included in the Self-Disclosure Questionnaire than the other two conditions. These items were much more personal and intimate than the historical information they had been reinforced for disclosing. Subjects in the Expression and Empathy conditions were accustomed to this sort of intimacy by the end of the third session and so were willing to disclose.

Factor 7 contains a loading for the Expression condition. Keeping in mind that the subjects in the Expression condition reported the greatest shyness and the least group attractiveness after three sessions, one can begin to make inferences about the effects of the treatment conditions, especially in terms of a rejectivity or an acceptance of others.

Factors and Replications

Three replications loaded greater than .25 on five factors. Comparing the inverse loading of Replication #2 with the SAD loading together with the Table IV SAD values across replications, one can see that Replication #2 was somewhat different than the other three replications. This difference is also reflected in Factors 4 and 7. Replication #3 loaded on Factors 5 and 7, while Replication #4 loaded on Factor 6. This pattern of loadings on factors reflects the different types of subjects that were recruited across the three academic semesters. Despite that Replication #2 and Replications #3 and 4 were very similarly recruited and screened for shyness, it is apparent that different levels or types of shyness were present in these subjects.

Shyness

Zimbardo et.al. (1975) noted that there are different types of shyness:

Types of Shyness. Despite the fact that nearly everybody agrees about what it feels like to feel shy, there are still varieties of shy experience. For some it is the reserved manner of the introvert; for others, a kind of modesty or diffidence. It can shade from bashfulness through timidity to a chronic fear of people. Shyness is an attribute that spans a wide behavioral-emotional continuum.

At one end of the scale are those people who choose a shy demeanor because they feel more comfortable with things, ideas or their work than they do with other people. . . .

The middle ground of shyness consists of those people whose lack of self-confidence, inadequate social skills, and easily trig-

gered embarrassment produce a reluctance to approach people. . . .

But at the other extreme, shyness becomes a form of imprisonment in which the person plays both the role of guard, who constantly enforces restrictive rules, and the role of prisoner, who sheepishly follows them and thus earns the contempt of the guard. . . .(p. 70)

The factor analysis of this study confirms Zimbardo's conclusions. Subjects displayed a variety of interpersonal and intrapersonal attitudes and behaviors. This heterogeneity undoubtedly weakened the experimental treatment effects, since one would expect more dramatic effects if treatments were tailored to specific problems rather than serving as a shotgun or catch-all approach.

POI

The POI has high loadings on two factors that are tentatively identified as "Positivity/Negativity" and "Shyness/Stability". These loadings of the POI are positively related to GPT perception scores on "Positivity/Negativity" and inversely related to GPT perception scores on "Shyness/Stability". This pattern would imply that the POI effectively tapped adjustment within this sample.

GPT

Table XIX (Appendix F) presents an interesting phenomenon in the varimax rotation. Each of the derived GPT perception and variance scores load greater than .25 on one of three factors with very little overlap between factors. This

same relationship exists on the principal components analysis (Table XVIII) if one cuts off variable loadings at .30 rather than .25.

As Cronbach (1955) and Cline (1964) have pointed out, variance in ratings is an important aspect of person perception in that use of extremes tends to reduce accuracy of perception. These assertions are shown by examination of Factors 1,3, and 4. On Factors 1 and 3, the measures of variance are inversely related to measures of perception. This inverse relationship was not so strong or consistent that variance and perception had high inverse loadings on one factor, however. Instead, they tended to be independent and so had high loadings on separate factors.

The loadings of the GPT perception scores on two independent factors seems to indicate that perception is not a unitary factor, at least not within this shy sample. The division of perception concepts across two factors is even more notable when the POI is taken into account. On Factor 1 (Table XVIII), perception is positively related to POI measures of mental health. On the other hand, the perception variables that loaded on Factor 3 are independent of POI measures of mental health. In general, the GPT perception variables (apart from the variance discussed above) load on two factors. One factor represents a primarily "self" orientation and the other a primarily "other" orientation. Predictably, the "self" orientation includes high loadings for Accuracy and the "other" orientation includes high

loadings for "Empathy".

Accuracy

It is logical to assume that in order for one to be Accurate, to be able to predict what others think of oneself, one must first be willing to self-disclose, to be open, and to express emotions. Table XX displays these relationships.

Within Table XX, Factor 1 is most central to this discussion. While there is some indication of a relationship between Accuracy and Self Open, the actual correlation is $-.213$. Similarly the relationship of Accuracy to Self-Disclosure and Emotional Expression Treatment is $.039$ and $.172$, respectively. Apparently Accuracy, being able to predict another's perception of one's self, is not necessarily dependent upon the treatment variable or interpersonal behavior within the group.

Empathy

It is also logical to assume that if one can predict another's self concept, then one must be able to take others' roles or "step into another's shoes". Table XXI displays these relationships with regard to Elm's Empathy Scale and the operant training within the study.

Within Table XXI, Factor 3 would presumably have high loadings on all three variables if Empathy on the GPT was detectable by the Elm's or amenable to change with this treatment in this shy population. The use of the Elm's is

TABLE XVIII
 FACTOR STRUCTURE OF INDEPENDENT
 AND DEPENDENT VARIABLES

Variables	Factor Loading						
	1	2	3	4	5	6	7
Empathy	-.02	-.09	-.08	.05	.15	-.14	-.15
Emotional Express	.06	.19	.25	.16	.12	-.42	.29
Historical Info	-.04	-.10	-.17	-.21	-.27	<u>.66</u>	-.14
Replication #1	.04	.13	.24	-.07	.10	.03	.05
Replication #2	.15	-.31	.08	.26	-.23	.22	.41
Replication #3	-.06	-.03	-.07	-.14	.26	.08	-.33
Replication #4	-.13	.21	-.25	-.05	-.13	-.33	-.16
Other Variance	-.18	.20	-.06	<u>.71</u>	.04	.31	-.33
Self Other Variance	-.42	.07	-.03	<u>.23</u>	.01	<u>.35</u>	-.18
Other Self Variance	-.18	.16	-.11	<u>.67</u>	-.09	<u>.27</u>	-.33
Congruence	<u>.68</u>	.13	-.15	-.33	.17	.04	.01
Accuracy	<u>.51</u>	<u>.63</u>	-.22	<u>.03</u>	-.17	-.06	-.04
Stereo. Accuracy	<u>.57</u>	<u>.60</u>	-.29	.05	-.05	.01	.05
Empathy	<u>.26</u>	<u>.00</u>	<u>.82</u>	-.02	.00	-.06	.18
Stereo. Empathy	.29	.14	<u>.65</u>	.10	-.01	.12	.28
Interpersonal Open	.27	<u>.35</u>	<u>.41</u>	.04	.03	.05	-.23
Personal Openness	.26	<u>.33</u>	<u>.33</u>	.08	-.60	.10	.06
Felt Openness	.07	<u>.20</u>	<u>.57</u>	-.12	-.37	-.09	-.18
Perceived Realism	.18	.25	<u>.55</u>	-.02	-.49	.00	-.10
Assumed Similarity	<u>.75</u>	.05	<u>.18</u>	-.07	<u>.08</u>	.02	-.21
Commonality	<u>.36</u>	-.01	<u>.54</u>	-.10	-.50	.28	-.15
Other Acceptance	<u>.79</u>	<u>.35</u>	-.10	-.13	-.12	-.04	.04
Concurrence	<u>.63</u>	<u>.42</u>	-.18	<u>.30</u>	-.22	-.02	.19
Perc. Concurrence	<u>.68</u>	<u>.31</u>	-.19	-.12	.11	.09	.17
Conformity	<u>.75</u>	<u>.07</u>	-.17	-.22	.17	-.05	.11
Time Competence	.21	-.49	.17	-.02	.04	.20	.23
Inner Directedness	.50	-.77	.13	.18	-.02	-.12	-.03
Actualizing Values	<u>.35</u>	-.58	.03	.16	<u>.30</u>	-.15	-.09
Existentiality	<u>.39</u>	-.47	.28	.14	<u>.21</u>	.25	-.13
Feeling Reactivity	.26	-.57	.01	.23	-.26	-.20	.00
Spontaneity	.29	-.67	.03	.12	-.10	-.25	-.32
Self Regard	<u>.52</u>	-.60	.08	-.08	-.02	-.02	.27
Self Acceptance	<u>.30</u>	-.64	.00	-.09	-.03	.15	.06
Nature of Man	<u>.53</u>	<u>.06</u>	.07	.18	-.05	-.08	.11
Synergy	<u>.49</u>	-.14	.04	.20	.19	.03	.00
Accept/Aggression	<u>.40</u>	-.51	-.17	.22	-.04	-.04	.03
Capacity/ Intimate							
Contact	.32	-.64	.20	.29	-.03	.06	-.07

somewhat questionable because of its $-.129$ correlation with GPT Empathy as well as its negative loading on Factor 3.

GPT Accuracy and Empathy

In considering Accuracy and Empathy together, one might expect these two variables to be highly correlated. Intuitively, it seems that if one is able to correctly predict others' perceptions of oneself, then one ought to be able to predict other's self-perceptions as well. Within these shy subjects, such was not the case. These two perceptual abilities have complementary factor loadings and are, in fact, only correlated at $-.06$ (Table VII, Appendix F), implying no linear relationship between abilities. The same relationship exists for their analogs, Stereotypic Accuracy and Stereotypic Empathy. They are correlated at $.02$.

First-Session Data

As reported above, data were collected after the first session and included the GPT. These first-session measures were not a major focus and, as such, are not presented in their entirety. Table XXII relates Accuracy and Empathy and their Stereotypic analogs following Session #1. Two important relationships are notable; one is the high correlations between Accuracy/Stereotypic Accuracy and Empathy/Stereotypic Empathy and the other is the correlation between Accuracy and Empathy. The Accuracy-Empathy correlation was $.38$. In general, subjects that could predict another's

TABLE XX

ACCURACY

Variable	Rotated Factor Loading						
	1	2	3	4	5	6	7
Accuracy	.77	.26	.07	.10	.10	-.09	-.16
Self-Disclosure	.05	-.18	-.10	.11	-.65	-.35	-.09
Self Open	.28	-.32	-.21	.15	.03	-.05	.14
Emotional Expression Trt	.06	.20	.25	.17	.12	-.42	.29

TABLE XXI

EMPATHY

Variable	Rotated Factor Loading						
	1	2	3	4	5	6	7
Empathy	-.13	-.18	.59	-.16	.15	-.20	-.00
Elm's Empathy	-.06	-.10	-.02	.24	.09	.03	.22
Empathy Treatment	-.13	.00	-.19	.02	-.10	-.15	-.30

TABLE XXII
FIRST-SESSION DATA

Perception Variables		Perception Variables		
	Accuracy	Stereotypic Accuracy	Empathy	Stereotypic Empathy
Accuracy	1.00	.92	.38	.34
Stereotypic Accuracy		1.00	.35	.29
Empathy			1.00	.85
Stereotypic Empathy				1.00

rating of oneself could also predict another's rating of himself/herself.

Maximum R^2 Analysis--Stepwise Regression

Accuracy

For the target measure of Accuracy in person perception, a six-variable model was found that accounted for 89 percent of the variance in Accuracy (see Table XXIII).

The largest predictor of Accuracy is Stereotypic Accuracy, which accounted for 86 percent of the variance. This is a logical relationship because of the mathematical overlap in the definition and derivation of the two measures. One's ability to predict how other individuals rate oneself (Accuracy) is necessarily correlated with one's ability to predict the mean of the other individuals' rating of oneself.

