THE EFFECTS OF INTUITION, FEELING, AND SIMILARITY ON PREDICTIVE EMPATHY

Dissertation for the Degree of Ph. D.

MICHIGAN STATE UNIVERSITY
MARTHA LYNN ALDENBRAND

1974

This is to certify that the

thesis entitled

The Effects of Intuition,
Feeling, and Similarity
on Predictive Empathy

presented by

Martha L. Aldenbrand

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Psychology

Major professor

Date 11-14-74

O-7639

ABSTRACT

THE EFFECTS OF
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ON PREDICTIVE EMPATHY

By

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This investigation concerned relationships between empathic ability and preferences in the use of Intuition and Feeling as modes of understanding others. A secondary feature was the exploration of how similarity of Intuition and Feeling preferences between subject and target persons related to empathy. Empathy was defined in the "person perception" tradition as "the ability to accurately predict the feelings, thoughts, and behaviors another person would ascribe to himself." The Myers-Briggs Type Indicator was used to assess Intuition versus Sensing and Feeling versus Thinking.

Four 30 minute videotapes were made of the interaction of each of two groups of female target persons, each containing a representative of Intuitive Feeler (IF), Intuitive Thinker (IT), Sensing Feeler (SF), and Sensing Thinker (ST) types on the Myers-Briggs. All fell within the middle range on Extraversion-Introversion. Following each videotaped session, targets individually monitored a replay and stopped the tape to identify feelings and thoughts they had had during the original meetings which had been structured to elicit typical examples of personality functioning. From these data four types of

multiple-choice questions were constructed, those assessing prediction of (1) target feelings, (2) target thoughts, (3) target behaviors, and (4) inter-target sociometric relationships.

Female observers were also selected for Myers-Briggs scores to represent 9 categories: IF, IT, SF, ST, plus observers scoring in the middle range on Intuition-Sensing and Feeling-Thinking.

Observers were informed which target person was the focus of each question, shown a short videotaped sequence, and when the tape was stopped, requested to answer the relevant multiple-choice question. A second measure of empathic accuracy and similarity was given after the final taped session of each group, when observers completed an abbreviated form of the Myers-Briggs test the way she thought each individual target would respond.

Hypotheses that empathic accuracy would be facilitated by Intuition and Feeling orientations as well as similarity between subject and target were tested. Findings revealed that empathic accuracy was only slightly above a chance level (approximately 38% versus 25%) across all observers. There were no significant differences related to Intuition, Feeling, or similarity.

The present investigation's design fell into the common error in this research area that the <u>products</u> of empathy, i.e., correct answers, were obtained without attention to the underlying <u>process</u> of empathy. Empathy being a discontinuous process of attending and integrating, adequate research must allow both sub-processes to emerge. This study was directed toward the products of the attentional aspect,

where the observer actively selects the cues she deems most relevant to understanding. It ignored, however, periods of integration where the observer was minimally attending to new cues, and, instead, internally deciphering and organizing already received cues. Thus, when the experimenter stopped the videotape during moments of integration, natural minimal attending may have reduced the chances of responding accurately. It was suggested that empathy research allow both natural timing and the personal interpretation of the stimulus event if the integrative aspect of empathy is to be expressed.

Finding differential accuracy toward targets who supposedly represented the same Myers-Briggs personality category obfuscated a meaningful evaluation of similarity. The expression of desired stimulus qualities was unduly influenced by other confounding personality traits, such as dogmatism, extraversion-introversion, etc. An approach which assures the prominence of appropriate target behaviors was suggested.

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Martha Lynn Aldenbrand

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Psychology

1974

DEDICATION

Primary: *To my parents, Marjorie and Godfrey, who taught me the importance of empathy and attending to feelings.*

Secondary: *To my husband, John, whose patience, warmth, and caring made writing easier.*

Tertiary: *To Melanie, who sang "Look What They've Done to My Song, Ma" during those times I failed to see the logic of my committee members suggestions.*

ACKNOWLEDGMENTS

I wish to express my gratitude to my committee members: Dozier Thornton, Elaine Donelson, Joel Aronoff and Dave Wessel. Dozier's empathic understanding has always intrigued me and has made working with him enjoyable. Listening to my ideas as they hatched and knowing exactly when to add his own made the research fun. Later, his creative suggestions concerning the organization and readability of the dissertation were very helpful. And his thoughts about future research modifications made me think of this research as a continuing project.

Elaine contributed a substantial knowledge of the research literature which saved me considerable time and broadened my perspectives on empathy as a concept. Her valuable and detailed criticism of the design and manuscript helped me over many rough spots. She was also a much used source of warmth and comfort during trying times.

I needed and appreciate Joel's dedication to simplifying my original design. His gentle, but persistent, way of pointing out things I was overlooking helped anticipate and correct many potential problems. I am grateful for the considerable time and effort he spent proofreading as his comments were useful and thought-provoking.

Dave Wessel gave useful statistical advice, especially concerning pre-design issues.

TABLE OF CONTENTS

TABLE OF CONTENTS--continued

LIST OF TABLES

LIST OF TABLES--continued

TABLE Page

LIST OF FIGURES

I. INTRODUCTION

When one person speaks to another, he sends a verbal message, but he also watches to see whether, or how much, the other person understood what he meant. Likewise, the other listens to the verbal content of the message, but also watches for situational and non-verbal cues, like voice quality, posturing and the presence of others, to interpret the meaning of the content. It seems natural that with the number and complexity of cues available to the listener, some listeners understand cues better than others. This ability to understand the thoughts and feelings of another person is called empathy.

Sullivan says the rudiments of empathy arise during infancy. The infant apprehends anxiety in the mother and in turn becomes anxious. However, early infant empathy is a phenomenon which the infant cannot control. He feels anxious, but his anxiety does not lead to constructive actions. He cannot soothe the mother or alter the environment. The usual result is that the mother soon apprehends the infant's anxiety and thereby increases her own. Since the infant is totally dependent on the mother, this leads to an intolerable situation. The only defense that works, according to Sullivan, is that the child falls asleep. As the infant grows, however, apprehending the emotional state of the mother does lead to increased skill, the child learns specific mechanisms of approach and avoidance.

One would wonder, then, why people are not perfectly empathic, since empathy begins so early and people seem to grow more intelligent with age. There is one important altering factor, however, which confounds the steady growth of empathy, that is language. As the child grows he must encode the meaning of feelings into words. But the source of the words, primarily the mothering-figure, does not always want the child to know her feelings. She may fail to label some feelings, leaving them less manageable, especially as the world is becoming more verbal to the child. She may mislabel them, either by intention or through her own distorted learning, calling anger "sadness" or fear "confusion". The child must then cope with having some "admissible" feelings, some distorted feelings, and some non-verbal feelings. A study by Feigenbaum (1967) showed children to lag two to four years in their understanding of negative versus positive feelings in others.

The need to encode basic experience into verbal labels, and the difficulty of attaining a complete translation, may be related to another factor often connected with empathy, namely intuition. Since intuition is commonly defined as the non-verbal apprehension of the primary meaning of a situation, an intuitive ability may be advantageous to understanding those blurred situations in which the child was intentionally or unintentionally mistaught the characteristics of certain feelings. An intuitive person seems to have left many basic experiences uncategorized, or freely flexible, so that verbal labels have not committed him to a single rigid definition. This intuitive "regression in the service of the ego," matching present data to non-verbal data seemingly extant in all its original complexity, has long been a factor

attributed to empathic skill (Katz, 1963; Rommetveit, 1960; Wescott, 1968). However, because of the elusive nature of non-verbal data and because the logical processes behind intuitively derived labels (if such logical processes exist) are seldom conscious in all their complexity, scientists have hesitated to measure intuition and use it as a variable in research. Thus, it has been long asserted that empathy and intuition are highly correlated, but it has rarely been studied.

The process of matching the experience expressed by another with one's own experience leads to the consideration of a final factor related to empathy, that of similarity. Similarity between perceiver and perceived facilitates empathy because translation across experiences is easier. And in on-going situations, where a continual flow of information must be assimilated, ease of translation may be directly related to the amount of empathy produced. Similarity in terms of attitudes, beliefs, socioeconomic class, and perhaps more basically, cognitive-perceptual style, then, should tend to increase the likelihood of empathy. The present research employs the three concepts discussed above (attending to the other's feelings, intuition, and similarity) to assess the qualities of an empathic person.

Choosing a Definition of Empathy

Relating intuition, feeling-orientation, and similarity to empathy is not as easy as one would initially assume, however. One immediately must face the problem of the definition of empathy. At least five well recognized, but different definitions of empathy exist in the field. Directly related to the discussion of similarity is Smith's (1966)

definition that empathy is the correct inference that similarity exists between the self and other. A second broader definition includes dissimilarity in the accurate prediction of the thoughts, feelings or behaviors of another person. A third definition emphasizes increased responsiveness to the feelings of another. A fourth adds the ability to communicate to another that one understands his feelings. And, finally, a fifth defines empathy vaguely as the capacity to adopt a broad moral perspective.

The first approach to empathy considers similarity so vital to empathy that it defines empathy in terms of similarity. Thus, Smith (1966) defines empathy as "the tendency of a perceiver to assume that another person's feelings, thoughts, and behavior are similar to his own (p. 93)." According to this view, empathy is derived from identification with another person. Through the process of generalization one assumes the other is like himself in many ways. To the extent that one is correct in assuming similarity, he is empathic. With respect to dissimilarity, empathy is an irrelevant term.

The second definition, that empathy is the ability to accurately predict the feelings, thoughts, or actions of another person is the definition focused upon in this paper and will be discussed in greater detail later. Since empathy is seen as the process of viewing the world as another person views it, similarity as well as dissimilarity are considered important discriminations in assessing the other's personal space, hence the departure from Smith.

Empathy viewed as emotional responsiveness paralleling the feelings of the other was perhaps the earliest systematic treatment of

empathy (Lipps, 1907). It was strongly related to Darwin's position in The Expression of Emotions in Man and Animals (1872) that certain universal expressions, such as sneering, result from common emotions, and that common emotions, e.g., fear, are elicited by the stimulus expressions. Following this tradition, role-playing may be viewed as the empathic awakening of emotions connected with adopting differing role positions which results in deeper understanding of the experiences of the other. In fact, Kerr and Speroff (1951) refer to empathy as role-playing. Speroff (1953) further suggests that empathy is facilitated by role-reversal, in which the subject restates the other's point of view until the other verifies it as correct.

Another branch of this tradition is the work of Stotland (1969), Stotland, Sherman, and Shaver (1971), and Mehrabian (1972). Stotland measures empathy by recording palmar sweating, vasoconstriction and basal skin conductance of subjects viewing an emotional scene. Mehrabian has devised an empathy test based on emotional lability. Those who report increased emotional responding in diverse social situations are considered empathic.

In assessing the Lipps tradition, however, the primary consideration will be whether concomitant emotional experiences are necessary for empathy to occur, not simply whether they are advantageous to empathic understanding. It is at this point where this author departs from Lipps' tradition. While emotional responses to the situation of another are assumed to benefit assimilating the other's experience, there appear to be many instances when one understands but does not share the experience of the other. In fact, Rogers (1951) differentiates

between shared feeling (sympathy) and understood but non-shared feelings (empathy). In therapy this differentiation may be crucial--one might understand that a client's mother had nagged him once too often and as a result he killed her, but if the therapist felt as angry as the client, we might have two murderers on our hands.

A fourth view, usually preferred by counseling psychologists, defines empathy as effectively communicating that one understands the feelings of the other. Thus, inarticulate individuals are rarely empathic. Rogers (1951) was one of the first to add communication as a second step in empathy following understanding the other's frame of reference, although Murray (1938) did describe an interactive process, called "recipathy", through which a therapist might understand his client. Recipathy involved the therapist watching the feelings invoked in himself as the client talked. These feelings were then treated as feelings the client needed to invoke in others, not merely as unrelated therapist arousal.

Truax and Carkhuff (1967), closely aligned with Rogers, have done extensive investigation into empathy viewed from the communication perspective. Part of this work has included a scale for the measurement of counseling empathy (Truax, 1961). Empathy according to this approach includes responding with words, gestures, and tone of voice that matches the emotional intensity expressed by the other, responding concretely rather than abstractly to the messages of the other, and responding frequently enough that the other is assured that understanding continues to exist. While this paper agrees that the process of communicating understood messages is important, it takes as its focus the more

fundamental process of understanding per se without confounding understanding with its communication.

Finally, empathy has been defined as making moral choices (Hogan, 1969). However, this seems a distant relative from the definitions mentioned above. The scale derived by Hogan seems to be measuring a conglomerate of values, e.g., standing up for "what is right", feeling sorry for others, enjoying the company of diverse types of people. Empathy defined this way may be considerably correlationally based, i.e., people who are apt to be courageous, sympathetic, and openminded are also apt to be empathic. Since the present research attempts to measure empathy directly, this definition must be considered irrelevant.

This research will use the second definition of empathy, that empathy is the ability to accurately predict the feelings, thoughts, or actions another person describes as his own. It is closely related but more comprehensive than the first definition in which empathy is defined as the correct prediction of similarity between self and other. Dissimilarity, as well as similarity, may be correctly predicted according to the definition adopted. This definition is also closely related but more comprehensive than the third definition in which empathy is defined as the concomitant arousal of feelings in the subject as in the other. In the present definition, the subject may respond to his own thoughts as well as feelings in attempting to ascertain the state of the other. The present definition arises from its own tradition and is often found in the literature called "person perception" or "interpersonal perception". These terms will be used interchangeably with "empathy" when citing literature denoted as such.

II. THE PROBLEM

This research attempts to answer three major questions: (1) Does an individual's perceptual style with respect to whether he handles incoming information by using Intuition as opposed to Sensation, effect his empathic ability? (2) Does an individual's style for making decisions with respect to whether he decides primarily by Feeling as opposed to Thinking, effect his empathic ability? And (3) Does similarity between the target and the subject on the two orientations effect empathic ability?

The hypothesized relationship of intuitive and feeling orientations with empathic skill has lengthy common sense and clinical support, but, as yet, little experimental justification. Lack of research justification is most likely the result of what seems to be the intangible nature of the process of intuition and the extensive amount of non-verbal interpretation necessary in identifying feelings. Only recently have some authors tried to measure the process of intuition (Rommetveit, 1960). These attempts, however, rely on making judgments when the premises behind the judgments remain out of the awareness of the judger. To assume that one cannot be aware of the intuitive process, or that all non-aware judgments are intuitive, seems absurd. Some studies have given minimal cues to subjects and "forced" intuitive judgments (Hathaway, 1955; Valentine, 1929).

A few studies have defined intuition vaguely and explored it as a trait manifested in some people more than others. Estes (1937) found that the most accurate judges of feelings during motion picture segments were those who worked at intuitive occupations or had intuitive avocations, such as painting and drama. Allport (1961) reports that people who adopt an analytical, reflective approach to perception are less accurate than those who adopt a more global, intuitive approach.

Similarly, very little research has studied whether those who are oriented toward attending to the feelings of others and making judgments according to feelings as opposed to logic are more empathic than those who do not. Most research concerning feelings and empathy has focused on whether and under what conditions it was possible to recognize the feelings of others. They have attended less frequently to perceiver characteristics of good predicters of feelings. Although, Halpern (1954) did find a significant correlation between predictive accuracy on a personality inventory and femininity of attitude--a scale loaded heavily on the experience and expression of intense emotion.

In order to study these two orientations, this research has employed a theoretical framework which definitively describes these processes, that is Jung's theory. According to Jung, each human being uses one of two alternative perceptual modes (called "functions") from which he garners information about the world. He also uses one of two judgmental functions with which he makes decisions about how to use the information perceived.

Jung calls the alternative perceiving functions "intuition" and "sensing". Intuition is an unconscious organization of stimuli

resulting in the individual only experiencing "a complete whole, without ... being able to explain or discover in what way this content has been arrived at. (It) ... is a kind of instinctive apprehension, irrespective of the nature of its contents" (Jung, 1923, p. 263). On the other hand, Sensation relies on conscious experience gained by the sense organs, denying unconscious Intuition. Sensing is directed toward the objective, external environment, responding most decisively to the strongest stimuli impinging on the individual. According to Jung, Intuition and Sensation are opposite functions of perception, one unconscious the other conscious.

The judging functions are "thinking" and "feeling". They relate to how the individual makes decisions or comes to conclusions about the stimulus data he has acquired. The function of Thinking is based on certain "laws" or logical structures, which may be either conscious or unconscious, and consequently may be either rational or irrational. An example Jung uses of the latter are thoughts arising during dreams, which seem reasonable in the dream, but unreasonable when awake. The function of Feeling relates to forming value judgments with reference to acceptance or rejection. Feeling may refer to specific objects, such as a beautiful rose, or whole situations, such as an ugly mood. Feeling and Thinking may also have contradictory components, an individual may <u>think</u> a dress is ugly, but notice that her friend is wearing it and feel that the dress on the friend is beautiful.

Jung views most people as operating with one dominant perceiving and one dominant judging function. Thus, most people are either Intuitive-Thinkers (NT), Intuitive-Feelers (NF), Sensing-Thinkers (ST),

or Sensing-Feelers (SF). Moreover, they will display one of two primary attitudes toward the world, Introversion or Extraversion. These attitudes represent the degree to which the individual openly uses his functions. An Introvert keeps to himself, is wary about the environment, and relies on his own resources for fulfillment. An Extravert is out-going, trustful, and dependent on the external world for fulfillment. Finally, Jung says that although most people can be assigned to one or the other of the perceiving or judging functions, those who become most fully functioning move toward greater differentiation and balance, thus tending to blend Introversion-Extraversion and the perceiving and judging functions in their everyday lives. From Jung's perspective, then, the most empathic person should be one who does not exclusively use either judging or perceiving dimensions.

To determine whether empathy is higher among Intuiters and Feelers, or middle perceivers and judgers as Jung would hypothesize, a simple design was employed which measured the empathic accuracy of subjects designated Intuiter, Senser, Middle Intuiter-Senser, and Feeler, Thinker, Middle Feeler-Thinker toward targets presented via a videotaped discussion. To determine whether similarity influences empathic accuracy targets were chosen who represented each combination of Jung's perceiving and judging orientations. Thus, accuracy scores toward each NF, NT, SF, ST target were analyzed with respect to the subject's own perceiving or judging orientation. In this research, empathic accuracy was measured two ways: (1) by correctly predicting what targets said they were thinking or feeling during the videotaped discussions, and (2) by correctly predicting how targets would answer questions on a personality test.

III. REVIEW OF THE LITERATURE

Comprehensive literature reviews were made early by Bruner and Tagiuri (1954) and Taft (1955) and again more recently by Tagiuri (1969). These have been augmented by more circumscribed reviews by Shrauger and Altrocchi (1964) and Kanekar (1972). From these and other sources it can be noted that predictive empathy research has taken two primary directions, one investigating whether empathy was a general or specific ability, the other assessing the extent to which an individual could understand the emotions of a target person. This paper will discuss these divergent paths as well as two additional topics affecting the outcome of empathy research: veridicality and the subjective formation of implicit personality theories.

It should be pointed out at the onset that a unified tradition of research has not been established in this area. In fact, experimental stimuli and responses have been so varied that few generalizations can be inferred when comparing data. Stimuli have included photographs, handwriting samples, graphic displays of human faces, written personality descriptions and autobiographical accounts, projective test protocols, tape recordings, motion pictures, videotapes, role plays (usually of emotional situations), and other live interactions. Responses have included recognition of the emotion or personality displayed by free responding or multiple choice answers, by sociometric

rank ordering, by predicting future behaviors or present occupations, and by predicting responses on personality or attitude tests. Subjects have been directed to interpret how specific targets would respond and how certain classes of persons, e.g., college students, would respond. In general, much of the literature agrees that stimuli and responses that accurately allow the complexity of the target and the subject to emerge are more likely to show significant differences among the variables studied than are the most simplified measures (Gage and Cronbach, 1955, Jackson and Messick, 1963; Cline, 1964; Shrauger and Altrocchi, 1964, Tagiuri, 1969).

Empathy as a General or Specific Ability

One of the first problems predictive accuracy research tackled was to determine whether certain individuals had a heightened capacity to be empathic in all situations, i.e., in general, or whether empathy was more a function of the situation or the transparency of the specific target individual involved. Two of the earliest studies reported in this area established the format for later research. Steinmetz (1945) had subjects predict a target individual's answers on a personality test as a measure of "psychological perception" or awareness of others. Dymond (1949), first using the term "empathy" for this method, had group members predict how others in the group would rank themselves on certain personality traits, e.g., friendly-unfriendly, sense of humor. Both Steinmetz and Dymond report differences supporting empathy as a general ability.