The second largest predictor, Concurrence, expresses the degree to which one rates others as they are perceived rating themselves. In general, if I rate you as I perceive you rating yourself (GPT Concurrence), I can also predict how you will rate me (GPT Accuracy).

An important component of being able to predict how another sees one is the other's perceived friendliness. If you seem unfriendly, I cannot accurately predict your view of me. One might conclude that another's friendly attitude is a prerequisite of clear perception of their views of one.

The next predictor, Conformity, is the degree to which one's judgment of others conforms to the group's judgment

of those others. Since Conformity is a negative predictor, my judgment of you, even if it fails to conform to the group's mean judgment, is an important predictor of my ability to predict what you think of me. Within the context of these shy subjects, the degree to which an individual was able to see beyond the other's superficial self or facade that was accepted by the group, that individual was also able to predict that other's perception of him/herself.

The POI Scale Self-Actualizing Value was also a negative predictor of Accuracy. While at first this may seem contradictory, it is explainable if one considers that nonself-actualized persons are often highly sensitive to others' opinions of them and so are very likely practiced and attuned to predicting others' perceptions. The more autonomous, inner-directed actualizer would be less concerned with another's opinions.

The sixth, and last, predictor is Self-Disclosure. This is a logical relationship, since if one is disclosing, one is more likely able to predict the group members' opinions regarding oneself. In general, even if others do not give one any direct feedback about oneself, if the other is a disclosing person, one can make logical inferences and predictions based on what the other has revealed about himself. Conversely, when one discloses one can observe another's reactions and make inferences about what another thinks of oneself based on both another's knowledge of one and his reaction to that knowledge.

Stereotypic Accuracy

Since Stereotypic Accuracy was such a large predictor of Accuracy, a similar regression procedure was performed to determine its predictors. A four-variable model was selected that accounted for 56 percent of the variance (see Table XXIV).

As with Accuracy, Concurrence is a major predictor of Stereotypic Accuracy. In general, if I agree with your collective self-presentations (which assumes I am aware of your self-presentations), then I can predict how you (the group) perceive me. Being able to "read" another's self-presentation is a predictor for being able to make inferences about that other's perception of me.

Congruence, the degree to which one rates others as they are perceived rating oneself can be considered the result of a positive set or tendency to rate everyone positively. Alternately, one can consider that the only difference between Accuracy and Congruence is whether one merely predicts the other's rating of oneself or goes on to rate the other similar to that prediction.

Dominance, the third largest predictor, is difficult to relate to Accuracy unless one considers the relevance within a shy population. If one considers him/herself dominant and acts accordingly, then the contrast between that person and the typically passive, wallflower image of shy people would be one trait that would be clearly perceived. In short, if one is atypical, then one is likely

TABLE XXIII
ACCURACY PREDICTORS

Variable	B Value	F	Prob F
1. Stereotypic Accuracy	.587	160.53	.0001
2. Concurrence	.122	5.91	.0196
3. Other Friendly	.100	20.22	.0001
4. Conformity	-.060	4.75	.0351
5. POI Self Actualizing Values	-.023	15.51	.0003
6. Self Disclosure	.004	7.54	.0089

TABLE XXIV
STEREOTYPIC ACCURACY PREDICTORS

Variable	B Value	F	Prob F
1. Concurrence	.681	41.14	.0001
2. Congruence	.393	21.38	.0001
3. Self Dominance	.975	4.53	.0391
4. POI Self Regard	-.058	16.48	.0002

to be correct in predicting how others will rate him/herself.

The POI scale Self-Regard that reflects liking oneself because of one's strength as a person is a significant negative predictor of Stereotypic Accuracy. If low self-worth is felt and expressed, then one is likely correct in predicting that others will rate him/herself as such. It may be easier, too, for others to perceive correctly one's self-concept if, indeed, one has a feeling of low self-worth.

Empathy

Seven variables were found to be significant predictors of Empathy as it relates to person perception. These seven accounted for 59 percent of the variance and are presented in Table XXV.

As with the relationship between Accuracy and Stereotypic Accuracy, Empathy is best predicted by one's score on Stereotypic Empathy. This is predictable, given the definition and derivation of both. While Empathy is defined as predicting how another individual sees him/herself, Stereotypic Empathy is the prediction of how the group members collectively see themselves. Stereotypic Empathy accounts for 52 percent of the variance in Empathy.

The second largest predictor, Interpersonal Openness, is the degree to which others can predict one's rating of them. One might conceptualize the difference between these two perceptions as the difference of being aware of another and letting the other person know that one is aware of him/

TABLE XXV
EMPATHY PREDICTORS

Variable	B Value	F	Prob F
1. Stereotypic Empathy	.375	44.70	.0001
2. Interpersonal Openness	.362	16.29	.0002
3. Other Strong	-.166	10.47	.0024
4. Other Variance	-.154	12.50	.0010
5. Self Strong	-.086	10.29	.0026
6. Group Attractiveness	.065	5.86	.0201
7. POI Spontaneity	.020	7.25	.0103

TABLE XXVI
STEREOTYPIC EMPATHY PREDICTORS

Variable	
1. Perceived Concurrence	.719
2. Assumed Similarity	.333
3. Self Friendly	-.305
4. Congruence	-.239
5. Personal Openness	.234
6. Replication #2	.203
7. Self Dominant	-.160
8. POI Nature of Man	.063
9. POI Acceptance of Aggression	.035
10. POI Time Competence	-.024

her. In a sense, Interpersonal Openness is the other individual's Accuracy. One feeds back enough verbal or non-verbal information that the other can accurately predict one's rating of them.

Rating oneself as Weak is another predictor that is difficult to understand unless one again considers the shy nature of the subjects. Within a group interaction, if one feels shy or weak and recognizes that none of the other group members is at ease or strong either, then rating oneself and others as weak would result in high loadings on Stereotypic Empathy. This hypothesis also explains the next two predictors: rating others as Weak and tending to stereotype or use a narrow range of Likert items to describe others. Within a homogeneous population, it would be surprising not to find at least one instance of this phenomenon. Apparently, the adjective "Weak" is the one in the GPT that was seen as the most common denominator among the ten rating dimensions for this sample.

That Group Attractiveness is a predictor of Empathy implies that a positive group interaction is a facilitator or prerequisite to knowing how another feels about himself/herself.

The POI Scale of Spontaneity is a positive predictor of Stereotypic Empathy. One might speculate that if one is spontaneous in expressing his/her feelings, another might reciprocate and be open enough to enable one to correctly predict how the other sees himself/herself. Like

Group Attractiveness, this may be a facilitator of Empathy in an indirect way.

Stereotypic Empathy

Since Stereotypic Empathy was the best single predictor of Empathy, another regression was performed to determine the determinants of Stereotypic Empathy. Predictors are presented in Table XXVI. Ten variables that account for 61 percent of the variance were found to be significant predictors.

Perceived Concurrence, the degree to which one's judgment of others conforms to the group's judgment of those others, is a large, positive predictor of Stereotypic Empathy, the mean prediction of others' own self-concepts. Perceived Concurrence is difficult to discuss by itself, but becomes more meaningful when taken with the second predictor, Assumed Similarity, the degree to which one rates oneself as similar to others. In general, if I rate myself similarly to other group members and the entire group rates others similarly, then Perceived Concurrence is a necessary consequence. Also, in general, if I rate others as similar to me and the group does likewise, then we are likely all very similar. Within this homogeneity, it is easier to predict the mean of the others' self-concepts. It is only in the more heterogeneous groups that prediction becomes difficult or distorted.

Two attributes seem to be indicative of being readily

able to see others as similar and being able to predict others' self-concepts. The third and seventh predictors, rating oneself as Hostile and Submissive, are predictive of Stereotypic Empathy when others appear similar to one. This was especially true for Replication #2, the sixth predictor.

One interesting note is the fourth predictor, Congruence, the degree to which one rates others as they are perceived rating oneself. While subjects saw themselves in a negative light on two of the ten dimensions and rated themselves as similar to others, they didn't rate others as those others were perceived rating themselves. In general, we seem similar, but I don't rate you just the same as I think you rate me. Or, I'm hostile and submissive and we're really similar, but you can't see that; you will rate me more positively than I rate myself. Within this facade, the subject felt the other member could predict that subject's rating of the other's self-concept. It was as if these subjects felt they could successfully play a role or present a social self, but were unable to do so. Subjects felt that others would rate them positively when in reality, those others rated the subject just as that subject saw himself/herself.

This is supported by the positive predictor Personal Openness, the degree to which others can predict one's self-concept. Others were able to predict correctly a subject's even though that subject did not believe so (as expressed in negative Congruence).

The remaining three predictors are POI scale scores of Existentiality, Nature of Man, and Acceptance of Aggression.

To the extent that one does not "live in the here and now" one can predict others' self-concepts. This must, of course, be taken in the context of this sample. Presumably a shy, non-actualized person can recognize other similar persons and predict how they feel.

One measure of the conflict that these shy subjects experience is the positive prediction of the Nature of Man scale. Mankind is seen as essentially good and this orientation helps to predict others' self-concepts. At the same time, many shy subjects rated themselves as "hostile" and "submissive", quite different from mankind in general.

Another POI scale, Acceptance of Aggression, was a positive predictor. One might speculate that one must accept one's own feelings, whether positive or negative, before one can predict how another perceives himself/herself.

Integration of Factor Analysis and Regression

Table XXVII displays the 4 Maximum R^2 Tables and the Factors upon which predictor variables load. This integration permits the reader to determine more readily if predictors load primarily on one factor and are really quite similar or if predictors load on diverse factors and are quite different.

As seen in Table XXVII, predictor variables load most

TABLE XXVII
INTEGRATION OF REGRESSION AND FACTOR ANALYSIS

Criteria Predictors	Predictor Value	1	2	3	4	5	6	7
Accuracy		<u>.51</u>	<u>.63</u>	-.22	.03	-.17	-.06	.01
Other Friendly	.100	<u>.57</u>	<u>.07</u>	-. <u>42</u>	.21	-.15	-.11	-.22
Stereotypic Accuracy	.587	<u>.57</u>	<u>.60</u>	-.29	.05	-.05	.01	.05
Concurrence	.122	<u>.63</u>	<u>.42</u>	-.18	<u>.30</u>	-.22	-.02	.19
Conformity	-.060	<u>.75</u>	<u>.07</u>	-.17	-.22	.17	-.05	.11
Self-Disclosure	.004	.03	-.11	-.17	.29	-.09	-. <u>65</u>	-.17
POI Self Actualizing Value	-.023	<u>.35</u>	-. <u>58</u>	.03	.16	<u>.30</u>	-.15	-.09
Stereotypic Accuracy		<u>.57</u>	<u>.60</u>	-.29	.05	-.05	.01	.05
Self Dominance	.075	<u>.46</u>	-.05	-. <u>55</u>	.07	-.10	.12	-.03
Congruence	.393	<u>.68</u>	.13	-.15	-. <u>33</u>	.17	.04	.01
Concurrence	.681	<u>.63</u>	<u>.42</u>	-.18	<u>.30</u>	-.22	-.02	.19
POI Self Regard	-.058	<u>.52</u>	-. <u>60</u>	.08	-.08	-.02	-.02	.27

TABLE XXVII (Continued)

Criteria Predictors	Predictor Value	1	2	3	4	5	6	7
Empathy		.26	.00	.82	-.02	.00	-.06	.18
Self Strong	-.086	.39	.01	-.34	.09	-.14	.06	-.10
Other Strong	-.166	.23	-.12	-.09	-.65	-.10	-.04	-.29
Other Variance	-.154	-.18	.20	-.06	.71	.04	.31	-.33
Stereotypic Empathy	.375	.29	.14	.65	.10	-.01	.12	.28
Interpersonal Openness	.362	.27	.35	.41	.04	.03	.05	-.23
Group Attractiveness	.065	.32	-.06	.07	-.36	-.13	-.08	-.43
POI Spontaneity	.020	.29	-.67	.03	.12	-.10	-.25	-.32
Stereotypic Empathy		.29	.14	.65	.10	-.01	.12	.28
Replication #2	.203	.06	.19	.25	.16	.12	-.42	.29
Self Friendly	-.305	.57	.07	-.42	.21	-.15	-.11	-.22
Self Dominant	-.160	.46	-.05	-.55	.07	-.10	.12	-.03
Congruence	-.239	.68	.13	-.15	-.33	.17	.04	.01
Personal Openness	.234	.26	.33	.33	.08	-.60	.10	.06
Assumed Similarity	.333	.75	.05	.18	-.07	.08	.02	-.21
Perceived Concurrence	.719	.68	.31	-.19	-.12	.11	.09	.17
POI Time Competence	-.024	.21	-.49	.17	-.02	.04	.20	.23
POI Nature of Man	.063	.53	.06	.07	.18	-.05	-.08	.11
POI Acceptance/Aggression	.035	.40	-.51	-.17	.22	-.04	-.04	.03

heavily on Factors 1,2, and 3. Given the "self" orientation of Factor 1 and the "other" orientation discussed above, the reader will not be surprised to note that predictors of Accuracy and Stereotypic Accuracy tend to load highly positively on Factor 1 while predictors of Empathy and Stereotypic Empathy tend to be inversely related to loading on Factor 1. Similarly, predictors of Empathy and Stereotypic Empathy tend to load heavily on Factor 3 while predictors of Accuracy and Stereotypic Accuracy are notable by their absence of high loadings.

Factor 2, Shyness/Stability contains large loadings of variables that are predictive of Accuracy and Stereotypic Accuracy while it also contains loadings that are inverse predictors of Empathy and Stereotypic Empathy. This corresponds to the commonly held notion that shy individuals are overly concerned about themselves and are egocentric.

Given the two-track analysis of this study, it would seem appropriate to conclude that Accuracy and Empathy are independent concepts, at least within the realm of this shy sample. These two concepts are essentially uncorrelated and they tend to cluster with other variables to form independent factors. One can also conclude from the analyses of variance of Accuracy and Empathy that these perceptions can be improved with specific techniques.

CHAPTER IV

SUMMARY AND DISCUSSION

Summary

Within the field of person perception, recent research has generated a great deal of theoretical interest and controversy. Defining and measuring person perception has been difficult because of the complexity of the determinants of accurate perception. Additional problems have existed in the literature due to a lack of an artifact-free scale or formula for measuring change in person perception. Although person perception literature lists a variety of types of perception between and among individuals, two types merit primary attention. Accuracy, the degree to which one can predict how another rates oneself, and Empathy, the degree to which one can predict how another rates himself or herself, are two basic perceptions that are of considerable theoretical interest. This study sought to determine if Accuracy and Empathy could be improved and, if so, what variables were predictive of and correlated with these two basic units of perception.

This study additionally sought to reduce shyness as a function of improving person perception. Based on the premise that shyness is a function of misperceived inter-

personal relationships, this population was chosen to avoid the potential difficulties involved in trying to improve perception in individuals already at or near a ceiling level of perception. Consequently, the choice of a shy sample was made to attempt to facilitate the study of perception while simultaneously providing symptom relief in a distressed population.

Subjects were recruited in two ways. One replication was filled with volunteers for a "shy clinic" and three replications were filled by introductory psychology students who volunteered to serve as research subjects for extra credit and met the criteria of shyness as expressed on the Social Avoidance and Distress Scale.

Among the three experimental conditions, one was selected as a technique for modifying Accuracy, another was selected as a technique for modifying Empathy, and the third was selected as a benign placebo/desensitization procedure. Using an operant conditioning technique in four-person groups across four replications, subjects were reinforced for verbalizations that corresponded to the treatment conditions. Subjects participated in three sessions of group interaction and in one additional testing session over a four-week period.

A variety of dependent measures were analyzed using an analysis of variance, a factor analysis, and a regression analysis. Results of these analyses partially supported the predictions that were made prior to the experimental manipulation.

It was predicted that the treatment condition that corresponded to Accuracy would result in higher Accuracy scores than the other treatment conditions. Data collected in this study partially supported this prediction.

It was predicted that the treatment condition that corresponded to Empathy would result in higher Empathy scores than the other treatment conditions. This prediction was not supported, however.

It was predicted that subjects' Accuracy and Empathy scores would increase across sessions in the group setting. This prediction was supported by the data, but must be interpreted cautiously. Even though Empathy scores significantly increased for the Empathy condition, these scores were not as high as the Empathy scores for the Expression condition, which only slightly increased across sessions. The Empathy condition yielded the higher percentage increase in Empathy scores, but had a lower absolute value. Accuracy scores increased significantly for the Expression condition, but also increased for the Empathy condition. Again the Empathy condition yielded the higher percentage increase, but the absolute value of the Accuracy scores was higher for the Expression condition (as predicted).

It was predicted that subjects' SAD scores would show a decrease in shyness as a result of the treatment conditions. This prediction was not supported. Treatment means showed that SAD scores were lower for the Empathy condition as expected, but not significantly lower for any of the

three treatment conditions at post-test.

While the data show that changing subjects' person perception did not reduce shyness precisely as expected, the factor analysis of the data does suggest some explanation of those results. These shy individuals respond in ways that imply that there was a wide variety in the types of shyness and patterns of behavior associated within the broad term of shyness. One might conclude from this analysis that person misperception is only one aspect of shyness and that an attempt to change shyness as a single dimension of attitude and behavior by changing person perception is not an effective approach, although it may yet prove to be a valuable tool in a comprehensive treatment program.

A better method of testing this hypothesis would have been to have recruited a more homogeneous sample. Since the SAD includes both Avoidance and Distress subscales, this sample may have included individuals that preferred to avoid intense social interaction, but did not feel shy or distressed by their liking to be alone. Examination of the items of the SAD in Appendix D shows that some of the items could have been answered similarly both by shy individuals who may have wanted to be involved in social situations and by self-sufficient, autonomous, self-actualized individuals who may have ordinarily preferred to not become involved in social situations. Perhaps if subjects had been selected on the basis of the Social Distress Subscale and not on the Social Avoidance and Distress Scale, the sample would have

been more homogeneous and shown the expected change in shyness. As Zimbardo et.al., (1975) emphasized, it is the attitude rather than the behavior that defines shyness. This factorial complexity of the concept of shyness might serve as a reminder of the difficulty involved in attempting to measure personality characteristics by self-report paper-and-pencil scales.

Factor analysis of the GPT variance and perception scores suggests that person perception is composed of three distinct factors. As discussed previously, these factors imply "self", "other", and "variability" orientations in subjects' perceptions. One might question at this point whether these three somewhat independent factors are characteristic of this sample or if this pattern exists for people in general. If the subjects in this sample had been equally shy qualitatively and quantitatively, one might expect to see a single perception factor with inverse loadings for "self" and "other" orientations that would have supported the egocentric, overly self-concerned stereotype of shy individuals. Conversely, if the subjects in the sample had been really well adjusted, one might expect to see a single perception factor with equally positive loadings for "self" and "other" orientations. These results would have supported the balanced inner-outer directedness that is one criterion of mental health. Consequently, it is difficult to predict at this point what pattern of perception orientation exists for a random sample of individuals and whether

these data are peculiar to this sample.

Accuracy

An important component of the "self orientation discussed above is Accuracy, one's ability of predict how another will rate oneself. Data from this study suggest that this ability can be improved by having subjects express their here-and-now feelings. Presumably, by disclosing important, intimate information such as one's feelings about another or the group experience, one can get enough verbal and non-verbal feedback to allow an accurate prediction of the other's view of oneself. This study was able to modify Accuracy directly and then measure the change.

This study also sought predictive variables for Accuracy. As such, data suggest specific target elements that could be focused upon to improve Accuracy. This process could be used to prescribe goals of psychotherapy if it were determined that human problems such as shyness, depression, or anxiety in general were attributable to one's inability to predict others' views of oneself, others' views of themselves, or interpersonal relationships in general.

Empathy

An important component of the "other" component discussed above is Empathy, one's ability to predict how another rates himself or herself. Data from this study suggest that this ability can be improved by having subjects

actively attempt to experience another's here-and-now emotional experiences. Presumably, through vicarious experience one can better predict how another will rate himself or herself. This study was able to modify Empathy directly and indirectly and then measure the change.

This study also sought predictive variables for Empathy and suggests areas upon which one might focus to improve Empathy. This process, too, may have direct application to the field of psychotherapy. Where it was determined that an individual did not have an ability to predict others appropriately, specific remedial tasks may be suggested to correct the deficiency.

Accuracy and Empathy

To the extent that accurate person perception is an important aspect of mental health, this study has made worthwhile advances in this area, despite the fact that these design factors did not result in a hoped-for reduction of shyness. This study has demonstrated that at least these two concepts of person perception as suggested by Fromme (Reference Note 1) are viable, modifiable, and measureable. Data suggest that although subjects' Accuracy scores were higher than their Empathy scores (i.e. subjects were better able to predict others' view of them than others' views of themselves), these measures were independent.

Despite arguments to the contrary, having subjects express here-and-now feelings served to increase both Accuracy

and Empathy scores, even though fewer feelings statements than any other kind were made. Whether this superiority of expression of emotions would yield similar results over more sessions is questionable. The scores of subjects in the Empathy condition increased across sessions and may have continued to increase. If such were the case, then teaching vicarious experiencing of another's emotions might still be a valuable, if slower, method of improving person perception and mental health. If this trend did not continue, then this would imply that the best way to help one learn to be able to make predictions would be to encourage him or her to make statements about their feelings and then make inferences about those reactions to these disclosures.

It is notable that violating normally accepted social rules by behaving in an expressive or empathic way during the initial stages of a relationship served to disrupt or delay subjects' accuracy of perception. It was only after several hours that the intimacy of expression and empathy facilitated perception and exceeded the non-threatening Information condition, which in some cases was detrimental after several hours.

Discussion

Comparing reinforcements of verbalizations, it is clear that, as one might expect, the less intimate Historical Information statements were used and reinforced far more frequently than the more intimate Expression and Empathy

statements. Several parallels were noted between this study and Marcy's (Reference Note 2) study. There was a similar "bootstrap" effect that occurred. When one group member responded well, the feedback system served to encourage other members to respond as well. Group members were sufficiently uncomfortable with the red light system to encourage most to give adequate responses and to co-operate to help the lagging members to bring up the point totals of a member that had not kept up with the high-point members.

As in the Marcy study, there was an interesting relationship between expression and empathy statements as each tended to elicit the other, especially during intimate moments when a true "group" effect was apparent. This phenomenon merits further study, because of a possible synergistic effect of the two response categories.