The literature is equivocal on this issue, however. Allport (1937) suggests that judging ability is neither entirely general nor entirely specific. Some individuals are usually more accurate in general, but specific situations play a contributing role. Cline (1955) and later Cline and Richards (1960 and 1961) demonstrated that some generality in judging ability does exist apart from similarity of subject and target. However, Gage and Cronbach (1955), Purcell, Modrick and Yamahiro (1960) and Stone and Leavitt (1954) suggest that little generality exists. Crow and Hammond (1957) and Sechrest and Jackson (1961) attribute whatever generality that exists to response set and other response biases. Reviews of the literature by Bruner and Tagiuri (1954) and Taft (1955) side with the generality view, believing that "good" and "poor" judges do exist.

The methodology used with the generality-specificity issue has been criticized from two viewpoints which may partially account for the discrepant results cited above. It has been noted that success in predicting others ratings on personality tests or questionnaires may result from knowledge of a stereotype of the individual, e.g., male factory worker, as well as knowledge of the particular target involved. Most research has not differentiated between these two sources. Another criticism concerns the similarity versus dissimilarity of the targets and judges. Failure to systematically assess the effects of this dimension may unduly bias success toward target and judge pairs which are similar.

Cronbach (1955) first pointed to the influence of the sterotyping factor. He demonstrated that accurate knowledge of the stereotype of

the target was usually the best predictor of his performance. Therefore, one did not need a stimulus at all, other than a classification label, to "empathically" predict target responses. Thus, Cronbach devised elaborate scoring procedures for factoring out stereotype accuracy, differential accuracy (how the target differs from the stereotype) and other response set tendencies. Bronfenbrenner, Harding and Gallwey (1958) found that two similar abilities: accuracy toward a generalized other versus sensitivity toward a specific person, appear to be independent. Cline and Richards (1960) found similar results.

Another issue was confronted by Bender and Hastorf (1950) and Gage and Cronbach (1955). They distinguished accuracy on the basis of real versus assumed similarity and dissimilarity. Real similarity between subject and target has long been recognized as facilitating empathy. Allport (1937) reports this effect for sex, age, background, complexity, and personality characteristics. Similar results have been found by Notcutt and Silva (1951); Suchman (1956); Gage, Leavitt and Stone (1956); and Bronfenbrenner, Harding and Gallwey (1958). This beneficial effect may be related to the relative ease of assimilation and reliance on oneself as referent (Blanchard, 1966 and 1967) versus differentiation from oneself as referent (Lundy, 1956).

Assumed similarity and dissimilarity were terms used by Gage and Cronbach (1955) to assess instances where the subject assumes the target is similar or dissimilar to himself when he is not. Bender and Hastorf (1950) found that some subjects consistently tend to be "empathizers" (assumed similarity) and some "projectors" (assumed dissimilarity). Bieri (1955) notes that cognitively simple subjects tend

to assume similarity between themselves and targets, whereas cognitively complex subjects tend to assume dissimilarity and differentiation.

Recognition of Emotions

The literature on the recognition of emotions has shown that ease of recognition is related to at least three factors: the method of stimulus presentation, the degree of discrimination demanded of the subject, and the extent to which labels are self-generated. As described earlier, person perception experiments have used varied presentation modes, including character drawings, photographs, and motion pictures as stimuli. It is obvious that the amount of information presented, as well as its naturalness, may greatly differ among these methods. It is not surprising, then, to find that accurate labeling is more often found in complex presentations, such as motion pictures, than in simple, acontextual examples, such as photographs of real emotions elicited in a laboratory (Tagiuri, 1969).

The difficulty of the discrimination demanded of the subject is also important. Since the work of Woodworth (1938) and Schlosberg (1952) who devised, respectively, scalar and orthogonally dimensional models for delineating the similarity of emotions, we have had a method to test the accuracy of discriminating emotional stimuli. Thus, it was shown to be harder to discriminate between love and happiness, than between love and anger (Woodworth, 1938). Research in this area has generally supported the degree of difficulty reported to exist between two given emotions on both Woodworth's and Schlosberg's scales (Davitz and Davitz, 1959b, Abelson and Sermat, 1962; and Engen, Levy and

Schlosberg, 1938). Thompson and Meltzer (1964) did find, however, that some emotions: happiness, fear, love and determination, were easier to recognize overall than was disgust, contempt, and suffering. Thus, research which fails to account for the differential discriminability of emotional stimuli may confound the real results concerning accurate perception by making some tasks or items more difficult than others.

A final factor affecting the recognition of emotions is the label itself. Subjects have been shown to be more often correct in labeling an emotion when they use their own labels than when they are supplied multiple-choice labels (Munn, 1940). However, free responding also produces methodological problems. Which label, the experimenter's, the target's, or the subject's, is correct? Fernberger (1928) found that "false" interpretations, i.e., those not generated by the target, were nevertheless acceptable to the targets unless they grossly differed from the emotion originally named. On the one hand the new label may represent a simple substitution of a synonym, but it may also allow another more diffuse, non-contradictory emotion to pass for correct. Thus, the degree of difficulty of the empathy response desired should be reflected in the latitude allowed in labeling.

Veridicality

One central problem confronting empathy research is the determination of what the target individual was actually experiencing as the stimulus was presented. Experimenters who use role players as stimuli have predetermined the emotion or behavior intended to be presented. The role player acts angry, fearful or surprised and the subject must

guess the feeling imitated. One problem with this method, however, is that the emotion expressed is often exaggerated and/or stereotyped. In real life people may express their emotions subtly, only sometimes in a stereotyped fashion.

But the problem is even more difficult for researchers who are trying to assess empathy by observing natural behaviors. Sometimes an individual is vividly aware of his emotions and behaviors, but sometimes he may have only unconscious or non-verbalized awareness of his feelings. An individual may not know he is angry for three or four minutes after he has been displaying non-verbal cues signaling his anger. The knotty issue, then, is: who really knows what the target is feeling? The target himself? A seasoned observer? Who is correct?

Most predictive accuracy research has avoided the issue by defining empathy as the prediction of answers on a personality test or attitude questionnaire. While this does have the appeal of objectivity, i.e., the answers can easily be verified, the flavor of the decision process or the actual experience of the target taking the test is unknown. Predictive accuracy via personality tests, then, is a valid but highly circumscribed method for assessing empathy. When we try to assess those circumstances most common to our usual meaning of empathy: the interpretation of live experiences, we are again faced with the veridicality dilemma.

Research in counseling psychology, where empathy consists of recognizing the feelings of a client, has tended to favor the use of "experts", i.e., people assumed to be empathic by others, such as counselors and advanced graduate students in counseling (Buchheimer,

Goodman and Sircus, 1965; Campbell, 1967; Chapman, 1966; Rank, 1966). Subjects, in these cases, are actually trying to be empathic with the labels of empathic persons. When the expert and the target agree on the label, no grave problems arise. But despite their skills, being removed from the actual experience, often tends to make experts rely on more stereotyped or overly simplified answers than would be true with direct experience as reported by the target (Allport, 1961).

At least one group of counseling psychologists (Kagan, Schauble, Resnikoff, Danish, and Krathwohl, 1969) have attempted to breech the gap in interpretation by employing a technique designed to help the target discover and elucidate the feelings he was having during the taped session. This "process recall" consists of replaying the video-taped session before the target and an interrogator. The interrogator asks open-ended questions designed to elicit clear and vague feelings, thoughts and body cues of the target. While this method does not facilitate recall of truly unconscious material, it does help the target focus on minimally aware cues. Kagan and Krathwohl (1967) and Kagan et al. (1969) have shown substantial results using this method with counselor training. A more detailed description of the process recall method can be found in the Measures section.

Implicit Personality Theories

Implicit personality theories are inferential linkages which people assume to exist between personality traits. Among the earliest research in this area was the work of Asch (1946), who found the importance of a central trait, "warm-cold", to significantly effect

the formation of impressions made by subjects, and Kelly (1955) whose Role Construct Theory gave central importance to the notion that people form idiosyncratic personality theories. Other psychologists have pointed to the importance of cognitive complexity in the differential assessment of persons (literature reviewed by Crockett, 1965; and Hastorf, Schneider, and Polefka, 1970), and the importance of the strength of a subject's evaluative dimension in judging others (Steiner, 1954; Warr and Simms, 1965). In addition, Zajonc (1960) and Cohen (1961) have shown that pieces of information are related more complexly when subjects expect to receive rather than to communicate the information.

Research in this area has been of two sorts: (1) trying to uncover commonly held personality theories derived from stereotypes or language based correlations, and (2) trying to link idiographic implicit theories to personality traits like cognitive complexity or authoritarianism. Concerning the latter, Schneider (1973) concludes "it is relatively easy to show that individuals differ in their implicit personality theories, but there has been limited success relating such differences to traditional personality variables."

The methodology of empathy research has dealt inconsistently with the effects of implicit personality theories, sometimes maximizing their influence, sometimes minimizing it. Methods employing the judgment of emotions from photographs, diagrams, or brief vignettes imply that empathy is merely the interpretation of specific stimuli, and thereby minimize the implicit personality effect. Methods utilizing personality tests, sociometric measures, and handwriting analyses imply

that from a few cues the subject extrapolates an image of a cohesive personality structure, maximizing the implicit personality influence. The present research recognizes the discrepancy and employs each of the two methods, one designed to enhance the influence of implicit personality theories--a personality test measure, and one designed to minimize the effect--a videotape measure.

IV. DEFINITIONS, HYPOTHESES, AND RATIONALE FOR HYPOTHESES

Hypothesis I: With regard to Perception, subjects with high Intuitive orientation will show more empathic accuracy than subjects with middle Intuitive-Sensing or Sensing orientations.

Definitions:

Perception (P): According to Jung, the method by which sensory stimulus data are translated into information by the subject. The two extreme types of Perception are Intuition and Sensation.

Intuition (I): According to Jung indirect awareness by the unconscious, accompanied by conscious ideas or associations (hunches) which become attached to the unconscious material.

Sensation (S): According to Jung direct awareness through the five senses.

Middle Intuition-Sensation (N/S): Awareness which alternates between the use of Intuition and Sensation.

Hypothesis II: With regard to Judgment, subjects with high Feeling orientation will show more empathic accuracy than subjects with middle Feeling-Thinking or Thinking orientations.

Definitions:

Judgment (J): According to Jung, the method by which conclusions and/or decisions are reached. The two extreme types of Judgment are Feeling and Thinking.

Feeling (F): According to Jung, an emotional procedure culminating in an appraisal on a subjective basis, usually involving some form of a good-bad dimension.

Thinking (T): According to Jung, a procedure aimed at making an impersonal finding on the basis of logic or reasoning.

Middle Feeling-Thinking (F/T): A decision making process which alternates between feeling and thinking.

Rationale for Hypotheses I and II: These hypotheses are based on the conception that empathy is an alogical, intuitive process aimed primarily at understanding the feelings of others. Theoretical support for these hypotheses can be linked to Sullivan's developmental approach where empathy is prototaxic and parataxic, i.e., intuitive, originating when anxiety in the mother is apprehended by the child.

Hypothesis III: Similarity of Perceiver orientation between subjects and targets will result in more empathic accuracy than between subjects and targets dissimilar in Perceiver orientation.

Hypothesis IV: Similarity of Judger orientation between subjects and targets will result in more empathic accuracy than between subjects and targets dissimilar in Judger orientation.

Definitions:

Similarity of Orientation: The presence of the same Perception or Judgment function in both target and subject, e.g., a target categorized as a Senser and a subject categorized as a Senser.

Dissimilarity of Orientation: The presence of opposite or partially opposite Perception or Judgment functions in both target and subject, e.g., a target categorized as Senser and a subject categorized as either Intuiter or Middle Intuiter-Senser.

Target: A person viewed via videotape with whom subjects are asked to try to be empathic.

Rationale for Hypotheses III and IV: These hypotheses are related to the assumption that we understand best those who are similar to us. According to this reasoning, an individual discriminates more stimuli in areas which are familiar to him, and thus can be more accurate, than in areas in which he is unfamiliar. Allport (1937) and others report this effect for age, sex, background, complexity, and personality characteristics. Smith (1966) defines empathy in terms of similarity.

Hypothesis V: With regard to empathy viewed via a videotape source, Feeling oriented subjects will be most accurate on a feeling-oriented measure, while Thinking oriented subjects will be most accurate on a thinking-oriented measure.

Definitions:

Feeling-oriented measure: A multiple-choice measure whereby subjects choose which of four alternative feelings a particular target experienced immediately prior to the completion of a videotape sequence.

Thinking-oriented measure: A multiple-choice measure whereby subjects choose which of four alternative thoughts a particular target experienced immediately prior to the completion of a videotape sequence.

Rationale for Hypothesis V: Hypothesis V is a logical extension of the similarity hypotheses related to employing the variables of Judgment: those designated as Thinkers should discriminate thinking in others better than those designated as Feelers, and vice versa. If this hypothesis is not supported, one of two assumptions may be true: (1) although individuals indicate that they use one process of attending more than the other, they do not focus on that process in others, or (2) an error source has interfered with assessing this effect.

Hypothesis VI: Neither the order in which the target groups were presented, nor the order in which the films within the target groups were presented, will result in significant increases in empathic ability as the research progresses.

Rationale for Hypothesis VI: Increased empathic accuracy over sessions can be a confounding variable denoting practice effects or reduction of anxiety. Since empathy has been considered a relatively permanent, or slowly changeable trait, an increase in empathy might undercut this assumption.

However, increased empathy can originate from two sources:

(1) learning to be more empathic in general, and (2) learning to be more empathic toward a particular target. If (1), then learning becomes a confounding influence on ability. The effect of unequal learning rates, pre-test abilities, etc., cannot be assessed, and the results must be considered unstable, capable of changing at the next practice. If (2), then the results may represent a natural, less distorted process of empathic understanding related to familiarity with the stimulus.

Hypothesis VII: The two target individuals representing each Intuiting-Sensing, Feeling-Thinking orientation will draw similar empathy scores from the subjects.

Rationale for Hypothesis VII: Since two targets have been used to represent each extreme combination of Perceiving and Judging functions such that there are two Intuitive-Feelers, two Intuitive-Thinkers, two Senser-Feelers, and two Senser-Thinkers, the two individuals representing each type should draw similar scores. If this occurs, we can assume that the desired target characteristics were salient factors in the empathic discrimination of the subjects. If this fails to occur, the conclusion that the targets actually presented discriminable data according to their label is questionable. This particularly effects Hypotheses III and IV, since similarity unrecognized in targets can hardly be assumed to influence empathic accuracy.

Hypothesis VIII: A different pattern of mean responses will exist on the videotape measures of empathy than on the personality test measure.

Rationale for Hypothesis VIII: While both personality test and tests based on videotape stimuli have been used to assess empathy, it is reasonable to assume that they are not measuring precisely the same

qualities. Personality tests measure global abstractions in response to a stimulus presentation, while videotape tests measure the meaning of specific behaviors. The personality test assumes consistency, self-knowledge, and honesty on the part of the target, while specific behaviors on the videotape are more related to the situational context, may be straightforward or camoflaging, and may be "out of character" from time to time.

In addition, certain empathy processes may be detected by one measure, hidden by others. Strategy behavior may be facilitated by personality tests where diverse information must be related to hitherto unexplored questions. On the other hand, extrapolation may cause confusion and error in videotape tests where specific situational and behavioral cues are to be interpreted.

V. MEASURES

The measures used in this research may be divided into "personality assessment measures" and "empathy measures". The personality assessment measures were the Extravert-Introvert, Sensing-Intuition, and Thinking-Feeling scales from the Myers-Briggs Type Indicator. The empathy measures were the Videotape Empathy Series and the Personality Empathy Test both constructed by the experimenter.

Personality Assessment Measures

The Myers-Briggs Type Indicator

The Myers-Briggs Type Indicator is a 166 item forced-choice personality test which purports to measure personality type from a Jungian perspective. The MBTI measures four central dimensions: Extraversion-Introversion (E-I), Sensing-Intuition (S-N), Thinking-Feeling (T-F), and Judging-Perceiving (J-P). Each person is seen as functioning primarily within the framework of one side of each dichotomy.

While each of the dichotomies seemed relevant to the functioning of empathy, the Judging-Perceiving dimension was eliminated when search of the literature (Stricker and Ross, 1964; and Sundberg and Mendelsohn in Buros, 1961) indicated that the J-P dimension seemed to be measuring preference for order and planning versus preference for spontaneity and novelty, rather than preference for making decisions versus preference for open-ended experiencing as the manual suggests. Correlations betw

the J-P and S-N dimensions have also been found to range from 0.26 to 0.47. In this context, these moderately strong correlations provide good reason to discount the use of both scales concurrently.

Intercorrelation among the other MBTI scales were cited in the MBTI manual. They include eight studies of high school and college populations. Correlations between the E-I and S-N scales ranged from -.14 (N = 184) to 0.06 (N = 2511). Correlations between the E-I and T-F scales ranged from -.19 (N = 240) to 0.04 (N = 184). Correlations between the S-N and T-F scales ranged from 0.02 (N = 541) to 0.10 (N = 614). In sum, the scales appear to be largely independent of one another.

a) Extraversion-Introversion: Myers (1962) describes E-I in the following way:

> The introvert's main interests are in the inner world of concepts and ideas, while the extravert's main interests are in the outer world of people and things. Therefore, when circumstances permit, the introvert directs both perception and judgment upon ideas, while the extravert likes to direct both upon his outside environment.... Introverts are harder to understand than extraverts for two reasons. They are not merely less communicative; they are also a good deal more complicated. (P. 57)

Although Myers and Briggs conceived of all four dimensions to be dichotomous, few investigators agree that statistical analyses of the regression curves of the dichotomies support this contention. Moreover, Jung (1928) describes as less differentiated the "normal man, who is normal partly because nothing excessive is allowed." Following this thinking, and the substantial amount of research that has disconfirmed the dichotomous nature of the scales, this study will consider extraversion-introversion, sensing-intuition, and thinking-feeling each to be

continua. See Appendix B for confirmation of the non-dichotomous nature of the scores of the initial sample in this study.

In this research, the middle range of the E-I scale was used as a control for (1) the effect of extreme extravert-introvert response styles grossly influencing behavior, and (2) the reduction of adjustment as a confounding variable.

Validational data presented in the manual shows the E-I scale to correlate positively ($p < .01$ with Deference and Abasement and negatively with Exhibition, Affiliation and Dominance on the Edwards Personality Preference Schedule (EPPS).[1] On the Allport-Vernon-Lindzey Scale of Values (AVL), E-I correlated positively ($p < .01$) with Theoretical and Aesthetic scales, while correlating negatively with Economic and Political scales. On the Personality Research Inventory (PRI), E-I correlated positively ($p < .01$) with Free-floating Anxiety, Impulsiveness, and Gregariousness. Introverts have less people-oriented values (Theoretical and Aesthetic), and seem to react to others with a flight rather than fight reaction (Abasement and Deference). While introverts seem to experience more anxiety, they also seem to be more independent. The extraverts, on the other hand, present themselves more to others (Exhibition, Affiliation), have more people-interactive values (Economics and Politics), and fight rather than flee when confronted (Dominance). These results seemingly correlate accurately with traditional definitions of extraversion-introversion.

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[1] Extraverts score high on the E-I scale.

Additional correlational data collected by Stricker and Ross (1964) found the E-I scale to correlate positively with the Minnesota Multiphasic Personality Inventory (MMPI) extraversion-introversion scale (Si, r = 0.63) and the Gray-Wheelwright Psychological Type Questionnaire, an earlier questionnaire measuring Jung's psychological types (r = 0.79). Stricker and Ross also cite previous research reporting highly significant correlations with the E-I scale on the Maudsley Personality Inventory (Eysenck, 1959 and Howarth, 1962), and an extraversion-introversion factor identified by Ross (1963). Stricker and Ross conclude that the MBTI E-I scale measures extraversion-introversion as it is commonly defined: "interest and facility in social relations, frequently involving talkativeness" (Stricker and Ross, 1964).

Stricker and Ross also note the possibility that the E-I scale may be partially measuring adjustment. The E-I correlated ($p < .01$) with a neurotic scale (D, r = .39) and three of four psychotic scales (Pt, r = .30; Ma, r = -.29; and Sc, r = .23) on the MMPI. While it did correlate consistently with relevant Maudsley scales, and correlated negatively with the CPI Self-Assurance scale, previous studies cited by Stricker and Ross have found the E-I scale to correlate consistently with measures of adjustment: the Maudsley Neuroticism scale (Howarth, 1962), the PRI Free-Floating Anxiety scale (Myers, 1962b), ratings of Needs Psychologist's Attention and Low Stamina (Ross, 1961).

b) Sensing-Intuition: Myers (1962b) describes intuition and sensing in the following way:

> When people prefer sensing, they find too much of interest in the actuality around them to spend much energy listening for ideas out of nowhere. When people prefer intuition, they are too much interested in all the possibilities that occur to them to give a whole lot of notice to the actualities. For instance, the reader who confines his attention strictly to what is said here on the page is following the habit of the people who prefer sensing. One who reads between the lines and runs ahead to the possibilities which arise in his own mind is illustrating the way of the people who prefer intuition. (Pp. 51-52)

Validational data presented in the manual shows the S-N scale to correlate positively ($p < .01$) with Autonomy and negatively with Deference and Order on the EPPS.[1] On the AVL, S-N correlated positively ($p < .01$) with the Aesthetic and Theoretical, but negatively with the Economic and Political scales. On the PRI, the S-N scale correlated positively ($p < .01$) with Liking to Use Mind,* Artistic versus Practical, Tolerance of Complexity, Impulsiveness,* and Progressive versus Conservative. The S-N scale correlated negatively with the Gregariousness, Masculine Vigor and Social Know-How scales on the same test. Inspection of these positive and negative lists shows the Intuitive end of the continuum to be aesthetic, theoretical and autonomous, while the Senser end to be gregarious, ordered and economic. Although "hunch" oriented behavior, usually closely associated with intuitive behavior was neither pin-pointed by the MBTI questions nor has it been expressly studied with relation to the S-N scale, behavior contingent on making hunches does seem to correlate positively, supporting the conceptual definitions stated by the manual.

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[1] Intuiters score high on the S-N scale.

*Denotes more than one study in which the scale has correlated significantly at the .01 level with the attribute indicated.

Data by Stricker and Ross (1964) found a significant positive correlation ($p < .01$) between the Myers-Briggs S-N scale and a similar S-N scale on the Gray-Wheelwright Psychological Type Questionnaire. However, they also note that non-conformity seems positively correlated to the intuition end of the scale. In this case, the scale may have a heavy conformity-non-conformity loading, or since Stricker and Ross were using the N score on a non-continuous basis with the S, the N scale may be measuring non-conforming intuitives rather than conforming ones. The chief drawback of the S-N scale is its lack of breadth in covering the diverse aspects of intuition, such as valuing hunch behavior versus valuing empiricism. It is, however, the only scale which measures preference for intuition and gives validational data to support its claim to do so.

c) Thinking-Feeling: Myers (1962b) describes the Thinking-Feeling dimension in the following way. There are

> two distinct and sharply contrasting ways of coming to conclusions. One way is by the use of thinking, which is a logical process, aimed at an impersonal finding. The other way is by the use of feeling, which is a process of appreciation, equally reasonable in its fashion, bestowing on things a personal, subjective value.... If, when one judges these ideas, he concentrates on whether or not they are true, that is thinking-judgment. If one is conscious first of like or dislike, of whether these concepts are sympathetic or antagonistic to the ideas he prizes, that is feeling-judgment. (P. 52)

Validational data presented in the manual shows the T-F scale to correlate positively ($p < .01$) with the Nurturance, Affiliation, Succorance, and Abasement scales, and negatively with the Endurance, Order, Autonomy, Dominance, and Achievement scales on the EPPS.[1] On the AVL, the T-F

[1] Feeling scores high on the T-F scale.

scale correlated positively ($p < .01$) with the Social and Religious scales, and negatively with the Theoretical, Economic, and Political scales. On the PRI, the T-F scale correlated positively ($p < .01$) with Free-Floating Anxiety, Spiritual vs. Material, and Tolerance for Complexity scales, while it correlated negatively with Masculine Vigor, Attitude toward Work, and Self-Sufficiency. Combined, these results seem to indicate that the Feeler end of the continuum is related to the reconciliation of positive and negative feelings, and social and religious life preferences. The Tolerance for Complexity correlation is mystifying. The Thinker end of the continuum can be described as vigorous, achievement oriented, and self-sufficient. With reference to the manual descriptions, the subjective and evaluative aspects seem largely fulfilled by the validational results. The impersonal, objective orientation of the Thinker seems likewise substantiated. Again a highly significant correlation ($p < .01$) was found between the Myers-Briggs T-F scale and the Gray Wheelwright Psychological Type Questionnaire by Stricker and Ross (1964).

Empathy Measures

1. The Videotape Empathy Series (V.E.S.)

The Videotape Empathy Series consists of four multiple-choice subscales used to measure empathic accuracy of subjects toward group members viewed via videotape. The four measurements include: Thinking Empathy, Feeling Empathy, Behavior Empathy, and Social-interaction Empathy. Defined operationally, Thinking Empathy is the ability to accurately predict, given four alternative choices, what a target individual would

say he was thinking at a particular moment during a videotaped group session. Similarly, Feeling Empathy consists of the ability to accurately predict what a target individual would say he was feeling at a particular moment during a videotaped group session. Behavior Empathy is defined as the ability to predict which behaviors a target individual will perform immediately following an experimenter stopped segment. Social-interaction Empathy is the ability to choose which of three other group members a target individual will say he places closest or farthest from himself on selected sociometric continua, e.g., trust, liking, similarity to self.

Table 1. Outline for constructing the Thinking and Feeling Empathy tests.

I.	1/2 hour group session videotaped.
II.	Awareness training.
III.	Recall session, group members interviewed separately.
IV.	Construction of test items by experimenter.
V.	Evaluation of face validity of items by group members.
VI.	Omission or rewording of test items by experimenter with reference to group members input.
VII.	Pilot study to determine level of difficulty for items and weight of alternative responses within items.
VIII.	Omission or substitution of items or alternatives according to level of difficulty and/or unbalanced weight of alternatives.

a) The Thinking and Feeling Empathy Tests

The procedure for constructing the Thinking and Feeling Empathy tests is outlined in Table 1, on the preceding page. Since essentially the Thinking and Feeling Empathy tests ask subjects to predict what group members would say they were experiencing during intermittent segments of their group sessions, it is imperative that the group members relate as accurately as possible what they were experiencing as the group session progressed. In order to facilitate the recognition of subtle as well as obvious experiential data, a special awareness training technique was instituted after the first group session and before the first recall session.[1] The awareness training session consisted of arranging feelings presented in the form of a jigsaw puzzle (see Appendix D) into dichotomies "experience frequently" and "experience rarely" and later "feel comfortable experiencing" and "feel uncomfortable experiencing". From each of the dichotomies the group members were asked to select a feeling they would like to explore in greater depth. Using an adaptation of Gendlin's focusing technique (see Appendix D), each group member was instructed to silently attend to the bodily sensations, emotional responses and mental meanderings accompanying the experience of the original feeling. For approximately 10 minutes, the individual was guided toward discovering the many gradations of experiences occurring concurrently. After a short rest, another feeling was

[1]The awareness training session was given following the first group session in order to reduce contamination or carry over to the videotaped group session. Awareness training was not instituted on recall days in order to reduce the chance of bringing in extraneous feelings which might interfere with recall.

chosen and the procedure was repeated. A total of six feelings were selected for focusing. The awareness training session lasted one hour.

A technique closely related to the Interpersonal Process Recall developed by Kagan and Krathwohl (1967) was used to elicit feeling and thinking responses during the replay of the videotaped session. Recall data was collected on the odd days following the group sessions (see Figure 1), each group member being interviewed individually for approximately 1 1/2 hours. During the recall session, the group member was asked to watch the videotape and say "stop" whenever she recognized feelings she had had about herself or the other group members, thoughts she had had but did not express, bodily sensations she had experienced, or expectations she had had about herself or the situation.[1] Statements which the group member made after she stopped the tape were written down by the interviewer, either by capturing the general tone and meaning of the answer or by an exact quotation if the response was short. In addition to the verbal explication by the group member, she was given a list of 70 feeling words grouped by similarity, e.g., angry, frustrated, disgusted (see Appendix E), and asked to check off all the relevant feelings associated with the interaction just interrupted. She was permitted to check the feelings before or after she commented on the interaction, depending on which was more functional. (She might have

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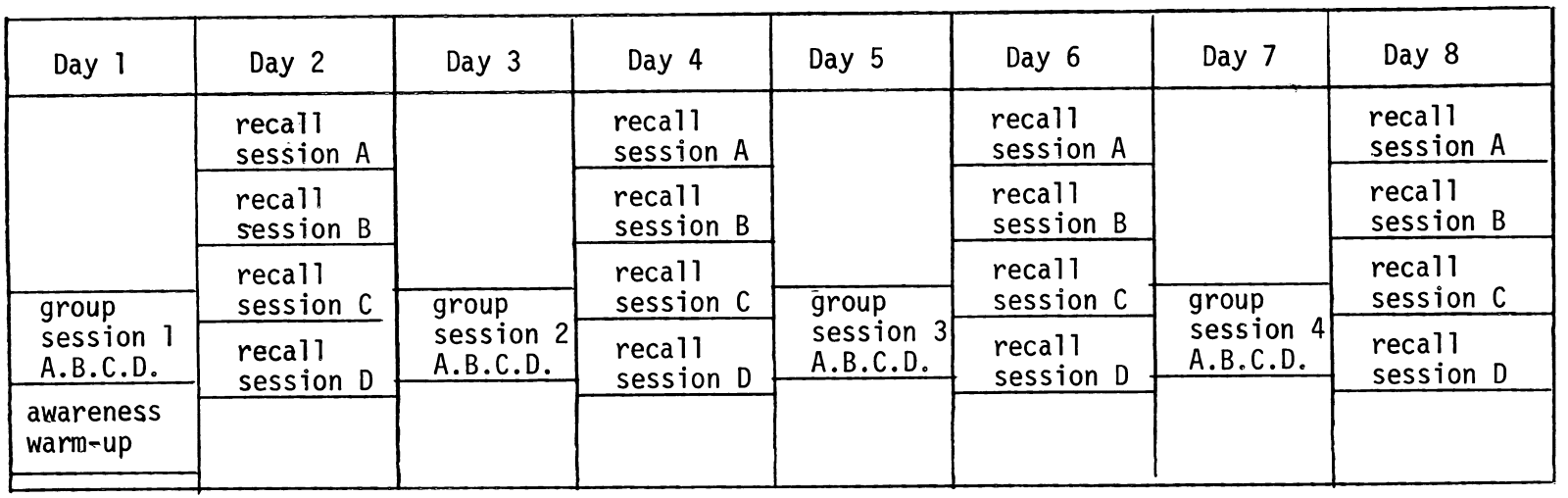
[1] A remote control switch by which the group member could stop the tape was originally planned for use instead of saying "stop". The videotape technician suggested, however, that stopping the tape for as long as a minute might have a detrimental effect on the quality of the tape, so the "stop" method was instituted instead. It is recognized by the experimenter that a remote control switch has advantages over the "stop" method especially with regard to making it easier to stop anxiety toned segments.



A = SF group member; B = NT group member; C = ST group member; D = NF group member

Figure 1. Time schedule for group meetings and individual recall sessions.

wanted to state clear or strong feelings first, or check the list first, if feelings were less clear or hard to verbalize.) Finally, the interviewer sometimes stopped the videotape to elicit feeling and thinking responses which she had summised from cues in the interaction, such as abrupt shifts in theme, body posture, and voice level or tone.

After the recall session, the experimenter organized the recall data into feeling and thinking responses from which 6 feeling and 6 thinking multiple choice questions were constructed. Each feeling item contained a verbalized and a clarifying statement about the feeling, e.g., "careful--not to say anything that would hurt _____'s feelings." This is in accord with Chapman's (1966) observation that "adjectives (describing feelings), without clarifying phrases, have different meanings for different people.... The use of phrases might be more specific and therefore might give more consistency of interpretation than the adjectives alone" (p. 56). Thinking items are also stated in sentences, e.g., "I hope they ask me what instrument I play." Three "incorrect" alternatives were constructed by the experimenter by using either feeling words left unchecked by the group member or by thoughts not indicated as present during recall.

To ascertain the accuracy of the multiple choice items, the videotape was replayed for the group members after all the group sessions had been completed. The tape was stopped after each interaction for which a multiple choice item had been constructed, and the designated group member was given the item and asked to mark whether the alternative was "true", "false", or "somewhat true". Alternatives which the experimenter had intended to be "incorrect", but which the group member

marked "true" or "somewhat true" were either omitted or reworded to make them false.

In order to test the likelihood to choose each "incorrect" alternative per item, a pilot study was conducted. Twenty subjects viewed each videotape in series and indicated which feeling or thinking response they thought the targeted individual would say she was experiencing just before the videotape stopped. Results of an item analysis showed the average percent correct to be 34%, a little above chance prediction. This meager score was thought to result from two sources: (1) the difficulty of some items, and (2) the unusual drawing power of some "incorrect" alternatives. Items diagnosed to be suffering from either of these two error sources were either omitted, reworded, or new alternatives were substituted.

The instructions given to the subjects before taking each empathy test are similar to those used by both Chapman (1966) and Campbell (1967). They are:

> The following is a multiple choice test used in conjunction with a videotape. Prior to today a series of videotapes were made in which four women participated in group discussions. Subsequently each group member individually watched a replay of each videotape and recalled what she was thinking or feeling during certain segments of the tape. One correct and three false alternatives were constructed for many of the segments recalled.
>
> In this part of the experiment, the first videotape of Group A will be replayed and stopped at the segments mentioned above. When the videotape stops you are to turn the page and read a question about one of the group members. You will be given ten seconds to think about what that individual was thinking or feeling just before the videotape stopped. While you are thinking, the alternatives to the questions which begin in the middle of the page, should be kept covered with the sheet of paper provided. After ten seconds, the experimenter will signal you to remove the paper and choose which of the four alternatives you think the indicated group member would say she was feeling or thinking just before the videotape stopped. After you have circled the answer

> to the question, DO NOT TURN THE PAGE. Wait until the videotape has been started and stopped again at a new segment to turn the page. IMMEDIATELY COVER THE BOTTOM HALF OF THE PAGE WITH THE PAPER PROVIDED WHEN YOU TURN THE PAGE.
>
> Remember, you are to choose which alternative the indicated group member WOULD SAY she was thinking or feeling just before the videotape is stopped.

Before each videotaped segment was begun, the subject was told the name of the group member who was the target of the next question. This was done to insure that the subject was paying attention to the behavior of the targeted member and not, by chance, to another member. The names of the group members were posted near their image on the screen.

The ten-second reflection period was designed to enable the subject to get a clear picture of her own view of the situation before reading the four logical possibilities presented in the multiple choice alternatives. This was performed to avoid the possibility that the cleverness or persuasibility of the "wrong" alternatives would be a crucial error factor in determining the subject's response.

Results of similar tests. Although the procedure for constructing the Videotape Empathy Series (VES) is unique, two empathy scales constructed by Chapman (1966) and Campbell (1967) have many similarities to the VES. Both Chapman's and Campbell's Affective Sensitivity scales (AS I and AS II, respectively) were designed to measure the empathy of persons viewing certain videotaped counselor interviews. The subject was presented with short counseling segments and asked to choose which of three alternative responses most accurately stated what the counselee was feeling about either himself or about his counselor.

Correct and incorrect responses in Chapman's empathy test were determined by two criterion groups, judged high and low in empathic regard who were asked to view short counseling vignettes and "try to feel as the client felt" when the tape was stopped. From a list of 57 feeling adjectives, each individual selected those feelings which he thought were most clearly revealed by the counselee in the vignette. The item selected most frequently by the high criterion group and not by the low criterion group, and vice versa, were selected as items for the AS I. Four to seven items were chosen for each vignette.

The subjects, master's candidates and counseling educators at two universities, were ranked on an empathy continuum by their peers or superiors. The upper and lower thirds of the distribution were shown the counseling vignettes and asked to "try to feel as the client last felt." For each vignette they were given the 4 to 7 feeling words described in the previous paragraph and asked to rate each on a continuum for "I have this kind of feeling strongly," to "I have this kind of feeling not at all." No significant difference was found between the means of the two groups. Among the explanations for these results were that (1) the feeling adjectives were too imprecise and needed clarification, and (2) the rankings used to select the criterion groups and the subjects according to their empathy skills, by the admission of some of the rankers, was sketchy at best, faulty at worst.

The present research has taken into account Chapman's first observation by adding explanatory statements to the feeling adjectives for clarification. Since no outside judges are used, the second problem is not applicable.

Campbell's AS II also followed Chapman's suggestion and added explanatory statements to clarify feelings described. Campbell's method for ascertaining the true feelings presented in the videotaped segments was more complicated, however. He used three sources for identifying feelings: (1) judges who watched the videotapes and described the feelings they observed; (2) judges supplied with background data regarding previous counseling interviews between the counselor and counselee; and (3) actual statements of feelings made by the counselee during an Interpersonal Process Recall of the counseling session. In addition three levels of sophistication of judges were used: practicing counselors and doctoral candidates in counseling; M.A. counseling and guidance candidates, and non-counseling and guidance individuals. The latter two groups were used to construct "distractors", i.e., "wrong" answers.

Based on item analyses of total scores, peer ratings and staff ratings, Campbell found no significant differences between the three methods of item selection, although he found that some counselees verbalized more about their feelings than others, and therefore produced more data from which to garner type III items. Concerning the AS II as a whole, low positive correlations occurred between scale scores and peer and staff ratings of counselor effectiveness (average correlation = .26), and between scale scores and peer and staff ratings of affective sensitivity (average correlation = .38).

Although suggestions for improving the AS II were not offered by Campbell, at least two alterations seem necessary to this experimenter. First, some method for verification that the target individual

was actually feeling the feelings attributed to him by the judges should be implemented. Second, a method for analyzing the quality of the "wrong" answers should be constructed.

With relation to the use of outside judges, in the opinion of this experimenter outside judges often confound the results of the experiment. The subject must be empathic with an empathic person, rather than with the target person himself. Often outside judges are employed, however, because they are more willing to identify negative or anxiety producing feelings than are the target individuals. To overcome this predicament in the present research, it was decided that helping the group members recognize and accept their feelings would, if successful, alleviate most of the need for outside judges. Therefore the series of awareness exercises described previously were constructed to facilitate this learning.

To insure that the "wrong" answers on the multiple choice test were not the greatest variant in determing the subject's empathic ability, or lack of it, either because some of the "wrong" answers were "right" or because the level of difficulty of the items was extreme, a method for analyzing the multiple choice items was constructed. As described previously, each group member reviewed the videotape and the multiple choice items related to her, commenting on the right and wrong alternatives and rating each item.

The Videotaped Group Discussion. The videotaped discussions were designed to provide several samples of everyday behavior. While it was thought that examples of everyday conversations could be generated by allowing the group members simply to talk among themselves about

whatever seemed relevant at the time, in order to reduce anxiety which might arise from the special circumstance of being videotaped, two discussion topics were supplied to the group members at the beginning of each session. Specifically, the group members were told that their primary job was to get to know each other as well as they could. They could do this by talking about either of the two topics supplied at the beginning of each group session, or by discussing whatever they thought would facilitate their understanding of each other.

The choice of topics supplied for the videotaped discussion are based on observations from two theories. The first is Eric Berne's, who observes that individuals communicate on certain levels of interaction during their everyday lives. They begin at simple levels and move to more intricate ones. His levels: the ritual, pastime, game and intimate interaction, reflect how committed the individual is to the interaction and how safe he feels in the interaction.

The second theoretical observation, Maslow's, states that people move through their lives in a hierarchical fashion, first solving basic needs then moving on to more complex interpersonal ones, and finally to self-enhancing ones. His levels: the physiological, safety, belongingness and love, esteem, and self-actualization, reflect the needs the individual has satisfied, what problems the individual is focussing on, and which needs are still vaguely defined because he has not entertained them yet. With these two observations in mind, an order of topical discussion was designed that would encounter the safest and least committing discussions first and would move into deeper, more complex, and riskier subjects later.

The topics and order of discussion are: (1) What are the advantages and disadvantages of dorm life? (pastime); (2) How do you usually spend your time? (pastime--allows predominant hierarchy level to emerge); (3) As a child, how did you get what you wanted from your parents? (game--safety, belongingness and love); (4) How do you react when you"re angry? (game, intimate--safety); (5) If someone thought something about you which might hurt you, would you rather have him tell you about it, or keep it to himself? Why? (game, intimate--safety, esteem); (6) What are some of the things you've noticed about how your group functions? (game, intimate--safety, belongingness and love, esteem); (7) Are you more like a Parent, an Adult or a Child? (game, intimate--esteem); (8) What would you have liked to have said in this group, but you didnt? (intimate--safety, belongingness and love, esteem). In fact, the group did discuss the two topics supplied each session, but often the discussion of these was minimal, lasting between 5 and 10 minutes. The actual group discussions, then, usually reflected topics generated by the group members. The topics characteristically remained at Berne's pastime level and Maslow's belongingness level, although when the supplied topics were discussed, the level of conversation usually attained that previously signified in parentheses.

Visual organization of the videotaped group. The visual format by which the videotaped members are arranged on the screen is an important factor in the degree of empathic accuracy that is technically attainable. Three methods of recording group sessions via remote-control cameras were considered; two being encorporated, one being discarded. Factors seeming most essential were: (1) placing four

individuals on the screen without appearing so distant as to miss subtle behavioral cues needed for empathic judgment, (2) obtaining a front view, as opposed to a side view, of all the target individuals, and (3) retaining a sense of the group, i.e., knowing who is talking to whom.