An interesting note is the wide variance in subjects' responses in the instructions. For example, several groups emitted few responses in particular sessions, even after they had demonstrated an ability to respond correctly and may have responded appropriately in a subsequent session. This effect is most apparent in the Expression condition. For four people to emit a total of 10 or less reinforceable statements while tolerating the pressure of the lights flashing at three-minute intervals is indicative of active resistance. Future studies could profit by including a brief oral or written questionnaire to attempt to define and explain each hour's interaction systematically.

Another interesting phenomenon is that the number of reinforced statements for each condition was not necessarily directly related to the target perceptions. For example, subjects in the Empathy condition emitted more reinforceable statements in Session 1 than Session 3 (128 vs 52) across the four replications although GPT Empathy scores for these subjects increased across sessions. One might conclude that members' "set" or orientation toward the group interaction was more important than the actual number of reinforced statements emitted in establishing empathic perception. For subjects in the Empathy condition, GPT Accuracy scores also increased across sessions as reinforced statements decreased. Thus, the frame of reference created by the setting enhanced or facilitated more than one type of perception. In the Empathy condition, subjects were able to be more Accurate and Empathic on the basis of fewer statements in the third session than they were in the first session. The Historical Information condition showed a similar decrease in subjects' reinforced statements, but this coincided with a decrease in Accuracy and Empathy as well. This decrease of reinforced statements across sessions is in contrast to previous, somewhat similar studies that report a general increase in reinforceable statements across sessions. Subjects in the Expression condition emitted more reinforceable statements (36 vs 45) is only slight. Again, the frame of reference created by instructing subjects to respond in a specific way seems to have had more effect than the number of statements made and reinforced.

It is somewhat surprising to note that the subjects in the Empathy condition were able or willing to emit more reinforceable statements than the subjects in the Expression condition, especially when Expressive statements were often of the nature of "Gee, I feel strange talking to strangers about my feelings," or "I feel bad because I'm so far behind, but I just can't talk about my feelings." This contradicts the notion that, in general, empathy is more difficult to elicit than expression of feelings and that shy individuals are more focused on themselves and have special difficulty being empathic or concerned about others' own feelings. Perhaps it was easier for these shy individuals to follow the instructions and focus their attention on another person than to focus on themselves and express their on-going emotions. Indeed, one very perceptive female in a nonshy-clinic replication responded to another group member's expressed difficulty and frustration at trying to express his feelings by stating "Of course it's hard for you, that's why we're here!". Perhaps it was "safer" to play along with the game and be empathic in the Empathy condition than to permit oneself to become vulnerable by opening up and revealing intimate thoughts and feelings in the Expression condition. In observing these individuals, it seemed as if they were unable to express gradations of honest feelings. Additionally, subjects in the Expression condition tended to express either very superficial feelings or very intimate feelings and then seemed to need to deny those feelings by joking or intellec-

tualizing about their feelings and then quickly moving the focus away from feelings or group interactions to chit-chat or silence. In one particular group a male member seized the opportunity to practice some emotionally expressive skills he was currently learning in psychotherapy. The remaining group members first responded sympathetically, then quickly began to ignore him, and then finally began to attack and insult him in an obvious effort to stop him from expressing his true feelings. At one point the group interaction was nearly at the point where intervention seemed necessary, but became more appropriate before the experimenter actually interrupted the session. A post-session review of the interaction was conducted by the experimenter with that group to enable them to resolve any negative feelings they had encountered. Members elected to continue with the next session rather than drop out, even though they would have received full credit at that point.

Group Attractiveness, as measured by the four-item questionnaire, was lower for Expression subjects than for Empathy and Historical Information subjects. While this trend parallels the pattern for the number of reinforced statements across treatments, it is not consistent with other data (i.e. not all dependent measures were lower for these subjects). This data must be interpreted cautiously, however, since groups' scores were quite variable and attractiveness may have been as much a "group" effect as a treatment effect (i.e. the personalities of group members

may have had just as great an effect on group attractiveness as the treatment condition).

Considering that the Jourard Self-Disclosure Scale primarily measures a willingness to disclose historical or descriptive information about the self, one might expect the subjects in the Historical Information condition to have scored the highest on this measure. These subjects were reinforced for doing precisely what the Jourard asks the individual if he or she would do--share information about himself or herself. The reverse occurred, however, supporting the suggestion that intimate interaction fosters self-disclosure more so than an impersonal or casual interaction. Apparently, the focus on informational content did not foster a feeling of being understood or accepted, resulting in a decreased willingness to disclose one's self to the group. Conversely, since expression of feelings and empathic statements tended to elicit complimentary statements of corroboration or corrective feedback, the subjects in these two conditions apparently felt more trust, understanding, and acceptance and were more willing to share information about themselves as reflected by scores on the Jourard Self-Disclosure Scale.

Subjects' scores on the Elm's Empathy Scale did not show the expected extent of the experimental effect. While the experimental procedure reinforced empathic statements in the Empathy condition and may have resulted in true empathic behavior or attitude changes, the mental "putting

oneself in another's shoes" measured by the Elm's Empathy Scale was not indicative of an experimental effect. Apparently, the hypothetical/behavior measured by the Elm's seemed equally plausible or possible to subjects in all three conditions and, as such, the Elm's may not be an appropriate measure of empathic behavior as defined in this study.

Like the Group Attractiveness data, the Social Avoidance and Distress data show greater variability for the Empathy and Information conditions. In general, subjects in the Expression condition reported themselves as most shy and subjects in the Empathy condition reported the least shyness, while subjects in the Historical Information condition felt themselves to be somewhat less shy than the Expression subjects.

In regard to the Group Perception Test, while subjects in the Empathy condition showed an increase, the Expressive condition apparently fostered the best environment for prediction of another's view of oneself and of another's view of himself or herself. The most significant result, however, seems to be the decrement in perception perception and predictability that occurred in the Information condition. Indeed, the Information condition produced the poorest environment for predictions of how others saw themselves. This interaction across treatments of the ability to predict perception over time suggests that qualitatively different processes underlie perception and prediction of perception

at various points or times in a relationship. This study showed that information exchange initially enhanced subjects' predictive ability, but that expressive behavior and, to a lesser degree, empathic behavior permitted greater predictive ability in the long run.

The data suggest that Accuracy, here defined as the degree to which one can predict another's view of oneself, and Empathy, here defined as the degree to which one can predict another's view of himself or herself, are independent constructs. Analogs of these two perceptions include Stereotypic Accuracy, the degree to which one can predict how the "average other" views oneself, and Stereotypic Empathy, the degree to which one can predict how the "average other" views himself or herself. These analogs were also independent of each other while each was highly correlated to its basic perception. Despite this correlation, however, the basic perceptions and their analogs have somewhat different determinants. For example, there is not a complete overlap in predictors for Accuracy and Stereotypic Accuracy or for Empathy and Stereotypic Empathy.

Implications

This study is relevant to three areas: (1) shyness, (2) person perception, and (3) psychotherapy and mental health. Each topic merits separate attention.

Shyness. This study verified Zimbardo's (1975) statements regarding the complexity of shyness. There are clearly

different subtypes of attitudes and behaviors that comprise the concept of shyness. It would be well if this complexity were even more clearly or systematically specified in future research, since the "shyness clinics" that Zimbardo proposed have little chance of success and respectability if professionals do not first recognize the individual problems of shy people and tailor remediation to suit each individual. It appears unlikely that a unitary treatment mode would be effective, considering the extensive individual differences in shyness.

The complexity of shyness suggests the need for a measurement device capable of even finer discriminations than the SAD and its subscales to indicate areas of concern, once the concept of shyness is more clearly specified.

Person Perception. This study suggests that the Group Perception Test appropriately defines and measures several types of person perception that have been previously confounded by methodological problems in the past (Cronbach, 1955). As such, this measurement tool holds much promise for further definition and exploration of person perception in general. However, since this study utilized a group of shy individuals, no definitive statements can be made at this point regarding people in general in terms of person perception and changing person perception.

In general, one important conclusion regarding person perception that can be drawn from this study is that the GPT was able to differentiate and measure concepts that are

found in the current literature and merit further study. It would be well to conduct further studies with the GPT to determine if additional concepts of theoretical or practical value can be similarly defined and measured.

Psychotherapy and Mental Health. This study is relevant to psychotherapy and the field of mental health beyond the area of shyness. Various authors discuss the value of being empathic, of expressing emotions, of self-disclosure, or of being able to predict environmental situations, but unfortunately, there has been little clear empirical support for these general theories. This study demonstrates dramatically that different interaction modes or treatments can have differential effects on one measure of mental health, person perception. An important finding is the pattern of perception scores across treatments and across sessions. What was most effective in facilitating perception during the first session decreased in value across sessions, while the treatments that were less effective in the first session became more valuable in the third session, and may have become even more differentially effective in subsequent sessions. These data would argue against a unitary approach to treatments or types of therapy in attempting to increase perception in a setting such as group therapy or task groups. For example, a supporter of Jourard's approach might find early dramatic results and make inappropriate conclusions about the efficacy of self-disclosure, particularly of disclosure of information. Early success in information groups

might later yield disappointing if not detrimental results in longer-termed groups or research. Self-disclosure apparently must include disclosure of ongoing feelings about the interaction to be effective. Then, too, a researcher emphasizing empathy might find subjects or clients might experience a high dropout or casualty rate when empathy is initially difficult and frustrating to try to elicit or express sincerely. One might mistakenly conclude that empathy is too difficult or ineffective as an interaction mode if subjects or clients are not adequately prepared for intimacy and empathy. It is well to point out some of the problems involved in the casual use of the term, "empathy". Many individuals confuse feelings of sympathy, feelings of warmth, or feelings of intimacy with the meaning of empathy. It is quite likely that the failure to specify clearly what the researcher or therapist means by empathy would result in confusion in the results of the attempt. Warm acceptance of another or a feeling of intimacy are quite different than the attitude and behavior of actually seeing the world through another's eyes or "walking a mile in his shoes". Being able to predict another's perceptions seems to require an actual shift in perspective. This was evident in observation of the subjects in this study as attempts were made to comply with instructions designed to facilitate empathy. While the instructions clearly state the method and the rationale for the shift in perspective, many subjects tried valantly to earn reinforcement without making

the necessary shift away from their egocentric viewpoint. Similar to the above points, concerning information disclosure and empathy, one might become discouraged when directing others to be expressive in early sessions and then finding much resistance. While common sense may suggest that interpersonal relationships begin with non-threatening historical or descriptive information exchange and then progress toward more intimate interactions, this study suggests that therapists systematically extend this notion to individual and group therapy; that there is a developmental process or sequence in facilitating Self and Other awareness and that to ignore this process may be detrimental to change and growth in terms of person perception and its relationship to mental health.

Suggestions for Future Research

This study suggests that Fromme's Group Perception Test merits further attention and research. While this study can provide a measure of individuals' person perception, it did not include much needed data about how people in general perceive themselves and others. Appropriate questions in future research might include the comparison of perception in two-person dyads or, say, eight-person groups as opposed to four-person groups; another fruitful approach might be to attempt to measure an individual's perception objectively by using a hypothetical group as a standard stimulus for individual subjects in an attempt to measure one person's

perception without the "noise" of true interactions. Other questions might include an attempt to measure the amount of time of acquaintance or interaction required before increases in perception ability reach a ceiling or plateau and the return is not worth further time or effort. One might expect interactions, for example, between the size of the group and the time required to develop accurate perceptions. Further questions might involve comparisons of all-male, all-female, and mixed-sex groups; and comparisons of ethnic or socioeconomic groups, using intra-group, inter-group, and mixed-group designs.

Further research might profitably seek to specify the relationship of person perception and mental health. If theoretical notions of perception deficits in various types of psychopathology can be clarified and defined, future researchers may be able to "prescribe" specific types of psychotherapy techniques for specific diagnostic classifications or disorders. As this study demonstrated in the complexity of shyness and the argument against a blanket or unitary treatment for shyness, so may it be shown that other interpersonal problems require an accurate assessment of specific trouble areas and individually-tailored treatment. Further research with clinical populations may begin to answer these questions.

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APPENDIXES

APPENDIX A

GROUP PERCEPTIONS TEST

Group Perceptions Test

On each of a number of areas, you are to make ratings describing: 1. how you see yourself; 2. how you see each of the other group members; 3. your prediction or guess about how each group member sees you; 4. your prediction or guess about how each group member sees him/herself. These last two tasks, predicting the others' ratings, can be rather difficult. They require you to put yourself in the other group members' shoes and imagine how you appear to them and how they see themselves. Please take your time and try your very best. This information can lead to a better understanding of how people come to know one another.

Your task is to rate the degree to which one of two adjectives, opposite in meaning, is descriptive of the person or viewpoint being rated. E.g., a sample item might be:

	Very		Moderately		Neutral		Moderately		Very	
Kind:	A	:	B	:	C	:	D	:	E	:Cruel

You might see yourself as very kind and so should mark the "A" column on the IBM card. You might see the person sitting in Chair 2 as moderately cruel and mark the "D" column for the appropriate item. If you predict that the person in Chair 3 sees you neutral on this scale, mark the appropriate "C". All marks must be made with number 2 pencils and should be a single, dark line through the center of the "circle".

You have been provided with a card, listing each group members' name and the number of the chair in which he/she was sitting. Please refer to this card so that you will know to whom each item refers. The items below describe the person for whom ratings or predictions are made only by the Chair Number. Items which refer to your own chair number have been marked out and should be skipped.

Please keep your answers confidential and discuss the test only with the experimenter. Please do not mark on this booklet. Do you have any questions?

Outline of Measures of Person
Perceptions in Groups

1. Congruence (CG): degree to which one rates others as they are perceived rating oneself (perceived behavior exchange).
2. Accuracy (A): degree to which a person can predict how others perceive him (self accuracy).
3. Empathy (E): degree to which a person can predict how others see themselves (other accuracy).
4. Interpersonal Openness (IO): degree to which others can predict your rating of them (reflects degree to which one is understood).
5. Personal Openness (PO): degree to which others can predict one's self concept (reflects degree to which one is understood).
6. Felt Openness (FO): degree to which one predicts that others agree with one's self perception (reflects degree to which one feels understood).
7. Perceived Similarity (PS): degree to which one rates oneself similar to others.
8. Naivete (N): degree to which one rates others as they are perceived rating themselves (reflects acceptance of others self presentations).
9. Conformity (CF): degree to which ones' judgement of others conforms to the group's judgements (encompasses empathy; low CF requires other accuracy, plus conformity).
10. Other Variance (OV): the variance in a person's other ratings.
11. Self as Other Variance (SOV): the variance in a person's self as other ratings.
12. Other's Self Variance (OSV): the variance in a person's other's self ratings.
13. Stereotype Accuracy (SA): degree to which a person can predict how "average other" perceives him/her.
14. Stereotype Empathy (SE): how accurately subjects predict how "average other" sees him/herself.

Very Moderately Neutral Moderately Very
Strong: A : B : C : D : E : Weak

1. How strong/weak do you see yourself?
2. How strong/weak do you see the person in Chair 1?
3. How strong/weak do you see the person in Chair 2?
4. How strong/weak do you see the person in Chair 3?
5. How strong/weak do you see the person in Chair 4?
6. How strong/weak does the person in Chair 1 see you?
7. How strong/weak does the person in Chair 2 see you?
8. How strong/weak does the person in Chair 3 see you?
9. How strong/weak does the person in Chair 4 see you?
10. How strong/weak does the person in Chair 1 see him/herself?
11. How strong/weak does the person in Chair 2 see him/herself?
12. How strong/weak does the person in Chair 3 see him/herself?
13. How strong/weak does the person in Chair 4 see him/herself?

Very Moderately Neutral Moderately Very
Friendly: A : B : C : D : E : Hostile

14. How friendly/hostile do you see yourself?
15. How friendly/hostile do you see the person in Chair 1?
16. How friendly/hostile do you see the person in Chair 2?
17. How friendly/hostile do you see the person in Chair 3?
18. How friendly/hostile do you see the person in Chair 4?
19. How friendly/hostile does the person in Chair 1 see you?
20. How friendly/hostile does the person in Chair 2 see you?
21. How friendly/hostile does the person in Chair 3 see you?
22. How friendly/hostile does the person in Chair 4 see you?
23. How friendly/hostile does the person in Chair 1 see him/herself?
24. How friendly/hostile does the person in Chair 2 see him/herself?
25. How friendly/hostile does the person in Chair 3 see him/herself?
26. How friendly/hostile does the person in Chair 4 see him/herself?

Very Moderately Neutral Moderately Very
Passive: A B C D E : Active

27. How passive/active do you see yourself?
28. How passive/active do you see the person in Chair 1?
29. How passive/active do you see the person in Chair 2?
30. How passive/active do you see the person in Chair 3?
31. How passive/active do you see the person in Chair 4?
32. How passive/active does the person in Chair 1 see you?
33. How passive/active does the person in Chair 2 see you?
34. How passive/active does the person in Chair 3 see you?
35. How passive/active does the person in Chair 4 see you?
36. How passive/active does the person in Chair 1 see him/herself?
37. How passive/active does the person in Chair 2 see him/herself?

38. How passive/active does the person in Chair 3 see him/herself?
 39. How passive/active does the person in Chair 4 see him/herself?

Very Moderately Neutral Moderately Very
Good: A : B : C : D : E :Bad

40. How good/bad do you see yourself?
 41. How good/bad do you see the person in Chair 1?
 42. How good/bad do you see the person in Chair 2?
 43. How good/bad do you see the person in Chair 3?
 44. How good/bad do you see the person in Chair 4?
 45. How good/bad does the person in Chair 1 see you?
 46. How good/bad does the person in Chair 2 see you?
 47. How good/bad does the person in Chair 3 see you?
 48. How good/bad does the person in Chair 4 see you?
 49. How good/bad does the person in Chair 1 see him/herself?
 50. How good/bad does the person in Chair 2 see him/herself?
 51. How good/bad does the person in Chair 3 see him/herself?
 52. How good/bad does the person in Chair 4 see him/herself?

Very Moderately Neutral Moderately Very
Dominant: A : B : C : D : E :Submissive

53. How dominant/submissive do you see yourself?
 54. How dominant/submissive do you see the person in Chair 1?
 55. How dominant/submissive do you see the person in Chair 2?
 56. How dominant/submissive do you see the person in Chair 3?
 57. How dominant/submissive do you see the person in Chair 4?
 58. How dominant/submissive does the person in Chair 1 see you?
 59. How dominant/submissive does the person in Chair 2 see you?
 60. How dominant/submissive does the person in Chair 3 see you?
 61. How dominant/submissive does the person in Chair 4 see you?
 62. How dominant/submissive does the person in Chair 1 see him/herself?
 63. How dominant/submissive does the person in Chair 2 see him/herself?
 64. How dominant/submissive does the person in Chair 3 see him/herself?
 65. How dominant/submissive does the person in Chair 4 see him/herself?

Very Moderately Neutral Moderately Very
Cold: A : B : C : D : E :Warm

66. How cold/warm do you see yourself?
 67. How cold/warm do you see the person in Chair 1?
 68. How cold/warm do you see the person in Chair 2?

69. How cold/warm do you see the person in Chair 3?
 70. How cold/warm do you see the person in Chair 4?
 71. How cold/warm does the person in Chair 1 see you?
 72. How cold/warm does the person in Chair 2 see you?
 73. How cold/warm does the person in Chair 3 see you?
 74. How cold/warm does the person in Chair 4 see you?
 75. How cold/warm does the person in Chair 1 see him/herself?
 76. How cold/warm does the person in Chair 2 see him/herself?
 77. How cold/warm does the person in Chair 3 see him/herself?
 78. How cold/warm does the person in Chair 4 see him/herself?

Very Moderately Neutral Moderately Very
Impulsive:A : B : C : D : E : Cautious

79. How impulsive/cautious do you see yourself?
 80. How impulsive/cautious do you see the person in Chair 1?
 81. How impulsive/cautious do you see the person in Chair 2?
 82. How impulsive/cautious do you see the person in Chair 3?
 83. How impulsive/cautious do you see the person in Chair 4?
 84. How impulsive/cautious does the person in Chair 1 see you?
 85. How impulsive/cautious does the person in Chair 2 see you?
 86. How impulsive/cautious does the person in Chair 3 see you?
 87. How impulsive/cautious does the person in Chair 4 see you?
 88. How impulsive/cautious does the person in Chair 1 see him/herself?
 89. How impulsive/cautious does the person in Chair 2 see him/herself?
 90. How impulsive/cautious does the person in Chair 3 see him/herself?
 91. How impulsive/cautious does the person in Chair 4 see him/herself?

Very Moderately Neutral Moderately Very
Dull: A : B : C : D : E: Intelligent

92. How dull/intelligent do you see yourself?
 93. How dull/intelligent do you see the person in Chair 1?
 94. How dull/intelligent do you see the person in Chair 2?
 95. How dull/intelligent do you see the person in Chair 3?
 96. How dull/intelligent do you see the person in Chair 4?
 97. How dull/intelligent does the person in Chair 1 see you?
 98. How dull/intelligent does the person in Chair 2 see you?
 99. How dull/intelligent does the person in Chair 3 see you?
 100. How dull/intelligent does the person in Chair 4 see you?
 101. How dull/intelligent does the person in Chair 1 see him/herself?
 102. How dull/intelligent does the person in Chair 2 see him/herself?

103. How dull/intelligent does the person in Chair 3 see him/herself?
104. How dull/intelligent does the person in Chair 4 see him/herself?

Very Moderately Neutral Moderately Very
Homely: A : B : C : D : E : Attractive

105. How homely/attractive do you see yourself?
106. How homely/attractive do you see the person in Chair 1?
107. How homely/attractive do you see the person in Chair 2?
108. How homely/attractive do you see the person in Chair 3?
109. How homely/attractive do you see the person in Chair 4?
110. How homely/attractive does the person in Chair 1 see you?
111. How homely/attractive does the person in Chair 2 see you?
112. How homely/attractive does the person in Chair 3 see you?
113. How homely/attractive does the person in Chair 4 see you?
114. How homely/attractive does the person in Chair 1 see him/herself?
115. How homely/attractive does the person in Chair 2 see him/herself?
116. How homely/attractive does the person in Chair 3 see him/herself?
117. How homely/attractive does the person in Chair 4 see him/herself?

Very Moderately Neutral Moderately Very
Open: A : B : C : D : E : Closed

118. How open/closed do you see yourself?
119. How open/closed do you see the person in Chair 1?
120. How open/closed do you see the person in Chair 2?
121. How open/closed do you see the person in Chair 3?
122. How open/closed do you see the person in Chair 4?
123. How open/closed does the person in Chair 1 see you?
124. How open/closed does the person in Chair 2 see you?
125. How open/closed does the person in Chair 3 see you?
126. How open/closed does the person in Chair 4 see you?
127. How open/closed does the person in Chair 1 see him/herself?
128. How open/closed does the person in Chair 2 see him/herself?
129. How open/closed does the person in Chair 3 see him/herself?
130. How open/closed does the person in Chair 4 see him/herself?