The first and most natural method was simply to videotape all four group members sitting in a half-circle. This method satisfied condition 3, i.e., it allowed a sense of group functioning, but the image of the target individuals on the screen was too small to allow the easy interpretation of subtle, but important behavioral cues. Moreover, only profiles of the two outside members were usually attainable. A second split-screen method solved the latter two concerns, but created the first, the absense of a feeling for group cohesiveness, as the two inside members no longer faced each other but the outside of the screen (see Figure 2).

A final method, utilizing one camera to focus on one group member in a corner of the screen while shooting the total group as a backdrop (see Figure 3), was discarded because of the unpredictable nature as to who would finally be the targeted individual of a particular series. (Empathy sequences were not determined until after recall sessions were complete.) Also, while this quarter-screen method allowed the total group to be seen, it reduced attentiveness to the other members of the group as they appeared smaller and more recessed.

A compromise to maximize satisfaction of the factors initially mentioned was accomplished by taping the group as a whole for the first five minutes, followed by 10 minutes of split-screen close-up focussing,

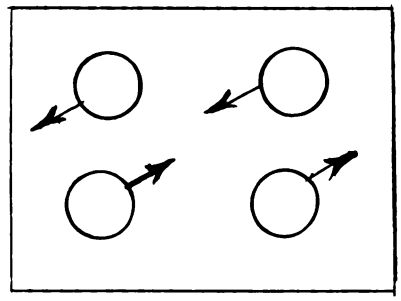


Figure 2. Eye direction of group members using split-screen cameras.

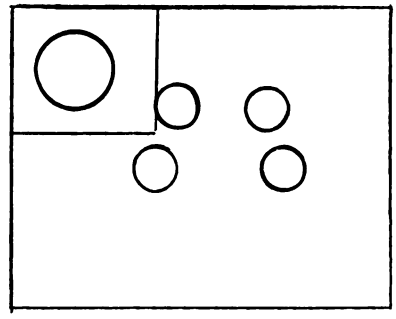


Figure 3. Videotape screen configuration using one member as primary focus.

five minutes of full group, 10 minutes of split-screen. Seating positions were rotated each session to disallow for side view distortions being distributed unequally.

b) The Behavior Empathy Test

The Behavior Empathy Test (B.E.) was designed to measure how accurately a subject could predict which behaviors a target individual would engage in following the cessation of a videotaped segment.

It answered the question, "how well does an individual know what another individual is going to do?"

B.E. was constructed by noting instances in each group session where target individuals accompanied their verbal messages with clearly describable behavior, e.g., asked others for their opinions, laughed at a remark, changed the subject. From these instances, an equal number of behavioral responses were chosen per target person, and "incorrect" behavioral responses were constructed by the experimenter. The problem of the subjective validity of "incorrect" responses did not arise with this test, since the actual behavior of the subject could be objectively ascertained by watching the tape, i.e., it was obvious from watching the tape which behaviors the individual did or did not perform. The relative power of the "incorrect" alternatives was examined by the same procedure mentioned in the previous section. "Incorrect" responses with exaggerated drawing power were omitted or reworded.

c) The Social-interaction Test

The Social-interaction Empathy test (SIE) was designed to measure how accurately a subject could predict which of the group members a targeted individual would feel closest to or farthest from on various sociometric continua: trust, liking, similarity to self. It was designed to determine how well an individual understood the social ties between group members.

SIE was constructed from double-layered scales (see Figure 4) given to each group member following every videotape recall session. One level of the scale asked each group member to rate the remaining

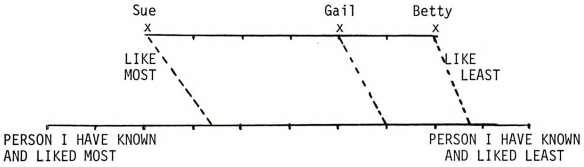


Figure 4. An example of a Social-interaction rating scale.

group members on a continuum from "most" to "least" according to a specific sociometric trait. Because this level was an intragroup comparison, both ends of the continuum were instructed to be used. To balance this forced extreme rating, a second level was employed which instructed the individual to draw a line from each person on the first level to a position on the second level which represented where that person belonged with respect to all the people he had known regarding that trait. The top rating was the only rating used in the research. The second level was designed to reduce anxiety concerning extreme judgments and to balance the top rating according to his own perspective.

The SIE test was composed of multiple choice questions which reflected the ratings of the sociometric scales, e.g., "Who would Mary say she liked best?" Because the items were constructed directly from the scales, rewording was unnecessary. An item analysis was used to determine difficulty level, and items deemed too easy or too difficult were omitted.

2. The Personality Empathy Test

The Personality Empathy Test (PET) is a variant of a widely used empathy test format in which subjects and target individuals both take a personality, interest, or attitude inventory. The subjects view a limited sample of the target person's behavior, e.g., interview, discussion, photograph, tape-recording, handwriting, and retake all or part of the pre-test inventory as they think the target person would take it. The Personality Empathy Test is a 100 item test composed of questions from the Myers-Briggs E-I, S-N and T-F scales, and the Complexity scale of the Omnibus Personality Inventory. The subject is asked to answer each item the way he thinks specified videotaped group members would answer that item. The test was given after the final taped session of each videotaped group.

Often multiple-choice empathy tests are constructed by merely asking the subjects to fill out a complete personality test as a target person would. One major drawback of this method is that it includes items which the target person himself may answer with uncertainty. Thus the variability in the test-retest reliability is built into the new method. During the pre-experiment testing in this research, each individual is asked to mark an "X" by every question which "importantly describes some aspect of her personality." She is instructed to mark between 30 and 40 of 150 responses. The PET was constructed from these designated items of each videotaped group member.

Cronbach (1955) cites another drawback of this method of empathy testing. Some questions may have a sterotyped answer, such as "Sometimes I just like to relax and listen to music," which reflects more

knowledge of the average person, or a stereotype like "college student", than empathic understanding of the specific target person. To reduce the effect of these non-discriminatory items, only two-alternative items which are answered one way by more than 35% but less than 65% of a sample of college students were used.

The PET is scored by summing the correct predictions made by each subject about each group member. A total of 25 points is possible concerning each group member, and a cumulative score of 100 is possible toward the total videotaped group. Thus, both person-specific and total empathy scores are available.

IV. PROCEDURE

Selection of Subjects and Group Members

Eight group members (targets), 20 pilot study subjects, and 36 experimental subjects were selected from similar populations. The targets and pilot study subjects were selected from a group of 383 female students enrolled in introductory and personality classes at Michigan State University during the Spring term, 1972. Following completion of videotaping and test construction, the experimental subjects were selected from another sample of 157 female students enrolled in various level psychology classes during the Summer term, 1972.

Female students were asked to volunteer to take a general personality interest test for which they received 2 "experimental credits" which could be used as extra credit toward their final grade in the course. They were also told that they might be chosen to participate in a second experiment involving empathy toward videotaped group members, for which various amounts of experimental credit and money would be given depending upon their function in the experiment. Videotaped group members received $20 plus 4 extra credit points. Pilot study subjects received $10 plus 4 extra credit points. Experimental subjects received $8 plus 4 extra credit points. The difference in the amount of payment received reflects the proportional amount of hours worked.

Scores for potential subjects and targets were first screened on the control variable, Extraversion-Introversion. Scorers falling outside the middle fiftieth percentile, i.e., extreme scorers, were dropped from consideration. From the remaining pool, 2 targets were chosen to represent each combination of the four extremes on the Sensing-Intuition and Thinking-Feeling scales, i.e., ST, SF, NT, NF. Extremes were defined as the top and bottom 25 percentiles on each scale (see Figure 5).

25%	12½%	25%	12½%	25%
Extreme		Middle		Extreme

Figure 5. Selection procedure according to distribution of scores on experimental variables.

Similarly, potential subjects were screened first on the Extraversion-Introversion scale with only the middle fiftieth percentile considered further. Then, four representatives of each possible extreme and middle scoring combination were selected (see Figure 6). Pilot study subjects had been selected at random from the distribution of experimental variables.

	Feeling (F)	Thinking-Feeling ($\frac{T}{F}$)	Thinking (I)
Intuition (N)	NF (4)	N^T_F (4)	NT (4)
Intuition-Sensing ($\frac{N}{S}$)	N_F S^F (4)	N^T S^F (4)	N_T S^T (4)
Sensing (S)	SF (4)	S^T_F (4)	ST (4)

Total = 36 subjects

Figure 6. Classification of subjects by scores on independent variables.

Procedure for Subjects

Subjects were divided into two groups. One group viewed one videotaped group series, Group A, first. The second group viewed the remaining videotaped group series, Group B, first. This was to assure that any improvement in empathic understanding that accrued to practice was equally distributed among the two groups videotaped. To determine whether such a difference did occur, an analysis of variance (Hypothesis VI) was performed on the data with respect to accuracy versus first or last viewing of the series. Between 8 to 10 subjects viewed a group series at a time.

As instructions, the subjects were told that they were participating in a study designed to measure empathic ability. Empathic ability was defined as the ability to understand what another person was thinking or feeling the way the other person experienced it. For instance, if a person assumed a happy stance, to cover up sadness he really felt, it would be empathic to say he was sad. On the other hand, if he acted happy and did not experience sadness, even if the judge thought he was really sad underneath, it would be empathic to say he was happy. Empathy, therefore, is the ability to understand what another person is experiencing at a particular moment.

The format was explained: the subjects would watch two groups of four people who were strangers to each other discuss various topics. One group would be seen each week. In order that the group members could be viewed more closely on the screen, two methods of presentation would be used: sometimes the group would be shown in a semi-circle on the screen just as they had been sitting originally, and sometimes by

using two cameras, one-half of the semi-circle would be shown on the top half of the screen, the other half on the bottom. To make this switch less confusing, the names of the subjects were pasted on the top of the screen in the order they sat in the semi-circle, and each name was pasted on the side of the screen next to where they were sitting when the screen was split (see Figure 7).

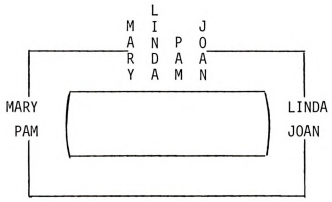


Figure 7. Arrangement of subjects and subject-names on screen.

The subjects were told that at the beginning of each segment, they would be advised as to which particular group member would be the subject of the next test question. The subjects were instructed to pay close, but not total, attention to this group member, particularly with regard to what the individual was thinking, feeling, or about to do. As the videotaped session progressed, the subject was told that the experimenter would stop the tape, after which she was to turn the page of the test booklet and cover the bottom half of the page with the cover sheet provided, i.e., cover the alternative answers. The subject and the experimenter would then read the question together (the

experimenter reading aloud so all subjects would be sure of the question), and the subject would be given 10 seconds to think about her own answer to the question. Following this 10 second period, the subject would be instructed to remove the cover sheet, look down to the bottom of the page, and answer which of the four alternatives she thought was correct.

The importance of the 10 second interval to clearly answer the question in the subject's own mind was stressed. It was explained that all the alternatives could be logical answers for the question, and that sometimes one alternative might fool them if they did not have their own answer firmly in mind. The subjects were admonished to remain silent throughout the session, so as not to influence others, and not to be rushed when answering. It was explained that the research would be completed in three weeks or less and they could compare notes with others, or ask questions in a follow-up session concerning their scores, the content of the sessions, or the research design.

Stimuli for measuring feeling, thinking and behaving empathy were presented by means of videotape stops. The social interaction items, concerning the total session, were asked at the end of each session. The Personality Empathy Test was given at the end of the last session for each group (see Figure 8).

Session 1	Session 2	Session 3	Session 4
Film 1:	Film 2:	Film 3:	Film 4:
Feeling, Thinking, Behavior Empathy	Feeling, Thinking, Behavior Empathy	Feeling, Thinking, Behavior Empathy	Feeling, Thinking, Behavior Empathy
Social Interaction Empathy	Social Interaction Empathy	Social Interaction Empathy	Social Interaction Empathy
			Personality Empathy

Figure 8. Order of presentation of empathy tests per group.

Statistical Procedures

Five repeated measures analyses of variance were performed to determine whether the differences predicted in the hypotheses were supported or rejected by the null hypothesis. To minimize Type I errors resulting from chance rejection, a total confidence level of .10 was used. This seemingly high confidence level was divided among the five analyses, however, such that .025 levels were acceptable for the two primary designs and .0167 levels were acceptable for the three minor designs. It was felt that the number and complexity of the variables, in addition to the exploratory nature of the minor designs, warranted a more lenient .10 confidence level. Note that the two designs measuring the main effects have a combined confidence level of .05 as is standard in most research.

Design 1 explored the differences between subject variables with respect to videotape empathy measures, while Design 2 determined differences between subject variables on the personality empathy measure. Design 3 determined the effects of order of presentation on level of empathic accuracy. Design 4 analyzed the effects of utilizing two target individuals per target category on similarity of response toward the two category members. Design 5 compared subject response on videotape versus personality empathy test measures.

VII. RESULTS

Five analyses of variance using a repeated measures design were employed to test the hypotheses. Two analyses, considered to be the major analyses, were used to test the main effects and differential effects. Three analyses, considered to be minor analyses, were used to test measurement effects. Because of the complex and exploratory nature of some of the hypotheses, a total confidence level of .10 was used over the five analyses. The major two analyses utilized a combined confidence level of .05 to attain significance, or .025 per design. The three minor analyses also utilized a combined confidence level of .05 to attain significance, requiring a .0167 level per design.

The procedure for the analysis of results is to consider the two major designs, or main and differential effects, first, then to consider the measurement effects. Overall interpretation of the major results tables will proceed before more detailed inspection of the specific analyses related to each hypothesis will be made.

Because some analyses are relevant to more than one hypothesis, a left hand column in each major results table indicates the analyses relevant to each hypothesis. It should be noted that careful attention has been paid to the possibility that one significant analysis, being related to more than one hypothesis, could result in overestimating the strength of that analysis. The chance for this Type I error has been

decreased by (1) anticipation of its occurrence, (2) careful inspection of the direction of the means differences with respect to each hypothesis, and (3) use of a statistic (ω^2) which estimates the percent of the total variance attributable to a particular analysis. Thus, only analyses contributing to a large percent of the variance will be considered worthy of supporting more than one hypothesis.

Main Effects

The main effects are concerned with the total empathy displayed by subjects regarding two personality orientations: Perceiving, measured on a continuum from Intuition to Sensing, and Judging, measured on a continuum from Feeling to Thinking. Hypothesis I states that among all the Perceivers, those with an Intuitive orientation will be most empathic. Hypothesis II states that among all the Judgers, those with a Feeling orientation will be most empathic. Tables 2 and 3 assess these effects, Table 2 concerning empathy via a videotape source, Table 3 concerning empathy measured via a written personality test.

While not specifically related to Hypothesis I and II, it may be worthwhile to note the outstanding features of Tables 2 and 3 in order to clarify their overall meaning. In Table 2, 6 of 31 analyses, or 19%, are significant at the prescribed .025 level. Chance predicts that 1% of the analyses should be significant at this level, so it can be assumed that some significant differences are evident beyond chance. Table 2 suggests a strong measurement (M) component as the factor creating most of the significant variance, i.e., all significant analyses contain an "M" variable. This factor might be interpreted as an

Table 2. Summary of Analysis of Variance for Videotape Empathy Series

Hypotheses	Source	df	MS	F	p	ω^2
I	Perceivers (P)	2	.000	<1	n.s.	
II	Judgers (J)	2	.007	<1	n.s.	
I, II	P x J	4	.007	<1	n.s.	
	Subjects (S) : P x J	27	.026			
	Measures (M)	3	.316	33.79	.0001	.10
I	P x M	6	.006	<1	n.s.	
II	J x M	6	.025	2.67	.021	.01
I, II	P x J x M	12	.009	<1	n.s.	
	S x M : P x J	81	.009			
	Perceiver Targets (X)	1	.034	1.75	n.s.	
I, III	P x X	2	.018	<1	n.s.	
II, IV	J x X	2	.039	1.98	n.s.	
I,II,III,IV	P x J x X	4	.007	<1	n.s.	
	S x X : P x J	27	.009			
	M x X	3	.139	11.09	.0001	.04
I, III	P x M x X	6	.010	<1	n.s.	
II, IV	J x M x X	6	.035	2.76	.017	.01
I,II,III,IV	P x J x M x X	12	.006	<1	n.s.	
	S x M x X : P x J	81	.013			
	Judger Targets (Y)	1	.000	<1	n.s.	
I, III	P x Y	2	.003	<1	n.s.	
II, IV	J x Y	2	.003	<1	n.s.	
I,II,III,IV	P x J x Y	4	.011	<1	n.s.	
	S x Y : P x J	27	.015			
	M x Y	3	.126	10.99	.0001	.04
I, III	P x M x Y	6	.007	<1	n.s.	
II, IV	J x M x Y	6	.013	1.17	n.s.	
I,II,III,IV	P x J x M x Y	12	.009	<1	n.s.	
	S x M x Y : P x J	81	.011			
	X x Y	1	.006	<1	n.s.	
I, III	P x X x Y	2	.001	<1	n.s.	
II, IV	J x X x Y	2	.001	<1	n.s.	
I,II,III,IV	P x J x X x Y	4	.015	<1	n.s.	
	S x X x Y : P x J	27	.015			
	M x X x Y	3	.062	4.44	.006	.02
I, III	P x M x X x Y	6	.004	<1	n.s.	
II, IV	J x M x X x Y	6	.017	1.26	n.s.	
I,II,III,IV	P x J x M x X x Y	12	.014	1.04	n.s.	
	S x M x X x Y : P x J	81	.014			
	Total	575	.016			

Table 3. Summary of Analysis of Variance for Personality Empathy Test

Hypotheses	Source	df	MS	F	p	ω^2
I	Perceivers (P)	2	.006	<1	n.s.	
II	Judgers (J)	2	.056	1.27	n.s.	
I, II	P x J	4	.044	<1	n.s.	
	Subjects (S) : P x J	27	.044			
	Measures	3	.293	12.41	.0001	.05
I	P x M	6	.025	1.05	n.s.	
II	J x M	6	.026	1.09	n.s.	
I, II	P x J x M	12	.030	1.28	n.s.	
	S x M : P x J	81	.024			
	Perceiver Targets (X)	1	.804	24.35	.0001	.05
I, III	P x X	2	.032	<1	n.s.	
II, IV	J x X	2	.053	1.61	n.s.	
I,II,III,IV	P x J x X	4	.018	<1	n.s.	
	S x X : P x J	27	.033			
	M x X	3	.082	3.64	.016	.01
I, III	P x M x X	6	.019	<1	n.s.	
II, IV	J x M x X	6	.041	1.80	n.s.	
I,II,III,IV	P x J x M x X	12	.020	<1	n.s.	
	S x M x X : P x J	81	.023			
	Judger Targets (Y)	1	.090	6.09	.020	.01
I, III	P x Y	2	.013	<1	n.s.	
II, IV	J x Y	2	.049	3.36	.05,n.s.	
I,II,III,IV	P x J x Y	4	.024	1.61	n.s.	
	S x Y : P x J	27	.015			
	M x Y	3	.137	7.80	.0001	.03
I, III	P x M x Y	6	.005	<1	n.s.	
II, IV	J x M x Y	6	.008	<1	n.s.	
I,II,III,IV	P x J x M x Y	12	.006	<1	n.s.	
	S x M x Y : P x J	81	.018			
	X x Y	1	.554	22.83	.0001	.03
I,III	P x X x Y	2	.023	<1	n.s.	
II, IV	J x X x Y	2	.020	<1	n.s.	
I,II,III,IV	P x J x X x Y	4	.007	<1	n.s.	
	S x X x Y : P x J	27	.024			
	M x X x Y	3	.299	19.00	.0001	.05
I, III	P x M x X x Y	6	.020	1.26	n.s.	
II, IV	J x M x X x Y	6	.044	2.80	.016	.01
I,II,III,IV	P x J x M x X x Y	12	.025	1.57	n.s.	
	S x M x X x Y : P x J	81	.016			
	Total	575	.029			

indication that the measures do in fact differ, however, an artifactual difference is probably truer. Specifically, differences in scoring the scales and the difficulty of the measures probably resulted in the differences in the percentage of items correct.

In Table 3, 9 of 31 analyses, or 27%, are significant at the prescribed .025 level. This again far exceeds the 1% chance occurrence predicted. Three components stand out in the significant analyses of Table 3: Measures (M), Perceiver Targets (X), and Judger Targets (Y). A similar artifactual explanation seems relevant for the measures component. Significant Perceiver-target and Judger-target analyses indicate that all the videotaped group members (targets) were perceived differently. The least this data indicates is that all the targets were not grouped together in one category. But normal expectation would produce the results that, in fact, personality differences emerged. Only inspection of the data with reference to HYPOTHESIS VII, which compares the two individuals representing each target dimension, can indicate whether additional significant differences between target-pairs were evident. In this case, significant differences would not be desirable as they would indicate that individual differences would be stronger than common personality dimension bonds. This issue will be further discussed with reference to Hypothesis VII.