APPENDIX B

ELM'S EMPATHIC FANTASY SCALE

Elm's Empathic Fantasy Scale

1. When I read an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.

(circle one number)

- | extremely
true | moderately
true | neutral | moderately
false | extremely
false | | |
|-------------------|--|---------|---------------------|--------------------|---|---|
| 1 | 2 | 3 | 4 | 5 | | |
| 2. | When I see strangers, I almost never try to imagine what they are thinking. | 1 | 2 | 3 | 4 | 5 |
| 3. | I like to imagine myself as being various different types of persons. | 1 | 2 | 3 | 4 | 5 |
| 4. | I usually feel that I know exactly what mood my friends are in, even when nothing is said in words. | 1 | 2 | 3 | 4 | 5 |
| 5. | I find it hard to imagine how a poor southern negro feels about white people. | 1 | 2 | 3 | 4 | 5 |
| 6. | It's hard for me to act as if I'm a different kind of person than I really am. | 1 | 2 | 3 | 4 | 5 |
| 7. | After acting in a play myself, or seeing a play or movie, I have felt partly as though I were one of the characters. | 1 | 2 | 3 | 4 | 5 |
| 8. | When I disagree with a person, I do not try to feel in my own mind the reason why the person holds an opinion different from mine. | 1 | 2 | 3 | 4 | 5 |
| 9. | I often try to guess what people are thinking, before they tell me. | 1 | 2 | 3 | 4 | 5 |
| 10. | A person can't really know what is going on inside someone else's head. | 1 | 2 | 3 | 4 | 5 |

APPENDIX C

GROUP ATTRACTIVENESS QUESTIONNAIRE

Group Attractiveness Questionnaire

On the Four Five Point Scales Below
Rate the Way You See the Group

		extremely	moderately	neutral	moderately	extremely	
71.	attractive	A	B	C	D	E	unattractive
72.	like to continue contact with group	A	B	C	D	E	not like to continue contact with group
73.	meaningful	A	B	C	D	E	not meaningful
74.	enjoyable	A	B	C	D	E	not enjoyable

APPENDIX D

SOCIAL AVOIDANCE AND DISTRESS

Social Avoidance and Distress

Questions 1-28

This inventory consists of numbered statements. Read each statement and decide whether it is true as applied to you or false as applied to you.

You are to respond by marking the accompanying computer card. If a statement is TRUE or MOSTLY TRUE as applied to you, blacken response "A". If a statement is FALSE or NOT USUALLY TRUE as applied to you, blacken response "B". Please use a pencil to mark the computer card.

Remember to give YOUR opinion of yourself. Please do not leave any statements unanswered.

- | | A | B |
|---|------|-------|
| 1. I feel relaxed even in unfamiliar social situations. | TRUE | FALSE |
| 2. I try to avoid situations which force me to be very sociable | TRUE | FALSE |
| 3. It is easy for me to relax when I am with strangers. | TRUE | FALSE |
| 4. I have no particular desire to avoid people. | TRUE | FALSE |
| 5. I often find social occasions upsetting . | TRUE | FALSE |
| 6. I usually feel calm and comfortable at social occasions. | TRUE | FALSE |
| 7. I am usually at ease when talking to someone of the opposite sex | TRUE | FALSE |
| 8. I try to avoid talking to people unless I know them well. | TRUE | FALSE |
| 9. If the chance comes to meet new people, I know them well. | TRUE | FALSE |
| 10. I often feel nervous with people unless I know them well. | TRUE | FALSE |
| 11. I am usually nervous or tense in casual get-togethers in which both sexes are present | TRUE | FALSE |
| 12. I usually feel relaxed when I am with a group of people | TRUE | FALSE |
| 13. I often want to get away from people. . . | TRUE | FALSE |

14. I usually feel uncomfortable when I am in a group of people I don't know. TRUE FALSE
15. I usually feel relaxed when I meet someone for the first time. TRUE FALSE
16. Being introduced to people makes me tense and nervous TRUE FALSE
17. Even though a room is full of strangers, I may enter it anyway TRUE FALSE
18. I would avoid walking up and joining a large group of people TRUE FALSE
19. When my superiors want to talk to me, I talk willingly. TRUE FALSE
20. I often feel on edge when I am with a group of people TRUE FALSE
21. I tend to withdraw from people. TRUE FALSE
22. I don't mind talking to people at parties or social gatherings. TRUE FALSE
23. I am seldom at ease in a large group of people. TRUE FALSE
24. I often think up excuses in order to avoid social engagements. TRUE FALSE
25. I sometimes take the responsibility for introduce people to each other. TRUE FALSE
26. I try to avoid social occasions TRUE FALSE
27. I usually go to whatever social engagements I have. TRUE FALSE
28. I find it easy to relax with other people . TRUE FALSE

APPENDIX E

SELF-DISCLOSURE QUESTIONNAIRE

Self-Disclosure Questionnaire

Rate each statement. A rating of 0 means "I would tell this group nothing about this aspect of me or I would lie to them." One means "I would talk in general terms about this aspect." Two means "I would talk in full and complete detail about this aspect."

1. What I think and feel about religion; my personal religious views.
2. My views on the present government--the president, government, policies, etc.
3. My personal views on sexual morality--how I feel that I and others ought to behave in sexual matters.
4. The things that I regard as desirable for a man to be--what I look for in a man.
5. My favorite reading matter.
6. The style of house, and the kinds of furnishings that I like best.
7. The kind of party or social gathering that I like best, and the kind that would bore me, or that I wouldn't enjoy.
8. My favorite ways of spending spare time, e.g., hunting, reading, cards, sports events, parties, dancing, etc.
9. What I would appreciate most for a present.
10. What I find to be the worst pressures and strains in my work.
11. What I feel are my shortcomings and handicaps that prevent me from getting further ahead in my work.
12. What I feel are my special strong points and qualifications for my work.
13. My ambitions and goals in my work.
14. How I feel about the choice of career that I have made--whether or not I'm satisfied with it.
15. Whether or not I owe money; if so, how much.
16. The aspects of my personality that I dislike, worry about, that I regard as a handicap to me.

17. What feelings, if any, that I have trouble expressing or controlling.
18. The facts of my present sex life--including knowledge of how I get sexual gratification; any problems that I might have; with whom I have relations, if anybody.
19. Whether or not I feel that I am attractive to the opposite sex; my problems, if any, about getting favorable attention from the opposite sex.
20. Things in the past or present that I feel ashamed and guilty about.
21. The kinds of things that make me just furious.
22. What it takes to get me feeling real depressed or blue.
23. What it takes to get me real worried, anxious, and afraid.
24. What it takes to hurt my feelings deeply.
25. The kinds of things that make me especially proud of myself, elated, full of self-esteem or self-respect.
26. My feelings about the appearance of my face--things I don't like, and things that I might like about my face and head--eyes, nose, hair, teeth, etc.
27. How I wish I looked: my ideals for overall appearance.
28. Whether or not I now have any health problems--e.g., trouble with sleep, digestion, female complaints, heart condition, allergies, headaches, piles, etc.
29. Whether or not I have any long-range worries or concerns about my health, e.g., cancer, ulcers, heart trouble.
30. My feelings about my adequacy in sexual behavior--whether or not I feel able to perform adequately in sex relationships.

APPENDIX F
MISCELLANEOUS DATA

TABLE VII

INTERCORRELATIONS OF PERSON PERCEPTION VARIABLES AND POI INVENTORY SCALES

PPV*	OSV	OV	SOV	CG	A	SA	E	SE	IO	PO	FO	PR	AS	CM	OA	CN	PC	CF	
OSV	1.00	.89	.40	-.30	.02	.02	-.23	-.00	.12	.04	-.07	.02	-.04	-.10	-.19	.08	-.13	-.31	
OV		1.00	.45	-.27	.07	.07	-.16	.00	.25	.02	-.14	-.03	.00	-.11	-.25	.11	-.18	-.30	
SOV			1.00	-.34	-.13	-.13	-.14	-.06	.07	-.11	-.11	-.11	-.27	-.11	-.37	-.21	-.19	-.38	
CG				1.00	.44	.52	.05	.04	.15	.07	.00	.07	.64	.09	.58	.33	.57	.75	
A					1.00	.93	-.06	.03	.15	.35	.05	.07	.43	.06	.59	.75	.43	.35	
SA						1.00	-.08	.02	.13	.28	.00	.02	.40	.00	.63	.75	.50	.49	
E							1.00	.72	.45	.36	.40	.47	.32	.50	.10	.04	.04	.06	
SE								1.00	.39	.37	.26	.40	.34	.43	.21	.21	.27	.01	
IO									1.00	.30	.28	.48	.37	.32	.33	.17	.31	.17	
PO										1.00	.42	.57	.14	.63	.37	.39	.12	.10	
FO											1.00	.74	.12	.51	.20	.00	-.05	.02	
PR												1.00	.22	.66	.30	.10	.10	.11	
AS													1.00	.41	.50	.35	.47	.58	
CM														1.00	.28	.12	.08	.13	
OA															1.00	.66	.78	.71	
CN																1.00	.50	.41	
PC																	1.00	.63	
CF																			1.00

* Person Perception Variables

TABLE VII (Continued)

	TC	I	SAV	EXT	FR	SP	SR	SA	NC	SY	AA	CAP
Time Competence	1.00	.46	.27	.53	.19	.19	.45	.45	.37	.35	.02	.38
Inner Directedness		1.00	.64	.65	.67	.74	.73	.68	.29	.31	.64	.80
Self-Actualizing Values			1.00	.35	.29	.50	.56	.28	.26	.53	.42	.45
Existentiality				1.00	.28	.39	.38	.58	.22	.33	.20	.65
Feeling Reactivity					1.00	.59	.36	.37	.08	.08	.66	.57
Spontaneity						1.00	.43	.43	.09	.17	.49	.59
Self Regard							1.00	.54	.26	.26	.53	.51
Self Acceptance								1.00	.03	.29	.37	.46
Nature of Man									1.00	.47	-.06	.07
Synergy										1.00	.16	.10
Acceptance of Aggression											1.00	.48
Capacity for Intimate Contact												1.00

TABLE VII (Continued)

GPT	POI											
	TC	I	SAV	EXT	FR	SP	SR	SA	NC	SY	AA	CAP
OSV	-.02	-.15	-.09	-.00	-.02	-.11	-.26	-.21	-.02	.04	-.03	.01
OV	-.09	-.17	-.03	.02	-.10	-.13	-.33	-.21	-.01	.06	-.06	.03
SOV	-.15	-.20	-.24	-.04	-.20	-.19	-.23	-.02	-.31	-.19	-.15	-.04
CG	.16	.15	.14	.22	-.11	.03	.30	.19	.36	.37	.11	-.06
AC	-.25	-.20	-.37	-.15	-.06	-.17	-.20	-.22	.36	.06	-.03	-.18
SA	-.18	-.16	-.23	-.06	-.12	-.20	-.13	-.15	.38	.20	-.04	-.16
E	.13	.20	.15	.17	.17	.07	.27	.25	.11	.12	.05	.19
SE	.05	.10	.06	.17	.10	-.16	.24	-.04	.22	.12	.10	.10
IO	-.05	-.03	.08	.02	-.14	-.15	-.04	-.14	.16	.03	-.22	.03
PO	-.12	-.04	-.17	.00	-.07	-.10	.08	-.08	.25	.05	-.08	-.02
FO	.00	-.01	.19	.09	-.06	-.03	-.07	-.07	.06	-.16	-.21	.06
PR	.02	-.01	-.12	-.03	.01	-.06	-.04	-.07	.18	-.00	-.16	-.02
AS	.30	.31	.22	.39	.13	.22	.30	.18	.40	.44	.12	.25
CM	.09	.19	.04	.20	.10	.21	.19	.16	.18	.15	.01	.18
OA	-.06	.11	.05	.09	-.05	-.01	.23	.01	.33	.19	.13	.03
CN	-.09	.04	-.13	-.02	.15	.09	.04	-.07	.43	.19	.22	.04
PC	.00	.03	.01	.09	-.05	-.18	.22	.15	.18	.20	.14	-.09
CF	.25	.25	.27	.23	-.04	.06	.40	.25	.33	.42	.16	.08