Looking now at Hypothesis I, results can be clearly viewed in Tables 4 and 5 which collapse relevant data from Tables 2 and 3. With respect to differentiation of all Perceivers across all measures and targets (P), no significant differences are observed on interactional analyses in either table. Thus, Hypothesis I was not confirmed: Intuiters were not most empathic among the Perceivers.

Table 4. Analyses of Variance from Table 2 with Special Relevance to Hypothesis I

Source	df	MS	F	p
P	2	.000	<1	n.s.
P x J	4	.007	<1	n.s.
P x M	6	.006	<1	n.s.
P x J x M	12	.009	<1	n.s.
P x X	2	.018	<1	n.s.
P x J x X	4	.007	<1	n.s.
P x M x X	6	.010	<1	n.s.
P x J x M x X	12	.006	<1	n.s.
P x Y	2	.009	<1	n.s.
P x J x Y	4	.011	<1	n.s.
P x M x Y	6	.007	<1	n.s.
P x J x M x Y	12	.009	<1	n.s.
P x X x Y	2	.001	<1	n.s.
P x J x X x Y	4	.015	<1	n.s.
P x M x X x Y	6	.004	<1	n.s.
P x J x M x X x Y	12	.014	1.04	n.s.

Table 5. Analyses of Variance from Table 3 with Special Relevance to Hypothesis I

Source	df	MS	F	p
P	2	.006	<1	n.s.
P x J	4	.044	<1	n.s.
P x M	6	.025	1.05	n.s.
P x J x M	12	.030	1.28	n.s.
P x X	2	.032	<1	n.s.
P x J x X	4	.018	<1	n.s.
P x M x X	6	.019	<1	n.s.
P x J x M x X	12	.020	<1	n.s.
P x Y	2	.013	<1	n.s.
P x J x Y	4	.024	1.61	n.s.
P x M x Y	6	.005	<1	n.s.
P x J x M x Y	12	.006	<1	n.s.
P x X x Y	2	.023	<1	n.s.
P x J x X x Y	4	.007	<1	n.s.
P x M x X x Y	6	.020	1.26	n.s.
P x J x M x X x Y	12	.025	1.57	n.s.

Regarding Hypothesis II, scant results supporting the hypothesis can be found on both Tables 6 and 7, where relevant variables have been collapsed from Tables 2 and 3 respectively. Checking, first, the most global indicator (J), no significant differences are found on either Table 6 or 7. Interactional analyses in Table 6 show 2 of 15 analyses significant at the .025 level: Judgers x Measures (JxM) and Judgers x Measures x Perceiver Targets (JxMxX). These interactions, however, only account for an estimated 2% of the variance from Table 2 (ω^2 = 1% each for J x M and J x M x X). Table 8 further shows two factors mainly accounting for the significant J x M interaction. First, the Behavioral Empathy measure has lower means and the Social Interaction Empathy measure has higher means than the two relatively equally scoring Feeling and Thinking empathy measures. As previously suggested, this is probably due to artifactual scoring and difficulty inequities between the measures. Secondly, with respect to Behavioral Empathy, the Thinkers score much lower than the other two orientations. A likely explanation for this is that since the B.E. means are only slightly above chance expectation (.25 for four alternatives per question), intrinsic measurement error relates to this effect.

With respect to Table 9, two factors seem to account for the significant J x M x X interaction. Again artifactual measurement differences described above are evident. And secondly, larger differences are found between empathic accuracy toward Intuiters and Sensers on Behavior and Social Interaction Empathy than are found on the other measures, Sensers attracting consistently more accuracy on SIE. The greater B.E. differences again may be attributed to measurement error, but the SIE

Table 6. Analyses of Variance from Table 2 with Special Relevance to Hypothesis II

Source	df	MS	F	p	ω^2
J	2	.007	1	n.s.	
P x J	4	.007	1	n.s.	
J x M	6	.025	2.67	.025	.01
P x J x M	12	.009	1	n.s.	
J x X	2	.039	1.98	n.s.	
P x J x X	4	.007	1	n.s.	
J x M x X	6	.035	2.76	.025	.01
P x J x M x X	12	.006	1	n.s.	
J x Y	2	.003	1	n.s.	
P x J x Y	4	.011	1	n.s.	
J x M x Y	6	.013	1.17	n.s.	
P x J x M x Y	12	.009	1	n.s.	
J x X x Y	2	.001	1	n.s.	
P x J x X x Y	4	.015	1	n.s.	
J x M x X x Y	6	.018	1.26	n.s.	
P x J x M x X x Y	12	.014	1.04	n.s.	

Table 7. Analyses of Variance from Table 3 with Special Relevance to Hypothesis II

Source	df	MS	F	p	ω^2
J	2	.056	1.27	n.s.	
P x J	4	.044	1	n.s.	
J x M	6	.026	1.09	n.s.	
P x J x M	12	.030	1.28	n.s.	
J x X	2	.053	1.61	n.s.	
P x J x X	4	.018	1	n.s.	
J x M x X	6	.041	1.80	n.s.	
P x J x M x X	12	.020	1	n.s.	
J x Y	2	.049	3.36	.05,n.s.	
P x J x Y	4	.024	1.61	n.s.	
J x M x Y	6	.008	1	n.s.	
P x J x M x Y	12	.006	1	n.s.	
J x X x Y	2	.020	1	n.s.	
P x J x X x Y	4	.007	1	n.s.	
J x M x X x Y	6	.044	2.80	.025	.01
P x J x M x X x Y	12	.025	1.57	n.s.	

Table 8. Means from Judgers-Measures Interaction (J x M) with Relation to Empathy Measured via a Videotape Source

	F.E.*	T.E.*	B.E.*	S.I.E.*
Feeling	.39	.39	.34	.41
Thinking-Feeling	.39	.36	.33	.44
Thinking	.38	.39	.28	.43

*F.E. = Feeling Empathy
T.E. = Thinking Empathy
B.E. = Behavior Empathy
S.I.E. = Social Interaction Empathy

Table 9. Means from Judgers-Measures-Perceiver Targets Interaction (J x M x X) with Relation to Empathy Measured via a Videotape Source

	F.E.		T.E.		B.E.		S.I.E.	
	N	S	N	S	N	S	N	S
Feeling	.38	.40	.38	.40	.37	.32	.35	.49
Thinking-Feeling	.39	.39	.34	.37	.40	.25	.42	.47
Thinking	.39	.38	.40	.38	.26	.30	.38	.49

effect is puzzling. One possibility is that Feeling, Thinking and Behavior Empathy are all directed to specific situational events--a target's behavior at a moment in time, whereas Social Interaction Empathy is determined by more global assessments over the entire half-hour session. It may be that some targets are easier to understand than others when viewed overall, even though their specific behaviors are difficult to interpret. As a whole, then, the significance of 2 of 12 analyses related to Hypothesis IV on Table 6, since they represent only 2% of the variance from Table 2, are not considered sufficient to support confirmation of the hypothesis.

Likewise viewing Table 7, one of 15 interactional analyses is significant at the prescribed .025 level. An estimated 1% of the variance from Table 3 is accounted for by this significant analysis. Table 10 gives the means for this significant Judgers x Measures x Perceiver Targets x Judger Targets (J x M x X x Y) interaction. It will be noted that the most discrepant means lie within the first two measures: understanding the Thinking-Feeling orientation of targets (T-F) and understanding the Intuition-Sensing orientation of the targets (N-S). Thinker subjects seem to understand targets on these two measures somewhat better than the other two groups, especially on the Intuition-Sensing dimension. These results tend to directly disconfirm Hypothesis II: Feelers are not more empathic. These results are consistent, however, with the earlier suggestion that written empathy measures are more likely to stress a logic component than are observational measures.

Table 10. Means from Judgers-Measures-Perceiver Targets-Judger Targets Interaction (J x M x X x Y) with Relation to Empathy Measured via Personality Test Source

	T-F				N-S				I-E				C			
	N		S		N		S		N		S		N		S	
	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T
Feeling	.60	.69	.61	.38	.69	.62	.65	.53	.64	.61	.53	.58	.73	.79	.66	.51
Thinking-Feeling	.55	.55	.59	.51	.66	.62	.69	.51	.65	.66	.46	.59	.71	.77	.76	.59
Thinking	.61	.71	.63	.55	.57	.69	.80	.61	.66	.66	.45	.68	.66	.81	.73	.49

Differential Effects

Three hypotheses assess the differential effects. Hypothesis III states that similarity of Perceiver orientation between subjects and targets will facilitate empathy. Similarly, Hypothesis IV states that similarity of Judger orientation between subjects and targets will facilitate empathy. Hypothesis V states that among Judgers, subjects with Feeling orientations will score higher on Feeling measures of empathy, while subjects with Thinking orientations will score higher on Thinking measures of empathy. Tables 11 and 12 collapse relevant data concerning Hypothesis III from Tables 2 and 3. And Tables 13 and 14 collapse data concerning Hypothesis IV from Tables 2 and 3. Table 15 relates to Hypothesis V.

Table 11. Analyses of Variance from Table 2 with Special Relevance to Hypothesis III

Source	df	MS	F	p
P x X	2	.018	<1	n.s.
P x J x X	4	.007	<1	n.s.
P x M x X	6	.010	<1	n.s.
P x J x M x X	12	.006	<1	n.s.
P x Y	2	.003	<1	n.s.
P x J x Y	4	.011	<1	n.s.
P x M x Y	6	.007	<1	n.s.
P x J x M x Y	12	.009	<1	n.s.
P x X x Y	2	.001	<1	n.s.
P x J x X x Y	4	.015	<1	n.s.
P x M x X x Y	6	.004	<1	n.s.
P x J x M x X x Y	12	.014	1.04	n.s.

Table 12. Analyses of Variance from Table 3 with Special Relevance to Hypothesis III

Source	df	MS	F	p
P x X	2	.032	<1	n.s.
P x J x X	4	.018	<1	n.s.
P x M x X	6	.019	<1	n.s.
P x J x M x X	12	.020	<1	n.s.
P x X x Y	2	.023	<1	n.s.
P x J x X x Y	4	.007	<1	n.s.
P x M x X x Y	6	.020	1.26	n.s.
P x J x M x X x Y	12	.025	1.57	n.s.

Inspection of Tables 11 and 12 shows no significant differences on any analyses related to Hypothesis III. Thus, subjects did not have greater empathic accuracy toward targets with similar perceiver orientations.

Table 13. Analyses of Variance from Table 2 with Special Relevance to Hypothesis IV

Source	df	MS	F	p
J x Y	2	.003	<1	n.s.
P x J x Y	4	.011	<1	n.s.
J x M x Y	6	.013	1.17	n.s.
P x J x M x Y	12	.009	<1	n.s.
J x X x Y	2	.001	<1	n.s.
P x J x X x Y	4	.015	<1	n.s.
J x M x X x Y	6	.018	1.26	n.s.
P x J x M x X x Y	12	.014	1.04	n.s.

Table 14. Analyses of Variance from Table 3 with Special Relevance to Hypothesis IV

Source	df	MS	F	p	ω^2
J x Y	2	.049	3.36	.05, n.s.	
P x J x Y	4	.024	1.61	n.s.	
J x M x Y	6	.008	<1	n.s.	
P x J x M x Y	12	.006	<1	n.s.	
J x X x Y	2	.020	<1	n.s.	
P x J x X x Y	4	.007	<1	n.s.	
J x M x X x Y	6	.004	2.80	.025	.01
P x J x M x X x Y	12	.025	1.57	n.s.	

With respect to Hypothesis IV, Table 13 shows none of eight interactions significant, while Table 14 shows one of eight significant at the required .025 level. The one significant analysis accounts for an estimated 1% of the variance from Table 3. Means for the significant Judgers x Measures X Perceiver Targets X Judger Targets interaction have been presented in Table 10. Perusal of the means shows that Thinker subjects outscore Feeler subjects when interpreting Thinker targets 7 out of 8 times. However, Thinker subjects also outscore Feeler subjects 5 out of 8 times when interpreting Feeler Targets. Empathic accuracy toward Senser-Thinker targets is also consistently lower than toward other subjects. This finding points to differences in clarity regarding presentation of target characteristics and will be discussed further under Hypothesis VII. Differences with respect to better performance by Thinkers, then, partially support Hypothesis IV, but in light of other non-significant results in Table 13, are not sufficient to support Hypothesis IV that judgers best understand targets that are similar to them.

Table 15. Analyses of Variance from Table 2 with Special Relevance to Hypothesis V

Source	df	MS	F	p	ω^2
P x M	6	.006	<1	n.s.	
J x M	6	.025	2.67	.021	.01
P x J x M	12	.009	<1	n.s.	
P x M x X	6	.010	<1	n.s.	
J x M x X	6	.035	2.76	.017	.01
P x J x M x X	12	.006	<1	n.s.	
P x M x Y	6	.007	<1	n.s.	
J x M x Y	6	.013	1.17	n.s.	
P x J x M x Y	12	.009	<1	n.s.	
P x M x X x Y	6	.004	<1	n.s.	
J x M x X x Y	6	.018	1.26	n.s.	
P x J x M x X x Y	12	.014	1.04	n.s.	

Hypothesis V states that feeling-oriented subjects will do better on feeling-oriented measures of empathy, while thinking-oriented subjects will do better on thinking-oriented measures via the videotape source. Table 15 collapses the analyses from Table 2 relevant to this hypothesis. It can be noted that 2 of 12 analyses are significant. The means for the Judgers x Measures interaction have been presented in Table 8 and the means for Judgers x Measures x Perceiver Targets interaction have been presented in Table 9. As was noted previously the variation in measures on these two tables are primarily related to the Behavioral Empathy and Social Interaction Empathy measures, not the measures relevant to this hypothesis. Feeling and thinking oriented individuals do not differ appreciably on the thinking and feeling empathy measures. Thus these significant interactions do not support Hypothesis V. In conjunction with the other non-significant analyses,

Hypothesis V is not confirmed. Thinkers do not do better than Feelers on thinking measures, nor is the converse true.

Measurement Effects

Three hypotheses are related to measurement effects. Hypothesis VI tests the effects of order of presentation, specifically whether empathic accuracy is increased as the research progresses. Hypothesis VII assesses whether the two target individuals representing each target dimension drew similar empathic accuracy scores from the subjects, as would be predicted if the target characteristics were salient. Hypothesis VIII tests whether the method used to measure empathy, specifically via videotape or personality test source, provides similar accuracy scores. The null hypothesis is predicted.

Hypothesis VI is based on the analysis described in Table 16. Looking first at the overall results of Table 16, it is evident that 2 of 7 analyses, or 29%, are significant at the prescribed .0167 level. This exceeds the less than 1% chance expected overall at this level. The two significant analyses point to differences in responses to film order (F) and to the measures within films as the sessions progressed (M : F x P). The lack of significance when the group (G) factor was present indicates that, although the first group of subjects viewed one videotaped group first, while the second group of subjects viewed the other videotaped group first, it was the order of the films irrespective of the specific film involved which created the significant variance. The almost significant presentation effect (P) supports the importance of ordering.

Table 16. Summary of Analysis for Order of Presentation Effects

Hypotheses	Source	df	MS	F	p	ω^2
VI	Groups (G)	1	.009	1	n.s.	
	Subjects (S) : G	34	.044			
VI	Presentation (P)	1	.114	6.18	.018, n.s.	
VI	G x P	1	.001	1	n.s.	
	S x P : G	34	.018			
VI	Film (F)	6	.075	2.85	.011	.01
VI	F x G : P	6	.059	2.25	.040, n.s.	
	F x S : P x G	204	.026			
VI	Measures (M) : F x P	24	.187	7.37	.0001	.11
VI	M x G : F x P	24	.023	1	n.s.	
	M x S : F x P x G	816	.025			
	Total	1151	.030			

Hypothesis VI predicts that empathic accuracy will not increase over testing sessions. As explained in the rationale for the hypotheses, consistent differences could arise from at least two primary sources: (1) learning related to experimental practice and (2) performance increments related to increased information and/or strategy testing. If the first were true, accuracy would increase constantly according to presentation (P) and film-order (F). If the second source held, accuracy would increase from Film 1 to 4, then decrease as the new Film 1 is introduced, repeating the pattern of increase from the first film series. Thus F, but not P, would be significant. These trends may be detected from Tables 17 and 18 which show the means of the significant analyses from Table 16.

From Table 17 it can be observed that neither trend is clear. Presentation I shows instability over testing, while Presenataion II shows an increase in accuracy. It is unclear whether the inconsistency in Presentation I is related more to lack of accommodation to the experimental procedure, to failure in trial and error learning or developing adequate strategies, or to the fact that empathy is primarily situational and not substantially increased over short intervals. Due to lack of consistency over Presentation I, it is difficult to assess whether a meaningful decrement occurred between Film 4 of Presentation I and Film 1 of Presentation II. Therefore, learning related to increased ability or to increased information is impossible to assess from these data.

Table 18 provides more information with respect to the measures influence. On the Feeling Empathy measure, no increase in accuracy was shown between Presentation I and II, and a slightly decreasing trend was

Table 17. Means from Films (F) Analysis of Variance Reported in Table 16

	Presentation I				Presentation II			
	F_1	F_2	F_3	F_4	F_1	F_2	F_3	F_4
Subjects	.37	.39	.34	.37	.36	.36	.42	.41

Table 18. Means from the Presentation x Films x Measures (M : F x P) Interaction Reported in Table 16

	Presentation I				Presentation II			
	F.E.	T.E.	B.E.	S.E.	F.E.	T.E.	B.E.	S.E.
Film 1	.45	.42	.25	.37	.37	.43	.25	.41
Film 2	.40	.32	.38	.45	.40	.34	.31	.40
Film 3	.34	.29	.29	.45	.34	.45	.36	.51
Film 4	.43	.40	.31	.33	.36	.41	.32	.53

found within each presentation. Thus, it seems unlikely that either increased empathic skill or adequate informational predictors were gained with respect to feeling empathy. It should be remembered that much feeling recognition is situation specific, although, of course, some dispositional behavior does exist. With respect to Thinking Empathy, some increase does exist in Presentation II over Presentation I, although dips in accuracy occur in the middle of both presentations. Thus, some empathic gains due to learning or practice, although not

consistent, are evident. Behavior Empathy shows a pattern of initial chance responding with slight increments as the film progresses. Empathic carry over seems to be negligible, probably due to the complex nature of open-ended predictions of behavior and because of the great emphasis on situation versus disposition in answering accurately. Thus, learning Behavior Empathy seems minimal. Finally, empathy related to understanding social interactions increases from presentation to presentation and within presentations to a degree. It is unclear whether the large decrement in Film 4 of Presentation I should be attributed to faulty strategy changing, or whether the apparent gains evident on Films 3 and 4 are illusory.

Overall, then, some measurement-specific effects can be noted across films and presentations. The near significant differences on the presentation dimension (P) coupled with the significant differences in the films within presentations, and measures within films and presentations leads to a possible rejection of Hypothesis VI. However, while films on Presentation II showed fairly consistent increases on Thinking Empathy and Social Interaction Empathy, scores hardly improved on Feeling Empathy and Behavior Empathy. In addition when looking from Film 1 to Film 4, no constant increases are observed, although Social Interaction Empathy in Presentation II is almost consistently gaining. With regard to accepting or rejecting Hypothesis VI, then, a conditional rejection seems most reasonable. While empathy does not increase over sessions on Feeling and Behavior Empathy, inconsistent empathic increases are observed on Thinking and Social Interaction Empathy. Thus, on two measures either learning or measures-adaptation increases

are likely and measurement of a natural responding pattern has not been achieved.

Hypothesis VII tests the effects of utilizing two target representatives for each target dimension. It is hypothesized that no significant differences will occur between the two representatives (A_1 and A_2). Table 19 gives a summary of the analysis of variance results relating to this hypothesis. As has been true, measurement variance is again prominent (M, M x X, M x Y, M x X x Y). With regard to the critical A variable, however, a complicated picture is presented. Five of eight analyses relevant to Hypothesis VII are significant at the required .0167 level. However, cumulatively these significant analyses are estimated to account for only 5% of the variance in Table 18. The interaction most sensitive to the complicated effects of the A dimension is the M x X x Y x A interaction, and the means of this interaction are listed and graphed in Table 20 and Figure 9 respectively.

While similar patterns of mean responding toward the targets can be seen for each measure, gross differences between the means can be seen toward NT targets on Feeling Empathy, ST targets on Behavior Empathy, and SF targets on Social-interaction Empathy. Thus, gross differences toward alternative targets seem evenly distributed. Further observations of Figure 9 would seem to indicate that while mean differences between A's are significant at the required level, similar patterns seem to exist to responding to A's, e.g., on T.E., SF targets draw most empathic accuracy, followed by NF, NT and ST targets in that order. While not totally consistent, these patterns do seem substantial. In addition it may be noted that in 2 target pairs (NF and ST), one

Table 19. Summary of Analysis of Variance for Congruence of Individual Target Representatives on Videotape Empathy

Hypotheses	Source	MS	df	F	p	ω^2
	Subjects (S)	.040	35			
	Measures (M)	.682	3	41.15	.0001	.06
	S x M	.017	105			
	Perceiver Targets (X)	.055	1	1.60	n.s.	
	S x X	.035	35			
	M x X	.274	3	10.30	.0001	.02
	S x M x X	.027	105			
	Judger Targets (Y)	.007	1	<1	n.s.	
	S x Y	.024	35			
	M x Y	.251	3	11.19	.0001	.02
	S x M x Y	.022	105			
	X x Y	.019	1	<1	n.s.	
	S x X x Y	.023	35			
	M x X x Y	.133	3	5.04	.003	.01
	S x M x X x Y	.026	105			
VII	Alter Targets (A)	.168	1	10.20	.003	.01
	S x A	.016	35			
VII	M x A	.149	3	5.44	.002	.01
	S x M x A	.027	105			
VII	X x A	.334	1	10.37	.003	.01
	S x X x A	.032	35			
VII	M x X x A	.013	3	<1	n.s.	
	S x M x X x A	.030	105			
VII	Y x A	.079	1	3.35	.076, n.s.	
	S x Y x A	.024	35			
VII	M x Y x A	.015	3	<1	n.s.	
	S x M x Y x A	.022	105			
VII	X x Y x A	.293	1	10.81	.002	.01
	S x X x Y x A	.027	35			
VII	M x X x Y x A	.090	3	3.64	.015	.01
	S x M x X x Y x A	.025	105			
	Total	.030	1151			

Table 20. Means from the Measures x Perceiver Targets x Judger Targets x Alter Targets Interaction (M x X x Y x A) reported in Table 18

	NF		NT		SF		ST	
	A_1	A_2	A_1	A_2	A_1	A_2	A_1	A_2
Feeling Empathy	.37	.40	.48	.30	.36	.32	.42	.46
Thinking Empathy	.36	.41	.36	.37	.39	.45	.32	.39
Behavior Empathy	.28	.31	.42	.36	.29	.29	.23	.33
Social-interaction Empathy	.39	.44	.35	.35	.44	.58	.41	.49

representative consistently scored higher than the other. This may indicate greater transparency of feelings and thoughts by some target representatives than others. With regard to the rationale behind assessing Hypothesis VII, then, that differences in A would not create enough variance to confound the determination of main effects, it seems best to conditionally reject Hypothesis VII on the basis of five out of eight relevant analyses attaining significance. However, because target pairs did often seem to attract similar accuracy patterns, considerable reservation must be attached to the rejection.

Hypothesis VIII predicts that differences will occur between videotape and personality test empathy. It is evident from Table 21 that 5 of 31, or 16%, of the analyses are significant at the prescribed .0167 level. Again, this exceeds the 1% chance of significance expected when this many analyses are conducted requiring this level of significance. It will be noted that only analyses devoid of the

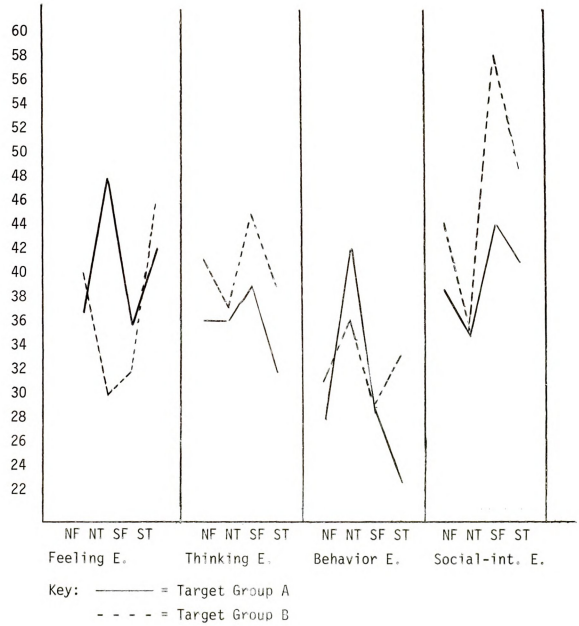


Figure 9. Distribution of Means from Measures X Perceiver Targets x Judger Targets x Alter Targets Interaction (M x X x Y x A) reported in Table 19.

Table 21. Summary of Analysis of Variance for Personality versus Videotape Empathy Measures

Hypotheses	Source	df	MS	F	p	ω^2
	Perceivers (P)	2	.003	<1	n.s.	
	Judgers (J)	2	.007	<1	n.s.	
	P x J	4	.009	1.11	n.s.	
	Subjects (S) : P x J	27	.008			
VIII	Form of Test (F)	1	3.752	382.61	.0001	.65
VIII	P x F	2	.000	<1	n.s.	
VIII	J x F	2	.007	<1	n.s.	
VIII	P x J x F	4	.008	<1	n.s.	
	S x F : P x J	27	.010			
	Perceiver Targets (X)	1	.022	2.99	n.s.	
	P x X	2	.009	1.19	n.s.	
	J x X	2	.007	<1	n.s.	
	P x J x X	4	.007	<1	n.s.	
	S x X : P x J	27	.007			
VIII	F x X	1	.124	14.08	.001	.02
VIII	P x F x X	2	.012	1.34	n.s.	
VIII	J x F x X	2	.017	1.90	n.s.	
VIII	P x J x F x X	4	.001	<1	n.s.	
	S x F x X : P x J	27	.009			
	Judger Targets (Y)	1	.035	12.84	.002	.01
	P x Y	2	.005	1.60	n.s.	
	J x Y	2	.008	2.99	n.s.	
	P x J x Y	4	.003	1.26	n.s.	
	S x Y : P x J	27	.003			
VIII	F x Y	1	.010	3.35	n.s.	
VIII	P x F x Y	2	.001	<1	n.s.	
VIII	J x F x Y	2	.003	1.15	n.s.	
VIII	P x J x F x Y	4	.004	1.39	n.s.	
	S x F x Y : P x J	27	.003			
	X x Y	1	.074	26.36	.0001	.01
	P x X x Y	2	.001	<1	n.s.	
	J x X x Y	2	.003	1.07	n.s.	
	P x J x X x Y	4	.004	1.41	n.s.	
	S x X x Y : P x J	27	.003			
VIII	F x X x Y	1	.070	9.50	.005	.01
VIII	P x F x X x Y	2	.005	<1	n.s.	
VIII	J x F x X x Y	2	.001	<1	n.s.	
VIII	P x J x F x X x Y	4	.001	<1	n.s.	
	S x F x X x Y : P x J	27	.007			
	Total	287	.020			

Perceivers or Judgers factors have maintained significance. Although this trend has been evident throughout the study, it reaffirms that neither method was adequate for finer empathic discrimination. Part of this is related to low level discrimination toward Perceiver targets and Judger targets--only 50% of the time are the differences significant (F x X and Y, but not X and F x Y). Part also related to measurement error.

While the mean difference between Forms (F) appears highly significant, it should be recalled that .50 is the chance expectation for the two-alternative Personality Empathy Test, while .25 is the chance expectation for the four-alternative Videotape Empathy Series. Thus, neither form shows high accuracy when chance expectations are accounted for. And the F difference must be considered illusory.

Closer examination of the means of the most discriminating significant interaction in Table 21, F x X x Y, can be seen in Table 22.

Table 22. Means from the Form x Perceiver Targets x Judger Targets Interaction Reported from Table 21

	Videotape Test				Personality Test			
	NF	NT	SF	ST	NF	NT	SF	ST
Subjects	.38	.37	.41	.40	.63	.66	.63	.54

Two factors stand out. Dissimilar accuracy patterns exist across measures, subjects scoring best toward Sensers on the V.E.S., but worst toward ST's on the P.E.T. And, while V.E.S. scores are uniform, only 4

percentage points difference existing between high and low means, one P.E.T. target score is considerably distant from the others. The first finding supports the contention that empathy as variously measured is not the same trait, some targets drawing higher empathy on some measures than on others. The second finding may point to response-set differences between the measures. The P.E.T., being more simplified and therefore strategy encouraging, results in highly inter-dependent scores yielding gross differences, while the V.E.S.'s complexity and emphasis on specific behaviors is strategy discouraging and does not show the effect of inter-dependence.

Post-experiment Data

Since empathy was explored in a straightforward manner in this research, and since enhancing motivation to be empathic seemed consistent with the design, the subjects were told before they participated in the research that they would be told the results of their efforts upon completion of the total project. They were also told that at this time they were free to discuss their opinions with others. (This served as a reasonable and predictable time-limit for inter-subject silence.) After the results were communicated and discussed, subjects were asked "to help the experimenter determine why the results came out as they did" by writing any ideas they might have on pieces of paper and handing them in. A list of the ideas submitted by the subjects are presented in Appendix F.

The comments centered around three main issues: (1) problems involving the quality of videotaped information, especially the defensiveness of the targets, (2) problems experienced by subjects in uniformly

attending to the videotape, and (3) problems involving difficulty of the test items. It should be noted that subjects made their comments after receiving their individual and total group scores. Since the scores were universally low, subjects' comments may have unduly reflected problems they remembered encountering rather than instances where they believed they were correct. Further, comments reflected sources consciously attributed to difficulties, not sources, such as dependent variable differences, not recognized by the subjects.

Summary of the Results

Main Effects

Hypothesis I: With regard to Perception, subjects with high Intuitive orientation will show more empathic accuracy than subjects with middle Intuitive-Sensing or Sensing orientations.

Hypothesis II: With regard to Judgment, subjects with high Feeling orientation will show more empathic accuracy than subjects with middle Feeling-Thinking or Thinking orientations.

No analyses related to Hypothesis I were found to be significant, therefore clearly this hypothesis was not confirmed. Scant results were found to support Hypothesis II, Thinking-oriented subjects scoring lower than others on Behavior Empathy, and all subjects showing much variation toward Intuiting and Sensing targets on Behavior and Social Interaction Empathy. These results were interpreted as arising from measurement error with relation to Behavior Empathy since means on this measure were close to chance prediction. The Social Interaction Empathy variance was attributed to the grossly larger stimulus configuration (involving all behavior over the half-hour session) which had to be synthesized for accuracy on Social Interaction Empathy, making error more probeble. Thus Hypothesis II, since no other relevant analyses were significant, was rejected.

Differential Effects

Hypothesis III: Similarity of Perceiver orientation between subjects and targets will result in more empathic accuracy than between subjects dissimilar in Perceiver orientation.

Hypothesis IV: Similarity of Judger orientation between subjects and targets will result in more empathic accuracy than between subjects dissimilar in Judger orientation.

No analyses related to Hypothesis III were found to be significant, thus Hypothesis III was rejected. Of 16 analyses related to Hypothesis IV, one was significant. The significant interaction showed that while Thinkers showed more accuracy toward Thinker Targets 7 out of 8 times, Thinkers also showed more accuracy toward Feeler Targets 5 out of 8 times. A tendency toward scoring less well toward the Senser-Thinker targets was also noted. Because of the equivocal nature of these results and the lack of significance of any of the other 15 relevant analyses, Hypothesis IV was rejected.

Hypothesis V: With regard to empathy via a videotape source, Feeling oriented subjects will be most accurate on a Feeling-oriented measure, while Thinking-oriented subjects will be most accurate on a Thinking-oriented measure.

Two of twelve analyses related to Hypothesis V showed significant differences among the Judgers across measures. However, no differences among the Judgers on Thinking or Feeling measures were found. Therefore, Hypothesis V was rejected.

Measurement Effects

Hypothesis VI: Neither the order in which the target groups were presented, nor the order in which the films within the target groups were presented, will result in significant increases as the research progresses.

Order effects were found to be present most clearly with regard to measures within films and presentations, presenting a complicated picture.

Empathic gains were interpreted in terms of two probable sources: gains resulting from learning to be empathic in general and gains resulting from learning to be empathic toward each target, i.e., strategy confirmation. No consistent evidence was found to support learning to be empathic, while learning to be empathic toward specific targets was found with regard to Behavior, Social Interaction, and guardedly with regard to Thinking Empathy. Order effects were found to account for considerably more variance than did the specific target groups being watched, i.e., the pattern of responding over time was more prominent than the pattern of responding to a particular target group.

> Hypothesis VII: The two target individuals representing each Intuiting-Sensing, Thinking-Feeling orientation will draw similar empathy scores from the subjects.

While differences between the means toward alternative targets were significant, examples of gross differences occurred in three of the four target categories (Intuition-Thinking, Sensing-Feeling, and Sensing-Thinking) across three of four measures (Feeling Empathy, Behavior Empathy, and Social Interaction Empathy). Thus gross differences seemed randomized. In addition, although mean differences were significantly large, similar patterns of responding to alternate targets existed across measures. The interpretation offered points to similar trends in understanding target pairs across measures. Instances where one target representative scored consistently higher than her target pair were noted.

> Hypothesis VIII: A different pattern of mean responses will exist on the videotape measures than on the personality test measure.

Although personality differences between the two forms of empathy measurement were found to be significant, these were attributed to differences in number of item-alternatives (.25 chance expectation for the videotape empathy test and .50 chance expectation for the personality empathy test). Scores across targets on the videotape test were less variant than scores across targets on the personality test, the Senser-Thinker target on the personality test being considerably closer to chance than the other scores. This latter occurrence was attributed to the greater opportunity to use correct or incorrect strategies in assessing target qualities on the personality test. The videotape test was thought to be more a measure of empathy toward situational behaviors.

VIII. DISCUSSION

Since the results of this research point to significant measurement effects overshadowing and interfering with any possible dependent variable differences, the format of this discussion will center upon interpreting the important sources of measurement error with regard to the results. The major characteristics of the results will be listed first, then their relationship to the sources of error will be explored.

With regard to the results, five characteristics seem most salient. (1) There were no significant dependent variable effects. (2) The percentage of items correctly attained by the subjects across all items was low. (3) Significant differences existed between the two representatives of each target dimension. (4) Conditionally significant order effects were found between the filming sessions. And (5), greater variance was displayed in the personality test measure with regard to accurate empathy than in the videotape measure. All the results are seen as being related to measurement sources.

The Stimulus: The Videotaped Group Discussion

Several factors related to the videotaped group discussion could have caused error: (1) the method of choosing individuals to represent the target dimensions could have been faulty, (2) the technical presentation of the videotape may have failed to adequately capture subtle stimulus behaviors, (3) knowledge of being videotaped could have produced

confounding effects, (4) the content level of the videotaped group discussion could have influenced the difficulty of interpretation, or (5) the differential ability of the targets to express themselves, besides those related to expected intrinsic target differences, may have decreased accuracy scores toward some targets.

At least two methodological alternatives existed with regard to choosing targets: targets could have been chosen at random within each specified category, or targets could have been carefully screened within each category. The former would decrease the effects of experimenter-created sets in the target. The latter would intentionally reduce the effects of extraneous "natural" variables in order to increase the power of the experimental effect. This study employed the former method, but perhaps to its detriment in the following ways: (1) one Senser-Thinker target, while scoring strongly Sensing-Thinking, seemed to display many intuitive behaviors, e.g., a lively sense of humor, especially plays on words; (2) one Intuiter-Feeler target spoke louder and more definitively than the others in her group, drawing strong feelings from other targets and subjects (as communicated privately by the targets and subjects). The inconsistency of the Senser-Thinker target seems explainable when considering a reservation Stricker and Ross (1964) pointed out about the Sensing-Intuition scale on the Myers-Briggs: it correlated significantly with non-conformity in their validational studies. It is felt that the particular Senser-Thinker in question was more repelled by the non-conformity implications on the Intuition end of the scale than attracted to the creativeness depicted, thus scoring anti-Intuition or Sensing. The experimenter now believes that preventing these instances

of questionable construct validity and unbalanced target dominance could have reduced measurement error.

Although efforts were taken to maximize visual acuity and group feeling on the videotape screen, these efforts were not entirely successful. It remained difficult to tell specifically who each target was looking at, and when the full group angle was presented, the two targets on the end could only be viewed in profile.* Since many non-verbal expressions are subtle, e.g., squinting the eyes of slightly frowning, the lack of visual clarity toward the targets may have been crucial in misinterpreting feelings or non-verbal thoughts.

The stimulus situation itself may have produced a powerful set to respond cautiously. Knowing that others would be watching their behavior, the targets probably reduced statements related to anger, fear or hurt, although many came through non-verbally. The experimenter, however, will never forget the target who, during a recall session, responded to seeing herself smiling and nodding her head up and down by exclaiming, "I totally disagreed with everything she had to say." Whether the target usually masked her disagreement with others, or whether her masking was heightened by the videotape was impossible to ascertain, but whichever was true, masking behaviors were not infrequent. This points to an important difference between one popular form of person perception research where targets role play stimulus behaviors and the form studied here where natural masking behaviors are included. Doubtlessly the latter form of empathy is more difficult, although more realistic.

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*No empathy questions were asked about targets when they could be viewed only in profile.

An experimenter should, however, seriously consider the intricacy which her design can profitably allow. For more global or untested designs, as this one is, perhaps the role playing format would afford more initially discriminating data. An alternative would be to extend the group discussion in the videotape situation until the group members were relaxed. The final test of an hypothesis, however, should be prepared to deal with the rigor needed to test humans in all their complex behaviors.

The content of the videotaped group discussions also could have been influential in the clarity of behavioral information presented. All behavior is not unidimensional, i.e., more than one thought or feeling can occur simultaneously. Moreover, a hierarchy is likely to exist concerning the unidimensionality of expression. For instance, with regard to Berne's conceptualization of levels of interaction, responding at an intimate level by allowing feelings and thoughts to freely flow should be close to unidimensional; whereas, responding at the ritual or pastime level is less ego involving and allows divergent thoughts to occur simultaneously. While talking about football, one's mind may wander to other things he wants to do, to chores he has to finish, or places he would rather be, but when one feels hurt or angry, his mind seldom wanders to more mundane topics. Since, in fact, most of the videotape content remained at the pastime level, despite the attempts of the discussion topics provided to elevate them, the likelihood that most target behavior was unidimensional is slim. The added complexity of the targets saying one thing while thinking another surely increased difficulty and added to the subject's errors.

Interpreting these real life masking behaviors is one reason empathy is not more common in most people's behavior.

Finally, while overall differences were evident among the target pairs, in two of four cases one individual drew consistently higher accuracy scores than the other. This trend may be related to the relative openness of the two individuals compared to the target they were paired with. In addition, information from post-experiment comments indicate subjects did feel that they understood some targets better than others. It is difficult, of course, to control for equal openness, but it is also evident that error caused from inflated or deflated scores could well have confounded experimental results.

The Response: The Empathy Measures

Error related to the empathy measures can arise primarily from two sources: faulty assumptions about the nature of empathy incorporated into the measurement procedures and inadequacy of the measurement device itself to obtain the information sought. Among the faulty assumptions pertaining to the nature of empathy, the Videotape Empathy Series is particularly vulnerable in the following areas: (1) it assumes an individual is equally empathic over time, i.e., one is not variously tuned into and tuned out of his environment, any error therefore results from misinterpretation, not failure to having witnessed the stimulus event; (2) it assumes an individual can attend to thinking, feeling, behaving and social interaction cues simultaneously and can move between these modes with facility; and (3) it assumes only one empathic response exists.

Failures in the Videotape Empathy Series qua device can be related to: (1) the construction of correct and incorrect responses with relation to possible multiple correct responses and the difficulty of the items; and (2) the effect of feedback between alternative test responses and subsequent videotape verification, specifically with respect to strategy use and its concomitant success or failure.

Assumptions Concerning the Videotape Empathy Series

One assumption concerning the nature of empathy underlying the Videotape Empathy Series which is probably faulty is that subjects are equally attuned from moment to moment to the entire range of interpersonal stimuli confronting them. Empathy is probably more likely a discontinuous process, requiring attending to stimulus behavior (external attention) and retreating into thinking about what has been observed (reduced external attention). Empathy concerning externally attended behavior should be high, while empathy during more internalized periods having less access to data, should be lower. Thus, since the intervals between questions on the videotape tests are experimenter controlled, empathy may function on a hit or miss basis, sometimes coinciding with the attention of the subject, sometimes occurring during a period of reduced attention to the external environment. Several subjects reported this privately after filming sessions. It would seem, then, that subject-controlled empathy stops would yield more relevant empathy scores. Problems related to subject controlled stops do arise, however, and will be discussed later.

Another assumption underlying the Videotape Empathy Series is that subjects can, in fact, attend to and integrate many types of empathy

concurrently. This may be a fallacious assumption. A cognitive overload may result from dealing with material in such diverse ways. Personal coping mechanisms (or defense mechanisms) may then take over. Some subjects may concentrate on one form of measurement, e.g., feeling empathy, ignoring the others, some subjects may try to attend to all forms with reduced capacity. Some may try to deal with forms they are least familiar with to compensate for inadequacy. Some may have increased anxiety impairing their attention span. Whichever methods subjects choose, confounding data results. This is particularly relevant to Hypothesis V where Thinkers and Feelers were hypothesized to do better on thinking and feeling measures respectively. The lack of significant results may have largely arisen from diverse solutions to this problem.