TABLE XXIX

 ROTATED FACTOR STRUCTURE OF INDEPENDENT
 AND INDEPENDENT VARIABLES

Variables	Factor Loading						
	1	2	3	4	5	6	7
Empathy	-.13	.00	-.19	.02	-.10	-.15	-.30
Emotional Expression	.14	-.01	.12	-.10	.00	-.71	.27
Historical Information	-.01	.01	.07	.08	.10	.86	.03
Replication #1	-.04	.17	.07	-.13	-.04	.03	-.09
Replication #2	-.05	-.32	.07	.14	.12	.03	.22
Replication #3	-.05	-.02	-.09	-.09	.07	.00	-.03
Replication #4	.14	.17	-.05	.10	-.15	-.06	-.10
Other Variance	-.02	.08	-.03	.91	-.01	.03	.21
Self Other Variance	-.16	.11	-.08	.63	.02	.03	-.05
Other Self Variance	-.02	.05	-.02	.87	-.07	.08	.10
Congruence	.60	.01	.00	-.40	-.00	.20	-.21
Accuracy	.77	.26	.07	.10	.10	-.09	-.16
Stereotypic Accuracy	.81	.25	.00	.08	.22	-.12	-.08
Empathy	-.13	-.18	.59	-.16	.15	-.20	-.00
Stereotypic Empathy	.05	-.10	.53	.01	.35	-.08	.13
Interpersonal Openness	.18	.12	.55	.24	.06	-.15	-.15
Personal Openness	.25	.09	.75	.04	.02	.04	.08
Felt Openness	-.09	.03	.75	-.11	-.02	-.17	-.18
Perceived Realism	.02	.07	.89	-.03	-.04	-.01	-.02
Assumed Similarity	.49	-.23	.22	-.00	.03	.17	-.24
Commonality	.05	-.18	.81	-.03	.04	.33	-.07
Other Acceptance	.80	-.02	.30	-.23	.11	-.03	-.15
Concurrence	.80	-.01	.14	.13	.11	-.19	.09
Perceived Concurrence	.76	-.00	.05	-.18	.22	.12	-.07
Conformity	.67	-.11	.05	-.38	.04	.01	-.05
Time Competence	-.16	-.37	-.02	-.13	.09	.15	-.00
Inner Directedness	.03	-.93	.04	-.11	-.02	-.07	-.07
Self Actualizing Values	-.10	-.52	-.07	-.07	-.04	-.15	-.01
Existentiality	.00	-.63	.07	.02	.33	.09	-.00
Feeling Reactivity	.03	-.77	.00	-.00	-.01	-.08	.04
Spontaneity	-.09	-.77	-.02	-.05	-.15	.00	-.16
Self Regard	.08	-.63	.04	-.31	-.02	.04	-.13
Self Acceptance	.07	-.68	-.06	-.17	-.02	.25	-.07
Nature of Man	.29	-.04	.19	-.02	.08	-.20	-.03
Synergy	.25	-.18	-.03	.06	.01	.05	.04
Acceptance of Aggression	.22	-.72	-.15	-.02	-.04	.09	.05
Capacity for Intimate Contact	-.07	-.84	.09	.11	.08	-.10	-.00

TABLE XXX

INTEGRATION OF REGRESSION AND ROTATED FACTOR ANALYSIS

Criterion Predictors	Predictor Value	Factor Loading						
		1	2	3	4	5	6	7
Accuracy		<u>.77</u>	.26	.07	.10	.10	-.09	-.16
Other Friendly	.100	<u>.27</u>	-.18	.24	-.22	-.03	.19	-.36
Stereotypic Accuracy	.587	<u>.81</u>	.25	.00	.08	.22	-.12	-.08
Concurrence	.122	<u>.81</u>	-.02	.14	.13	.11	-.19	.09
Conformity	-.060	<u>.67</u>	-.11	.05	-.38	.04	.01	-.05
Self-Disclosure	.004	<u>.06</u>	-.18	-.10	.11	-.65	-.35	-.08
POI Self Actualizing Value	-.023	-.10	-.52	-.07	-.07	-.04	-.15	-.01
Stereotypic Accuracy		<u>.81</u>	.25	.00	.08	.22	-.12	-.08
Self Dominance	.075	<u>.47</u>	-.16	-.18	.08	.00	.07	-.07
Congruence	.393	<u>.60</u>	.01	.01	-.34	-.00	.20	-.20
Concurrence	.681	<u>.81</u>	-.00	.05	-.18	.22	.12	-.07
POI Self Regard	-.058	<u>.08</u>	-.63	.04	-.31	-.02	.04	-.13

TABLE XXX (Continued)

Criterion Predictors	Predictor Value	Factor Loading						
		1	2	3	4	5	6	7
Empathy		-.13	-.18	.60	-.16	.15	-.20	-.00
Self Strong	-.086	.30	-.06	.06	.03	-.05	.09	-.11
Other Strong	-.166	.08	-.05	.01	-.22	-.00	.09	-.80
Other Variance	-.154	-.02	.08	-.03	.91	-.01	.03	.21
Stereotypic Empathy	.375	.05	-.10	.53	.00	.35	-.08	.13
Interpersonal Openness	.362	.18	.12	.55	.24	.05	-.15	-.15
Group Attractiveness	.065	.03	-.09	-.09	-.07	-.03	.00	-.83
POI Spontaneity	.020	-.09	-.77	-.02	-.05	-.15	.00	-.16
Stereotypic Empathy		.05	-.10	.53	.00	.35	-.08	.13
Replication #2	.203	-.05	-.32	.07	.14	.12	.03	.22
Self Friendly	-.305	.72	-.22	-.04	.16	-.23	.07	-.06
Self Dominant	-.160	.47	-.16	-.18	.08	.00	.07	-.07
Congruence	-.239	.60	.01	.01	-.34	-.00	.20	-.20
Personal Openness	.234	.25	.09	.75	.04	.02	.04	.08
Assumed Similarity	.333	.49	-.23	.22	-.00	.03	.17	-.24
Perceived Concurrence	.719	.78	-.00	.05	-.18	.22	.12	-.07
POI Time Competence	-.024	-.16	-.37	-.02	-.13	.09	.15	-.00
POI Nature of Man	.063	.29	-.04	.19	-.02	.08	-.20	-.03
POI Acceptance of Aggression	.035	.22	-.72	-.16	-.02	-.04	.09	.05

TABLE XXXI
INTERCORRELATIONS OF GROUP ATTRACTIVENESS

	Group Attractiveness	Tendency to Cohere	Meaningfulness	Enjoyment	Collapsed Group Attractiveness
Group Attractiveness	1.000				
Tendency to Cohere	.580	1.00			
Meaningfulness	.518	.645	1.00		
Enjoyment	.689	.737	.745	1.00	
Mean Scores	.775	.875	.875	.925	1.00

TABLE XXXII
 FACTOR 1 VARI-MAX ROTATION

Variable	Loading	Overlap with Principal Axis
1. Stereotypic Accuracy	.814	*
2. Concurrence	.807	*
3. Other Acceptance	.799	*
4. Perceived Concurrence	.776	*
5. Accuracy	.773	*
6. Self Good	.760	*
7. Self Friendly	.717	*
8. Conformity	.665	*
9. Congruence	.602	*
10. Self Intelligent	.593	*
11. Self Attractive	.536	*
12. Other Good	.505	*
13. Self Active	.495	*
14. Assumed Similarity	.491	*
15. Self Dominant	.467	*
16. Self Warm	.420	*
17. SAD	-.377	*
18. Other Intelligent	.325	*
19. Self Strong	.306	*
20. POI Nature of Man	.287	*
21. Self Open	.284	*
22. Other Friendly	.265	*

* indicates overlap with Principal Axis.

TABLE XXXIII
 FACTOR 2 VARI-MAX ROTATION

Variable	Loading	Overlap with Principal Axis
POI Inner Directedness	-.930	*
POI Capacity for Intimate Contact	-.835	*
POI Spontaneity	-.771	*
POI Feeling Reactivity	-.766	*
POI Acceptance of Aggression	-.722	*
POI Self Acceptance	-.683	*
POI Existentiality	-.632	*
POI Self Regard	-.630	*
POI Self-Actualizing Values	-.523	*
Social Avoidance and Distress	.384	
POI Time Competence	-.365	*
Self Cautious	.346	
Replication #2	-.324	*
Self Open	-.322	
Other Bright	-.279	
Accuracy	.261	*

TABLE XXXIV
FACTOR 3 VARI-MAX ROTATION

Variable	Loading	Overlap with Principal Axis
1. Perceived Realism	.891	*
2. Commonality	.810	
3. Felt Openness	.754	*
4. Personal Openness	.750	*
5. Empathy	.591	*
6. Interpersonal Openness	.548	*
7. Stereotypic Empathy	.525	*
8. Other Acceptance	.301	
9. Other Intelligent	.248	*

TABLE XXXV
FACTOR 4 VARI-MAX ROTATION

Variable	Loading	Overlap with Principal Axis
1. Other Variance	.913	*
2. Other Self Variance	.865	*
3. Self Other Variance	.631	
4. Conformity	-.383	
5. Other Open	-.366	*
6. Congruence	-.339	*
7. POI Self Regard	-.313	
8. Other Warm	-.267	
9. Other Intelligent	.252	*
10. Other Good	-.259	*

TABLE XXXVI
 FACTOR 5 VARI-MAX ROTATION

Variable	Loading	Overlap with Principal Axis
1. Self Warm	.703	*
2. Other Warm	.662	*
3. Self Disclosure	-.650	
4. Self Active	.364	
5. Stereotypic Empathy	.347	
6. POI Existentiality	.325	

TABLE XXXVII
 FACTOR 6 VARI-MAX ROTATION

Variable	Loading	Overlap with Principal Axis
1. Historical Information	-.855**	*
2. Emotional Expression	.711	*
3. Self-Disclosure	.348	*
4. Commonality	-.328	
5. Other Open	-.318	
6. Other Dominant	-.254	*

** signs reversed for ease of interpretation.

TABLE XXXVIII
FACTOR 7 VARI-MAX ROTATION

Variable	Loading	Overlap with Principal Axis
1. Group Attractiveness	-.833	*
2. Other Strong	-.803	*
3. Other Good	-.555	*
4. Self Active	-.392	
5. Other Friendly	-.355	*
6. Self Intelligent	.340	
7. Other Dominant	-.301	
8. Emotional Expression Treatment	.265	*

APPENDIX G

EMPATHY INSTRUCTIONS

As you all know, this is an interpersonal communications research project. We are comparing several good approaches to find the best one to use to help people interact more easily. One of the best ways to learn to interact with others more freely is to be able to be fully aware of another's feelings and to clearly understand the nature or source of another's feelings. While this understanding may seem relatively easy, it is sometimes difficult to express it to someone else. It is, however, extremely valuable to be able to communicate to someone else that you are aware of and do understand how they feel. When a person feels understood, he feels appreciated and closer to the one who understands. And when you know that someone understands you, you can feel safe and comfortable with that person. If you take the time and effort to understand someone, you are showing that you care and that that person is safe with you. It is also likely that if you show empathy toward others, they will understand and accept you as well. To the extent that one can practice this active understanding of another's feelings in his or her everyday life, one can truly know and relate to other people.