A final assumption implicitly maintained by the Videotape Empathy Series is that only one empathic response exists, i.e., the target individual was only thinking one thought or feeling one feeling in response to the question asked. Yet, more probably a complex series of feelings or thoughts were occurring. For instance, one target may have been feeling angry at another group member, but apprehensive about expressing it, while at the same time feeling hurt that the others did not seem to be on her side. While some of these thoughts seem to be more recessive than dominant, if another person asked her if she were feeling one of the more recessive feelings the target might reply affirmatively.

This happened, in fact, during the construction of the Videotape Empathy Series items. Items were devised by constructing logical alternatives to the feelings not checked as present by each target when she

stopped the videotape during recall. When the "wrong" alternatives were presented to the targets in the validational session, however, sometimes targets marked "true" or "somewhat true" to these alternatives indicating more than one feeling or thought was present. Subjects tuned into a "minor" feeling or thought when confronted with alternatives lacking her pet choice could very well become confused or anxious, especially if this occurred often. Operationally, the definition of empathy neatly skirts the issue of more than one correct response by defining only the original spontaneous target recall as empathic. Yet, leaving other acknowledged responses as confounding variables increases error.

Measurement Error qua Videotape Empathy Series

One primary source of error related to the Videotape Empathy Series as a measurement device has been discussed above concerning the number of correct empathic responses possible. While the test purports one correct and three incorrect alternatives, other correct responses, although omitted, are possible. This problem is exascerbated by the 10 second focusing period where the subject, having read the question, firmly sets in his mind what his own answer is. Despite having been utilized to prevent the logic of alternatives outweighing their stimulus value, this firm establishment of the felt true-response may be an actual obstacle if the response is not presented.

Another problem arises concerning the difficulty of the items. Three types of empathy behaviors may be focused upon: (1) obvious examples of well represented behaviors, e.g., crying at being hurt, swearing when angry; (2) subtle examples from peripheral or non-verbal

behaviors, e.g., looking down to show non-compliance when disagreeing, talking faster when anxious; or (3) abstruse examples usually resulting from lack of overt variability of expression or masking behavior, e.g., remaining straightfaced when one's viewpoint has been derogated, smiling when angry.

The Videotape Empathy Series was constructed to deal with all three levels of difficulty. However, it may have unduly focused on the latter two levels as a result of a pilot study item analysis. In the pilot study, alternative selections chosen very frequently or very infrequently were either omitted or altered in an effort to increase the discrimination index by equalizing the drawing power of the alternatives. Since another pilot study was not conducted (because of time and expense) to ascertain whether these changes had had their desired effect, the result may have been to exclude or increase the difficulty of the obvious items and to make alternative selections on the subtle and abstruse items more plausible, and thus, more difficult. The low percentage of items correct across all the tests as well as post-experiment data from the subjects points to the test being too difficult to supply enough information concerning the dependent variables. This may reveal a greater likelihood to error on the side of difficulty with respect to person perception experiments dealing with natural or near-natural settings. The opposite may be true with experiments utilizing role-playing: target behaviors may be exaggerated, and thus, too easy.

Another area of concern with the Videotape Empathy Series is the possible lack of independence of its items due to individual differences among subjects regarding the need to verify the accuracy of their

responses. Not only did certain subjects report privately that they spent a good deal of effort checking to see if their answers were correct, but following Behavior Empathy questions, where subjects could determine whether their predictions were correct, many subjects displayed facial grimaces or smiles indicating they were checking the accuracy of their predictions.

The subjects verified responses in two ways: checking subsequent videotape information for confirmation, and analyzing the alternatives of subsequent test items. A subject confronted with a behavioral sequence might label it "anger" and mark the "anger" alternative. Then, as the tape started anew the subject might try to confirm the veracity of his previous anger answer by looking for anger clues in the target's new behavior. In addition, he might check subsequent item alternatives for references to anger still lingering.

Two effects of this verification process were evident: (1) certain strategies arose from the selective attention paid to verification material versus other natural stimuli, and (2) the subject failed to attend to information she might attend to if independence were guaranteed. Strategies may have had a positive or negative effect. Positively, they may have reflected the normal process of self-verifying hunches, a realistic part of the empathic process. Negatively, they may have acted as interference to normal responding. Two instances occurred where strategy behavior reflected the natural empathic process: (1) when the strategy was initially correct and did not interfere with future attending, and (2) when verification did not include follow-up checking of subsequent test-alternatives. In the latter case, a non-natural source

would provide the verification, since usually one does not have a small finite set of alternatives to check against when making an empathic judgment.

Strategy formation became confounding when the experimental situation interfered with or punished natural strategy responding. This could have occurred when the subject did not have time to explore her strategies, or when the subject's strategies were mistaken. In the first instance, the subject was confronted with two tasks: confirming her previous response, and attending to information which may have been relevant to her next response. If she attended to the new information or her strategy was correct, no interference resulted. But if she attended to her strategy and it was wrong, e.g., no anger alternative existed in the next question, additional negative results could have occurred. The subject might have become anxious, adding emotional interference to her poor performance. She might have become confused, unsure which strategies have worked, which have failed. Or she might have employed her typical defensive stance: giving up, getting bored, answering at random, etc. Whatever the case, unpredictable results would have occurred. Since this study cannot ascertain how many subjects used strategies, whether successful or unsuccessful, and since a strong probability exists that strategy use was often punished, a mystery results as to the confounding nature of this effect.

Measurement Error Related to the Personality Empathy Test

Measurement error with respect to the Personality Empathy Test originated from two sources: the generality of the items which increased

their difficulty and the complexity of the videotape test response which distracted subjects from attending to material on a level appropriate to the Personality Test. With respect to the first source, although the Myers-Briggs' items used in Personality Empathy Test were those the target indicated "importantly described her," only those items marked "true" by 35% to 65% of the population were included. As explained earlier in the methods section, this was performed to reduce the effect of knowing common stereotypes as the source of empathic accuracy. By eliminating the extremes, however, the empathic task became more difficult and the percentage of correct responses was reduced. While knowledge of stereotypes is not synonymous with empathy, it may be a valid part of it. Those who can use their knowledge of stereotypes to understand others should, in fact, be more empathic than those who cannot. Thus, an important source of empathic accuracy may have been eliminated when removing items commonly answered "true" or "false" by more than 65% of the population.

The second source of error related to the Personality Empathy Test derived from primary emphasis of the project being placed on the videotape tests, the personality test being administered on the final day of each group meeting after all videotape testing procedures were finished. Since the nature of the videotape test questions was specific, i.e., asking for an interpretation of a particular behavioral sequence, and since the nature of the questions on the personality test was general, subjects may have paid less overall attention to behaviors described in the personality test. Moreover, this is a significant loss, since the personality test relies heavily on the subjects ability to

integrate behavioral information, the part of the empathic process significantly underplayed in the videotape tests.

Selective Videotape Empathy Series versus Personality Empathy Test Error

When considering both measuring techniques, it is clear that differing measurement error arises from each source and handicaps each in terms of failing to produce scores well above chance. The Videotape Empathy Series by its complexity and lack of flexibility for the subject, i.e., by requiring diversified responses at short externally-imposed intervals, increases error if and when the subject cannot readily respond. The subject does not have time to reconstruct previous strategies nor check out current alternatives without missing information likely to be valuable to the next response. Increased anxiety is often the result.

The Personality Empathy Test, on the other hand, derives its error from the fact that, if anything, it is too simple and thereby confusing. It is more likely to suffer from the effects of introspective circumlocutions by the subject trying to describe complex dispositions in a two-alternative format. Moreover, one cannot determine whether the subject recognized and weighed the inevitable contradictory behavior in the target and made a complex choice, or whether she viewed the question in its simplified form and chose the only alternative she saw as obvious. Empathy in these terms is not well articulated nor interpretable.

In addition, the Personality Empathy Test asks only four basic questions: Is the target a thinker or feeler, intuiter or senser,

introvert or extravert, cognitively simple or complex? Each question on the Videotape Empathy Series asks an independent question: what was Target A feeling just then? What will she do next? As a result, a few strategy errors on the Personality Empathy Test can lead to gross differences between subjects, while many errors on the Videotape Empathy Series are needed to produce the same result. In one instance, a Senser-Thinker target had markedly lower accuracy scores directed toward her than the remaining targets did. This kind of error is serious because too much error attributable to target idiosyncracies confounds dependent variable differences.

Implications for Further Research

Problems with the present research seem to focus around three areas: assumptions about empathy as a process, complexity of the design, and specific measurement faults. These three areas will be the focus of this section.

Assumptions About Empathy as a Process

The operational definition offered in the beginning of this paper is a statement about the products of empathy, i.e., correct answers, without making implications concerning the process by which the answers can be found. This is an important omission because it does not discriminate between methods which enhance the empathic process and methods that undercut or at least diminish the effect of the process.

The process of empathy is an active, not a passive, one. The subject searches for visual and verbal cues present in the target and then integrates the selectively perceived stimuli into an hierarchy of

probabilities with relation to experiences she has had and recognized in the past. But time must be allowed for both searching and integrating behaviors if empathy is to be attained. The present research facilitated the subject's searching behavior by providing videotaped data about real functioning, but it handicapped integrative behavior by reducing the time needed to integrate and by not tapping the subject's true, naturally derived responses either with respect to choosing the behaviors with which to be empathic or choosing the mode of communication felt most natural. Thus, the process aspect of empathy was diminished at worst, confounded at best.

Unfortunately, data produced via videotape seems impossibly confounded as well if the proposed process is really allowed to emerge. Under these circumstances, the subject would watch the videotape and stop it whenever she had an empathic comment to make. She might say, "Right here she is feeling angry." The problem arises when one tries to validate the target's true feelings at that moment. If the same research procedure used in this research is employed, the target may well have failed during recall to stop the tape at the point where the subject has stopped it, since the average number of stops made by the targets during recall was about once every minute and a half. And, since one may have as many as twenty slight facial expressions per minute, it obviously would be difficult to capture enough simultaneous responses by the subjects and targets to ascertain whether many empathic responses were correct.

A second alternative might be to tape a session, collect the subject's responses, and have the target validate the responses post hoc.

This runs into more serious flaws: the interval between taping and vivid recall is short (about 48 hours), so the experiment would have to be run soon after the tape was made. Moreover, targets are easily influenced, after their first response, by the seeming logic of other responses. In addition, an informational overload could develop if the targets had many responses to validate. Thus, while grievous problems exist when limiting the empathic process of the subjects, equally grievous problems arise when subjects are freed from normal experimental constraints.

While this writer does not have an answer to the methodological problem of adequately tapping the process of empathy as it occurs, she does think that this is the most important problem facing empathy research today. In the past studies have implied, more probably hoped, that the subjects could be more flexible than the experimental design and communicate their empathic knowledge at the times and using the concepts appointed by the experimenter. While some important information can be gained through these methods, far more rigorous and subject-freeing methods will have to be devised if the most subtle and perplexing questions about the actual process of empathy are to be explored.

The Complexity of the Design

While the design attempted to assess the relationship between perceiving and judging orientations on differing measures of empathy, the design was too complex to ascertain these effects. Attending to the various behaviors related to each measure interfered with attending to behaviors related to the other measures, and thereby increased difficulty. Future studies then, should employ a series of independent tests to assess these complex questions. Feeling empathy may be explored at

one setting, thinking empathy at another, behavior empathy at still another, etc. Moreover, the complexity of stimulus variables should likewise be determined separately, obvious or straightforward stimulus behaviors being separated from subtle stimulus behaviors and from abstruse or masking behaviors. The effects of role-playing versus true-to-life stimulus situations could again be explored separately. These are all variables which could profitably be compared with one another if separate testing situations could reduce measurement error, or at least make more clear the source from which the majority of the error originated.

Specific Design Problems and Alternative Solutions

There are five specific areas noticed by the writer where improvements in design-related techniques could have reduced error of measurement. Methods of choosing targets as well as training targets to attend to their internal experiencing, and specifications concerning the recall technique need to be improved. In addition, the construction of alternative answers on the videotape test and assumptions concerning the ascription of similarity between targets and subjects need to be considered in more depth.

As has been pointed out earlier, targets were selected who met certain testing criteria, but beyond that, no effort was made to ascertain whether additional circumstantial qualities might interfere with their performance as targets. Selection only on the basis of test scores was performed to assure "free responding" as opposed to altered or biased responding. The reasoning did not anticipate the effects of

one of the targets being considerably more dominant than the others and one target consistently displaying characteristics more closely associated with a different target dimension. Thus, it became clear that in future research some method of trial screening both with regard to videotaping and recall should be carried out prior to target group formation. For instance, two assistants could simulate a group interaction and the interviewer could run through a typical recall session. This allows for investigation of three factors: (1) whether the potential target behaves like her target dimension predicts she should behave; (2) whether some extraneous quality, such as dominance or submission, interfers with either group functioning or stimulus clarity; and (3) whether the potential target can adequately recall her experiences during the videotape session. This takes considerably more money and time than was available to this experimenter, but from hindsight this writer now considers it crucial.

In addition to screening out targets who either produce a paucity of recollected material or who distort the material that is recalled, it is still felt that some additional exercises specifically concerned with enhancing the ability to focus on feelings are helpful for recall sessions. It is further suggested that as a complement to the initial focusing exercise conducted before the first recall session begins, the first 10 minutes of each recall session consist of a focusing exercise to acclimate the targets to the recall session itself which is considerably different from their everyday life where it may be important to guard their privacy.

A note about the recall technique should also be made. It is felt by this experimenter that the initial recall made by the target is usually the most sound. Following the initial statement, some targets have attempted to discuss what happened in the future as a result of this response, what happened in the past to cause it, etc. It is felt that these comments are most likely to be irrelevant or misplaced than the initial recall statement. Therefore, although this experimenter implicitly followed this rule, that only the initial recall would be used as the source of empathy questions, it may be an important point to state explicitly for the benefit of future research.

This brings us again to the knotty problem of the test alternatives in videotape tests using multiple choice answers. Having established the correct alternative by the first recall to the videotape stimulus, "incorrect" alternatives pose a problem. In this research, the incorrect alternatives were experimenter derived and target confirmed. In similar tests (Chapman, 1966; Campbell, 1967) incorrect alternatives have been derived from responses of those scoring lowest on separate empathy criteria. Targets did not confirm the "wrong" answers as wrong. The writer feels that while confirmation of inaccuracy was an important addition, certain problems arose from it. Namely, since the taping sessions lasted two weeks, and time had to be allowed for constructing incorrect alternatives, the confirmation sessions did not occur immediately following videotaping (2 weeks being the longest interval). By the end of this time, however, whatever traces existed of some of the recalled material often became confused with the logic of other responses. Sometimes the target did not even remember what her

recall had been. Thus, in future research, especially if less sessions are used, confirmation sessions should occur sooner.

It is also possible in the future to use "wrong" answers in a more meaningful way. In this research wrong answers were defined as any answer the targets confirmed they were not experiencing at a particular sequence on the tape. While not suggesting further complexity be added to this particular design, it might be interesting to construct each "wrong" answer to represent a particular personality dimension. For instance, a group of Intuiter-Thinker individuals might be asked for their spontaneous empathic responses to videotape segments and from those found to be inaccurate, a "wrong" alternative could be constructed. The same could be accomplished for each perceiver-judger dimension--one incorrect response representing each dimension. Patterns of correct as well as incorrect responding might then be determined. Although great pains would have to be taken to assure near-equal difficulty of wrong responses, more information about patterns of responding would be available than in typical experiments where wrong answers are superfluous and unanalyzable.

Finally, this experiment made certain assumptions about "similarity" between targets and subjects, and within targets and subjects, which could have been better validated. While the targets did meet certain test-scoring criteria, we do not know that the factors measured on these tests were outstanding personality characteristics in these individuals. For instance, an individual may be an extreme Intuiter, but the salient factor about her personality is her extreme dogmatism, a factor not studied in this experiment. Since experiments which attempt to make

relevant statements about certain personality dimensions would most likely have more significant results if they reduced the error attributable to more over-riding personality characteristics present in the target, this writer suggests using some measure to assess the strength of the personality factor involved. One method to do this could be to utilize an hierarchical measure of personality to confirm the strength of the independent variable. Kelly's Role Construct Repertory Test could be used in this way, or descriptions or rankings from others who know the potential subject might be utilized. In the past, and in this research, the assumption of similarity on weak evidence may have contributed to much of what is usually a very large source of error: subjects within variable error. Taking more time assuring that subjects are really representative of their label may reduce this greatly.

Summary

The lack of significance of the dependent variables and the low percentage of correct answers were attributed to measurement error both with respect to the videotape stimulus and to the responses deemed empathic. Problems related to the stimulus were: (1) the lack of clear construct validity across the targets; (2) the failure to capture subtle target behaviors on the screen; (3) the possible inhibiting effect of the videotape situation per se; (4) the superficiality of the videotaped group discussions; and (5) the differential ability of the targets to express themselves.

The response, as measured by the Videotape Empathy Series, was confounded by faulty assumptions regarding the nature of empathy,

specifically that subjects are equally attentive over time, can handle four methods of empathic judgment with facility, and will be attending to only one correct response. As a measuring device, the Videotape Empathy Series was faulted for its method of constructing correct and incorrect alternatives and for the possible lack of independence of its items for those utilizing empathic strategies. The Personality Empathy Test's generality and limited alternative selection as well as its seemingly secondary importance with respect to the Videotape Empathy Series were thought to be contributions to the overall measurement error.

It was suggested that in future research the process of empathy should be facilitated, the complexity of the design should be reduced, and specific precautions should be taken regarding choosing and training targets, constructing test alternatives, and assessing the notion of "similarity".

APPENDICES

APPENDIX A

THE ASSESSMENT MEASURES

COMBINED PERSONALITY INVENTORY

This is a test designed to show your style of life. The answer you choose to any question is neither "right" nor "wrong". It simply helps to point out what type of person you are. Therefore, for each question choose the answer which comes closest to how you usually feel or act. Mark your choice on the separate answer sheet, as shown in the samples below.

151. People who work hard are unhappy. (A) Basically true. (B) Basically false.

152. Do you usually (A) get up early? (B) sleep in late?

	151	1 ===	2 ===	3 ===	4 ===	5 ===
X	152	1 ===	2 ===	3 ===	4 ===	5 ===

If you think it is basically true that "people who work hard are unhappy," you would mark answer "1" as it is marked above. Likewise, if you usually "sleep in late," you would mark answer "2" as it is marked above.

Finally, each question you come across that you feel represents you in an important way, mark an "X" in the column by that number. In the sample above, if you thought getting up late represented an important fact about you, you would mark an "X" in the column to the left of the answer as it is marked above.

Although you may feel conflicted about some of the answers to questions, please try to answer all the questions. If you have a question at any time, raise your hand and the test administrator will answer your question.

PART I

1. I dislike following a schedule.
   (A) Basically true. (B) Basically false.

2. With many people you don't know how you stand.
   (A) Basically true. (B) Basically false.

3. If I can see how a person reacts to one situation, I have a good idea of how he will react to other situations.
   (A) Basically true. (B) Basically false.

4. Are you naturally (A) a good mixer?" (B) Rather quiet and reserved in company?

5. Do you think it more important to be able (A) to see the possibilities in a situation, (B) to adjust to the facts as they are?

6. Would you rather work under someone who is (A) always kind, (B) always fair?

7. I would be uncomfortable in anything but fairly conventional dress.
   (A) Basically true. (B) Basically false.

8. I wish people would be more honest with you.
   (A) Basically true. (B) Basically false.

9. Often a person's basic personality is altered by such things as a religious conversion, psycho-therapy, or a charm course.
   (A) Basically true. (B) Basically false.

10. I usually take an active part in the entertainment at parties.
    (A) Basically true. (B) Basically false.

11. In your crowd, are you (A) one of the last to hear what's going on, (B) full of news about everybody?

12. Are you inclined (A) to value sentiment above logic, (B) to value logic above sentiment?

13. People are too complex to ever be understood fully.
    (A) Basically true. (B) Basically false.

14. Everybody tries to be nice.
    (A) Basically true. (B) Basically false.

15. I am a better talker than listener.
    (A) Basically true. (B) Basically false.

16. Would you rather be considered (A) a practical person, (B) an ingenious person?

17. Do you think it is a worse fault (A) to show too much warmth, (B) not to have enough warmth?

18. For most questions there is one right answer, once a person is able to get all the facts.
(A) Basically true. (B) Basically false.

19. I have no fear of spiders.
(A) Basically true. (B) Basically false.

20. I like to have a place for everything and everything in its place.
(A) Basically true. (B) Basically false.

21. Can the new people you meet tell what you are interested in (A) right away, (B) only after they really get to know you?

22. Would you rather have as a friend someone who (a) is always coming up with new ideas, (B) has both feet on the ground?