In this situation you will have the opportunity to learn and develop empathy. By trying to place yourself in another's perspective and become aware of another's point of view, you can show that you are trying to understand the nature and source of another's feelings, and thus begin to interact more freely with others.

These statements (point to the instruction cards) summarize briefly what I am talking about. This should help you learn to interact with each other in a free and easy way.

"Any verbal attempt to clarify the nature or source of another group member's feelings by attempting to place oneself in another's perspective. It may be a statement trying to clarify or reflect the nature or source of another's current feelings."

Some examples are: "It must have been hard for you to say that." or "You really seem upset over what happened."

You can see that these examples have to do with being empathetic; being able to place yourself in another's perspective. So, what I'm asking you to do is to interact with each other for 50 minutes while keeping in mind and using these instructions.

I will monitor the group through the one-way mirror and the microphone. What you say may be recorded, but will be kept completely confidential. It will be used only in this project, then erased.

You have undoubtedly noticed these boxes and have probably wondered why they're here. Well, whenever any of you

makes a statement that follows these instructions, I will activate the counter in front of that person. It makes an audible click, and this will let you know how well you are using these instructions in your interaction. This counter will register your total, and if anyone falls ten points behind the person with the most points, the red light above his counter will come on. This will be a sign that this person may need assistance, or that another person is tending to dominate the conversation. The red light will go off when the point difference becomes less than ten again. Another important sign for you is this: If no one gets a click for three minutes, all of your lights will flash on and they will do so every three minutes until a click is registered. This will indicate to you that the group as a whole is not following the instructions, and that you should all change how you are interacting with each other.

Are there any questions?

Warm Up Exercise

I know that using these instructions in your interaction may be difficult for you but your efforts in following the instructions can have beneficial results. You will be helping yourself and the other group members to learn to interact with others more freely. To make sure that each of you understands how I want you to use the instructions, I want to go through a short exercise. First, I want you to gaze into the eyes of the person next to you. I know that this is not the normal way of getting acquainted but we've found it a very good way to start these groups. The two people on the right side of the table should turn your eyes toward one another and gaze into one another's eyes (experimenter waits until subjects comply). The two people on the left side of the table should also turn your chairs toward each other and gaze into one another's eyes. (Count ten seconds.)

This exercise usually makes people feel uncomfortable or uneasy. Can you look at the person next to you and show him or her that you can understand why he/she might be feeling this way?

_____ would you please make a comment to _____ in a way that follows the instructions in front of you? (Give each group member a chance to make a statement.)

I think you all have a better idea of what you'll be doing in here. Let me remind you that you should keep these instructions in mind while you are interacting. To get reinforcement, you need to either add new information, that is, express something that hasn't been said previously, or demonstrate an additional understanding of information that has been previously reinforced.

APPENDIX H

EXPRESSIVE INSTRUCTIONS

As you all know, this is an interpersonal communications research project. We are comparing several good approaches to find the best one to use to help people interact more easily. One of the best ways to learn to interact with others more freely is to share your feelings with others. There are several reasons for this: (1) When you clearly express how you feel, it makes it easier for others to understand you. The more that others clearly understand you, the safer you are from others who might unintentionally hurt you. (2) When you express your feelings, you are giving information to others about how they are affecting you. This information may result in a change in the way people treat you because you can express how you feel and even how you would like to feel. (3) Expressing yourself clearly and openly is a way of asserting yourself. Being open about your feelings makes others more likely to accept you. Overall, an expressive person is generally seen as one who is open, honest, direct, easy to get to know, and easy to be around. This is in contrast to someone who doesn't let you know what he feels. One often feels the need to be careful around such a closed person.

In this situation, you will have the opportunity to learn to be more expressive about your feelings. By trying to be open and honest, by trying to express yourself clearly and share your feelings, you can begin to interact more freely with others.

These statements (point to the instruction cards) summarize briefly what I am talking about. This should help you learn to interact with each other in a free and easy way.

"Any verbal expression of your current feelings resulting from interaction with the group. It may be pleasant or unpleasant feelings you may be experiencing as a result of interaction with the other group members. You may express pleasant or unpleasant feelings about another group member's current behavior or the group's behavior in general."

Some examples are: "Wow, that's really neat!" "I feel good that you said that about me," or "I feel angry because of what you said."

You can see that these examples have to do with expressing feelings, both pleasant and unpleasant, about another group member's behavior or the group's behavior in general. So, what I'm asking you to do is to interact with each other for 50 minutes while keeping in mind and using these instructions.

I will monitor the group through the one-way mirror and the microphone. What you say may be recorded, but will be kept completely confidential. It will be used only in this project, then erased.

You have undoubtedly noticed these boxes and have probably wondered why they're here. Well, whenever any of you makes a statement that follows these instructions, I will activate the counter in front of that person. It makes an audible click, and this will let you know how well you are using these instructions in your interaction. This counter will register your total, and if anyone falls ten points behind the person with the most points, the red light above his counter will come on. This will be a sign that this person may need assistance, or that another person is tending to dominate the conversation. The red light will go off when the point difference becomes less than ten again. Another important sign for you is this: if no one gets a click for three minutes, all your lights will flash on and will do so every three minutes until a click is registered. This will indicate to you that the group as a whole is not following the instructions, and that you should all change how you are interacting with each other.

Are there any questions?

Warm Up Exercise

I know that using these instructions in your interaction may be difficult for you but your efforts in following the instructions can have beneficial results. You will be helping yourself and the other group members learn to interact with others more freely. To make sure that each of you understands how I want you to use the instructions, I want to go through a short exercise. First, I want you to gaze into the eyes of the person next to you. I know that this is not the normal way to getting acquainted but we've found it is a very good way to start these groups. The people on the right side of the table should turn your eyes toward one another and gaze into one another's eyes (experimenter waits until subjects comply). The two people on the left side of the table should also turn your chairs toward each other and gaze into one another's eyes. (Count ten seconds.)

How do you feel now?

_____ would you please make a comment in a way that follows the instructions in front of you? (Give each member a chance to make a statement.)

I think you all have a better idea of what you'll be doing in here. Let me remind you that you should keep these instructions in mind while you are interacting. To get reinforcement, you need to either add new information, that is, express something that hasn't been said previously, or demonstrate an additional understanding of information that has been previously reinforced.

APPENDIX I

INFORMATION INSTRUCTIONS

As you all know, this is an interpersonal communications research project. We are comparing several good approaches to find the best one to use to help people interact more easily. One of the best ways to learn to interact with others more freely is to express information about yourself. When you express information about yourself, people are better able to relate to you since they really know who you are. You should avoid expressing feelings about this information, however. When you express information about yourself in a noncommittal or non judgemental fashion, people tend to like you better because you trust them enough to let them make their own decisions about you. Because of this, expressing information about yourself without expressing feelings will help you get to know one another in intimate and important ways and can be the basis of a trusting relationship.

In this situation, you will have the opportunity to share information about yourself with others. By expressing information about yourself in a non judgemental fashion, you give others the chance to like you and to trust you, and the resulting interaction can begin to help you to interact more freely with others.

These statements (point to the instruction cards) summarize briefly what I am talking about. This should help you learn to interact with each other in a free and easy way.

"Any verbal expression of information about yourself to other group members. It may be statements conveying information about yourself in a noncommittal, non judgemental fashion."

Some examples are: "I went waterskiing last weekend," "I am from Enid," or "My favorite pasttime is listening to music."

You can see that these examples have to do with expressing information about yourself in a non judgemental fashion. So, what I'm asking you to do is to interact with each other for 50 minutes while keeping in mind and using these instructions.

I will monitor the group through the one-way mirror and the microphone. What you say may be recorded, but will be kept completely confidential. It will be used only in this project, then erased.

You have undoubtedly noticed these boxes and have probably wondered why they're here. Well, whenever any of you makes a statement that follows these instructions, I will activate the counter in front of that person. It makes an audible click, and this will let you know how well you are using these instructions in your interaction. This counter

will register your total, and if anyone falls ten points behind the person with the most points, the red light above his counter will come on. This will be a sign that this person may need assistance, or that another person is tending to dominate the conversation. The red light will go off when the point difference becomes less than ten again. Another important sign for you is this: if no one gets a click for three minutes, all of your lights will flash on and will do so every three minutes until a click is registered. This will indicate to you that the group as a whole is not following the instructions, and that you should all change how you are interacting with each other.

Are there any questions?

Warm Up Exercise

I know that using these instructions in your interaction may be difficult for you but your efforts in following the instructions can have beneficial results. You will be helping yourself and the other group members learn to interact with others more freely. To make sure that each of you understands how I want you to use the instructions, I want to go through a short exercise. First, I want you to gaze into the eyes of the person next to you. I know that this is not the normal way of getting acquainted but we've found it is a very useful way to start these groups. The two people on the right side of the table should turn your eyes toward one another and gaze into one another's eyes (experimenter waits until subjects comply). The two people on the left side of the table should also turn your chairs toward each other and gaze into one another's eyes. (Count ten seconds.)

Now that you've had a chance to let another group member look closely at you, can you express to that person some information about yourself that will tell him/her more about you?

_____, would you please make a comment to _____ in a way that follows the instructions in front of you? (Give everyone a chance to make a statement.)

(After the warm up exercise) I think you all have a better idea of what you'll be doing in here. Let me remind you that you should keep these instructions in mind while you are interacting. To get reinforcement, you need to either add new information, that is, express something that hasn't been said previously, or demonstrate an additional understanding of information that has been previously reinforced.

APPENDIX J

SHORT INSTRUCTIONS

(These instructions will be given before the second and third sessions.)

Let me remind you that the purpose of this project is to help you learn to interact more freely with others. I am asking you to accomplish this by using these instructions (point to cards). Again, today, we will use the feedback procedure so as not to interrupt the flow of interaction. Is everything clear?

APPENDIX K
INSTRUCTION CARDS

EXPRESSIVE CONDITION

Any verbal expression of your current feelings resulting from interaction with the group. It may be pleasant or unpleasant feelings you may be experiencing as a result of interaction with the other group members. / You may express pleasant or unpleasant feelings about another group member's current behavior or the group's behavior in general.

Some examples are:

"Wow, that's really neat!"

"I feel good that you said that about me."

"I feel angry because of what you said."

EMPATHY CONDITION

Any verbal attempt to clarify the nature or source of another group member's feelings by attempting to place oneself in another's perspective. It may be a statement trying to clarify or reflect the nature or source of another's current feelings.

Some examples are:

"It must have been hard for you to say that."

"You really seem upset over what happened."

INFORMATION CONDITION

Any verbal expression of information about yourself to other group members. It may be statements conveying information about yourself in a noncommittal, non-judgmental fashion.

Some examples are:

"I went skiing over the Christmas break."

"I am from Enid."

"My favorite passtime is listening to music."

VITA 2

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