23. A strong person does not show his emotions and feelings.
(A) Basically true. (B) Basically false.

24. My way of doing things is apt to be misunderstood by others.
(A) Basically true. (B) Basically false.

25. You have probably got to hurt someone if you are going to make something out of your self.
(A) Basically true. (B) Basically false.

26. I like to fool around with new ideas, even if they turn out later to have been a total waste of time.
(A) Basically true. (B) Basically false.

27. It is hard for me to start a conversation with strangers.
(A) Basically true. (B) Basically false.

28. Most people are consistent from situation to situation in the way they react to things.
(A) Basically true. (B) Basically false.

29. I get disgusted with myself when I can not understand some problem in my field, or when I can not seem to make any progress on a research problem.
(A) Basically true. (B) Basically false.

30. I have always hated regulations.
(A) Basically true. (B) Basically false.

31. Most people are pretty smug about themselves, never really facing their bad points.
(A) Basically true. (B) Basically false.

32. Are you more careful about (A) people's feelings, (B) people's rights?

33. Would you judge yourself to be (A) more enthusiastic than the average person, (B) less excitable than the average person?

34. Perfect balance is the essence of all good composition.
(A) Basically true. (B) Basically false.

35. All people can talk about these days, it seems, is movies, TV, and foolishness like that.
(A) Basically true. (B) Basically false.

36. Politically I am probably something of a radical.
(A) Basically true. (B) Basically false.

37. I like to talk before groups of people.
(A) Basically true. (B) Basically false.

38. When you get right down to it, people are quite alike in their emotional makeup.
(A) Basically true. (B) Basically false.

39. I always see to it that my work is carefully planned and organized.
(A) Basically true. (B) Basically false.

40. Straightforward reasoning appeals to me more than metaphors and the search for analogies.
(A) Basically true. (B) Basically false.

41. I am certainly lacking in self-confidence.
(A) Basically true. (B) Basically false.

42. I am embarrassed with people I do not know well.
(A) Basically true. (B) Basically false.

43. Some people are too complicated for me to figure out.
(A) Basically true. (B) Basically false.

44. People are too self-centered.
(A) Basically true. (B) Basically false.

45. You can not classify everyone as good or bad.
(A) Basically true. (B) Basically false.

46. When you are in an embarrassing spot, do you usually (A) change the subject, (B) turn it into a joke, (C) days later, think of what you should have said.

47. It does not bother me when things are uncertain and unpredictable.
(A) Basically true. (B) Basically false.

48. Different people react to the same situation in different ways.
(A) Basically true. (B) Basically false.

49. I must admit that it makes me angry when other people interfere with my daily activity.
(A) Basically true. (B) Basically false.

50. I much prefer friends who are pleasant to have around to those who are always involved in some difficult problem.
(A) Basically true. (B) Basically false.

51. Criticism or scolding makes me very uncomfortable.
(A) Basically true. (B) Basically false.

52. Give me a few facts about a person and I will have a good idea of whether I will like him or not.
(A) Basically true. (B) Basically false.

53. I enjoy myself most when I am alone, away from people.
(A) Basically true. (B) Basically false.

54. I can enjoy being with people whose values are very different from mine.
(A) Basically true. (B) Basically false.

55. I find it hard to set aside a task that I have undertaken, even for a short time.
(A) Basically true. (B) Basically false.

56. I have never been made especially nervous over trouble that any members of my family have gotten into.
(A) Basically true. (B) Basically false.

57. A child who is popular will be popular as an adult, too.
(A) Basically true. (B) Basically false.

58. In your scheme of living, do you prefer to be (A) original, (B) conventional?

59. Do you think it is a worse fault to be (A) unsympathetic, (B) unreasonable?

60. When I work on a committee I like to take charge of things.
(A) Basically true. (B) Basically false.

61. I enjoy going with a crowd.
(A) Basically true. (B) Basically false.

62. I want to know something will really work before I am willing to take a chance on it.
(A) Basically true. (B) Basically false.

63. It is a good rule to accept nothing as certain or proved.
(A) Basically true. (B) Basically false.

64. I find that my first impressions of people are frequently wrong.
(A) Basically true. (B) Basically false.

65. I usually do not like to talk much unless I am with people I know very well.
(A) Basically true. (B) Basically false.

66. I try to remember good stories to pass them on to other people.
(A) Basically true. (B) Basically false.

67. I like to listen to primitive music.
(A) Basically true. (B) Basically false.

68. People these days have pretty low moral standards.
(A) Basically true. (B) Basically false.

69. I dislike having others deliberate and hesitate before acting.
(A) Basically true. (B) Basically false.

70. I would like to be an actor on the stage or in the movies.
(A) Basically true. (B) Basically false.

71. I like to go alone to visit new and strange places.
(A) Basically true. (B) Basically false.

72. People are pretty much alike in their basic interests.
(A) Basically true. (B) Basically false.

73. I like people I get to know.
(A) Basically true. (B) Basically false.

74. I find that a well-ordered mode of life with regular hours is congenial to my temperament.
(A) Basically true. (B) Basically false.

75. I must admit I try to see what others think before I take a stand.
(A) Basically true. (B) Basically false.

PART III

WHICH WORD IN EACH PAIR REPRESENTS YOU BETTER?

76. (A) build (B) invent
77. (A) benefits (B) blessings
78. (A) facts (B) ideas
79. (A) calm (B) lively
80. (A) forgive (B) tolerate
81. (A) imaginative (B) matter-of-fact
82. (A) hearty (B) quiet
83. (A) peacemaker (B) judge
84. (A) complex (B) simple
85. (A) determined (B) devoted
86. (A) sign (B) symbol
87. (A) uncritical (B) critical
88. (A) who (B) what
89. (A) speak (B) write
90. (A) compassion (B) foresight
91. (A) forest (B) field
92. (A) literal (B) figurative
93. (A) soft (B) hard
94. (A) theory (B) certainty
95. (A) concrete (B) abstract
96. (A) gentle (B) firm
97. (A) statement (B) concept
98. (A) justice (B) mercy
99. (A) sensible (B) fascinating
100. (A) party (B) theater
101. (A) production (B) design
102. (A) three (B) nine
103. (A) analyze (B) sympathize
104. (A) theory (B) experience
105. (A) checkers (B) chess
106. (A) convincing (B) touching
107. (A) make (B) create
108. (A) sociable (B) detached
109. (A) firm-minded (B) warm-hearted
110. (A) complicated (B) uncomplicated
111. (A) agree (B) discuss
112. (A) foundation (B) spire
113. (A) reserved (B) talkative
114. (A) wary (B) trustful
115. (A) intricate (B) simple
116. (A) thinking (B) feeling
117. (A) accept (B) alter
118. (A) tangled (B) untangled

PART III

ANSWER THESE QUESTIONS USING THE DIRECTIONS FOR PART I, ON THE FRONT COVER

119. Would you rather (A) support the established methods of doing good, (B) analyze what is still wrong and attack unsolved problems?

120. At parties, do you (A) sometimes get bored, (B) always have fun?

121. Do you admire more the person who is (A) conventional enough never to make himself conspicuous, (B) too original and individual to care whether he is conspicuous or not?

122. Do you think the people close to you know how you feel (A) about most things, (B) only when you have had some special reason to tell them?

123. In a large group, do you more often (A) introduce others, (B) get introduced?

124. I do not like to see women smoke.
(A) Basically true. (B) Basically false.

125. People are quite different in their basic interests.
(A) Basically true. (B) Basically false.

126. You can not accurately describe a person in just a few words.
(A) Basically true. (B) Basically false.

127. I get very tense and anxious when I think other people are disapproving of me.
(A) Basically true. (B) Basically false.

128. If you once start doing favors for people, they will just walk all over you.
(A) Basically true. (B) Basically false.

129. I am very slow in making up my mind.
(A) Basically true. (B) Basically false.

130. Some of my friends think that my ideas are impractical if not a bit wild.
(A) Basically true. (B) Basically false.

131. I must admit that I would find it hard to have for a close friend a person whose manners or appearance made him somewhat repulsive, no matter how brilliant or kind he might be.
(A) Basically true. (B) Basically false.

132. Each person's personality is different from the personality of every other person.
(A) Basically true. (B) Basically false.

133. Usually I prefer known ways of doing things rather than trying out new ways.
(A) Basically true. (B) Basically false.

134. People get ahead by using "pull", and not because of what they know.
(A) Basically true. (B) Basically false.

135. I have had very peculiar and strange experiences.
(A) Basically true. (B) Basically false.

136. In the matter of friends, do you tend to seek (A) deep friendship with a very few people, (B) broad friendship with many different people?

137. Do you get more annoyed at (A) fancy theories, (B) people who do not like theories?

138. It is hard for me to act natural when I am with new people.
(A) Basically true. (B) Basically false.

139. I think I get a good idea of a person's basic nature after a brief conversation with him.
(A) Basically true. (B) Basically false.

140. I always follow the rule: business before pleasure.
(A) Basically true. (B) Basically false.

141. People really need a strong, smart leader.
(A) Basically true. (B) Basically false.

142. I prefer to engage in activities from which I can see definite results rather than those in which no tangible or objective results are apparent.
(A) Basically true. (B) Basically false.

143. I can be comfortable with nearly all kinds of people.
(A) Basically true. (B) Basically false.

144. The average person is not very well satisfied with himself.
(A) Basically true. (B) Basically false.

145. I find it difficult to give up ideas and opinions which I hold.
(A) Basically true. (B) Basically false.

146. I would like the job of a foreign correspondent for a newspaper.
(A) Basically true. (B) Basically false.

147. Most people inwardly dislike putting themselves out to help other people.
(A) Basically true. (B) Basically false.

148. People can be described accurately by one term, such as "introverted", or "moral", or "sociable".
(A) Basically true. (B) Basically false.

149. I think you can never really understand the feeling of other people.
(A) Basically true. (B) Basically false.

150. I do not like things to be uncertain and unpredictable.
(A) Basically true. (B) Basically false.

151. I would certainly enjoy beating a crook at his own game.
(A) Basically true. (B) Basically false.

152. Many of the girls I knew in college went with a fellow only for what they could get out of him.
(A) Basically true. (B) Basically false.

153. Novelty has a great appeal to me.
(A) Basically true. (B) Basically false.

154. People are too easily led.
(A) Basically true. (B) Basically false.

155. I usually feel nervous and ill at ease at a formal dance or party.
(A) Basically true. (B) Basically false.

156. If I could ask a person three questions about himself (and assuming he would answer them honestly), I would know a great deal about him.
(A) Basically true. (B) Basically false.

157. In your crowd, are you usually (A) one of the first to try a new thing, (B) one of the last to fall into line?

158. Do you more often let (A) your heart rule your head, (B) your head rule your heart?

159. Is it higher praise to call someone (A) a man of vision, (B) a man of common sense?

160. Can you (A) talk easily to almost anyone for as long as you have to, (B) find a lot to say only to certain people or under certain conditions?

161. I do not like to work on a problem unless there is a possibility of coming out with a clear-cut and unambiguous answer.
(A) Basically true. (B) Basically false.

162. When I meet a person, I look for one basic characteristic through which I try to understand him.
(A) Basically true. (B) Basically false.

163. It would not make me nervous if any members of my family got into trouble with the law.
(A) Basically true. (B) Basically false.

164. In my experience, people are pretty stubborn and unreasonable.
(A) Basically true. (B) Basically false.

165. At times I feel that I can make up my mind with unusually great ease.
(A) Basically true. (B) Basically false.

166. I feel nervous if I have to meet a lot of people.
(A) Basically true. (B) Basically false.

167. I find that my first impression of a person is usually correct.
(A) Basically true. (B) Basically false.

168. It bothers me when something unexpected interrupts my daily routine.
(A) Basically true. (B) Basically false.

169. People are pretty different from one another in "what makes them tick".
(A) Basically true. (B) Basically false.

170. I keep out of trouble at all costs.
(A) Basically true. (B) Basically false.

171. People are always dissatisfied and hunting for something new.
(A) Basically true. (B) Basically false.

172. In reading for pleasure, do you (A) enjoy odd or original ways of saying things, (B) wish writers would say exactly what they mean?

173. As a guest, do you more enjoy (A) joining in the talk of the group, (B) talking separately with people you know well?

174. If you have a good idea about how several people will react to a certain situation, you can expect most other people to react the same way.
(A) Basically true. (B) Basically false.

175. I do not like to undertake any project unless I have a pretty good idea as to how it will turn out.
(A) Basically true. (B) Basically false.

176. People are basically similar in their personalities.
(A) Basically true. (B) Basically false.

177. I have had strange and peculiar thoughts.
(A) Basically true. (B) Basically false.

178. Are you (A) easy to get to know, (B) Hard to get to know?

179. Do you usually get on better with (A) imaginative people, (B) realistic people?

180. The unfinished and the imperfect often have greater appeal for me than the completed and polished.
(A) Basically true. (B) Basically false.

181. It is not hard to understand what really is important to a person.
(A) Basically true. (B) Basically false.

182. A person's reaction to things differs from one situation to another.
(A) Basically true. (B) Basically false.

183. Many of my friends would probably be considered unconventional by other people.
(A) Basically true. (B) Basically false.

184. Do you (A) show your feelings freely as you go along, (B) keep them to yourself?

185. If you were a teacher, would you rather teach (A) fact courses, (B) theory courses?

186. Which of these two is the higher compliment (A) he is a person of real feeling, (B) he is consistently reasonable?

187. When you have to meet strangers, do you find it (A) pleasant, or at least easy, (B) something that takes a good deal of effort?

188. People are unpredictable in how they will react from one situation to another.
(A) Basically true. (B) Basically false.

189. Trends toward abstractionism and the distortion of reality have corrupted much art in recent years.
(A) Basically true. (B) Basically false.

190. People are so complex it is hard to know what "makes them tick".
(A) Basically true. (B) Basically false.

191. In doing something which many other people do, does it appeal more to you (A) to do it in the accepted way, (B) to invent a way of your own?

192. At a party, do you like (A) to help get things going, (B) to let the others have fun in their own way?

193. I am against giving money to beggars.
(A) Basically true. (B) Basically false.

194. I show individuality and originality in my schoolwork.
(A) Basically true. (B) Basically false.

195. Would you have liked to argue the meaning of (A) a lot of these questions, (B) only a few.

THIS QUESTION IS NOT PART OF THE TEST. IT REFERS TO RESEARCH THAT IS BEING CARRIED ON THIS SUMMER.

200. If selected, would you like to participate in research concerning videotaped small discussion groups? (A) Yes. (B) Maybe. (C) No.

NOW GO BACK AND MAKE SURE YOU HAVE MARKED AN "X" BY ALL THE ITEMS WHICH ARE IMPORTANT REPRESENTATIONS OF YOU.

WRITE ANY ADDITIONAL COMMENTS YOU MIGHT HAVE ON THE BACK OF THE ANSWER SHEET.

APPENDIX B

DATA SUPPORTING THE USE OF THE MYERS-BRIGGS SCALES AS CONTINUA

Table 23. Distribution of Sample Population on Extravert-Introvert Dimension

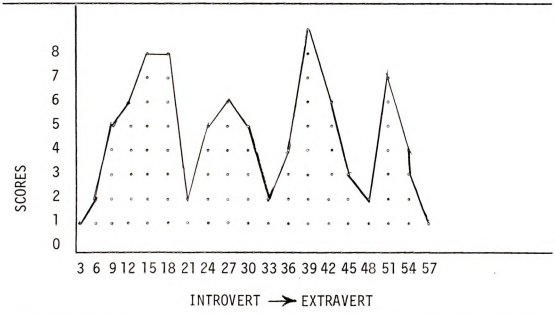


Table 24. Distribution of Sample Population on Sensing-Intuition Dimension

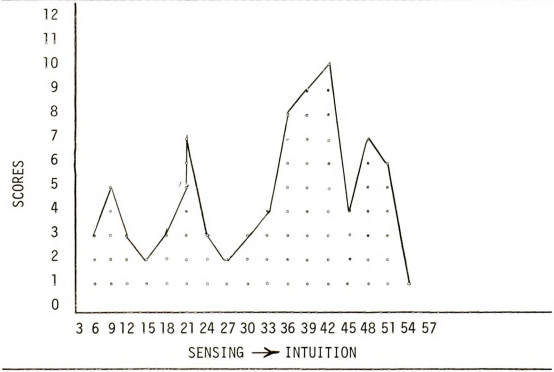
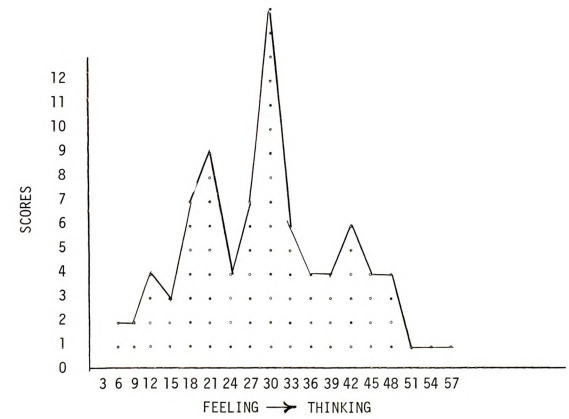


Table 25. Distribution of Sample Population on Thinking-Feeling Dimension



APPENDIX C

THE EMPATHY MEASURES

The following is a multiple choice test used in conjunction with a videotape. Prior to today a series of videotapes were made in which four women participated in group discussions. Subsequently each group member individually watched a replay of each videotape and recalled what she was thinking or feeling during certain segments of the tape. One correct and three false alternatives were constructed for many of the segments recalled.

In this part of the experiment, the first videotape of Group A will be replayed and stopped at the segments mentioned above. When the videotape stops you are to turn the page and read a question about one of the group members. You will be given ten seconds to think about what that individual was thinking or feeling just before the videotape stopped. While you are thinking, the alternatives to the questions which begin in the middle of the page, should be kept covered with the sheet of paper provided. After ten seconds, the experimenter will signal you to remove the paper and choose which of the four alternatives you think the indicated group member would say she was feeling or thinking just before the videotape stopped. After you have circled the answer to the question, DO NOT TURN THE PAGE. Wait until the videotape has been started and stopped again at a new segment to turn the page. IMMEDIATELY COVER THE BOTTOM HALF OF THE PAGE WITH THE PAPER PROVIDED WHEN YOU TURN THE PAGE.

Remember, you are to choose which alternative the indicated group member WOULD SAY she was thinking or feeling just before the videotape is stopped.

GROUP A, SESSION 1

1. How did Mary feel as she said she had to be older than her sisters did to get the same privileges?

11. How did Linda feel when she said most of her friends were going to U of M or State or out of state?

21. What was Pam thinking as Linda described lying to her mother about the time?

1. How did Mary feel as she said she had to be older than her sisters did to get the same privileges?

A. Embarrassed--the others might think she was not as responsible as her sisters.
B. Protected--her parents seemed to watch over her more, even though they did not give her privileges early.
C. Guilty--for putting her family in a bad light.
D. Resentful--she always seemed to get the raw end of the deal.

11. How did Linda feel when she said that most of her friends were going to U of M or State or out of state?

A. Lonely--most of her friends seemed to be elsewhere.
B. Satisfied--to go to State. She did not have to apply anywhere else.
C. Regretful--that she did not apply to U of M or out of state.
D. Cynical--because her friends used going out of state to gain status.

21. What was Pam thinking as Linda described lying to her mother about the time?

A. I agree, you have to lie to your parents sometimes.
B. Lying is stupid, there is no sense to it!
C. Her mother must be pretty dumb to believe it.
D. I remember the time I lied to my parents and got caught.

2. What was Pam thinking as Linda talked about Nassau?

12. What was Linda thinking as she said she paid half her college expenses?

22. What will Mary do next?

2. What was Pam thinking as Linda talked about Nassau?

A. I have never been out of Michigan!
B. Linda is trying to impress us.
C. I would like to go to Nassau too!
D. I do not want to go to Nassau.

12. What was Linda thinking as she said she paid half her college expenses?

A. I did not want to pay anything, but my parents made me pay half.
B. I do not want to give the wrong impression, it was my idea to pay half.
C. I do not like situations where you have to prove you are poor.
D. It is a lie, but maybe they will like me better.

22. What will Mary do next?

A. Say, "Yeah, lots of times I didn't know."
B. Say, "I really knew though."
C. Say, "They should be happy I came home."
D. Say, "Sometimes I'd try to make a joke out of it."

3. What was Pam feeling when Linda said she got away with more than her sister ever tried to?

13. How did Pam feel after she told about her roommate asking about her grades?

23. What was Pam thinking as Mary described her dorm?

3. What was Pam feeling when Linda said she got away with more than her sister ever tried to?

A. Amused--she usually got away with more too.
B. Disgusted--she saw Linda as proud and headstrong.
C. Regretful--that she had teased her older brother about how much she got.
D. Impatient--she wanted to get on to another topic.

13. How did Pam feel after she told about her roommate asking about her grades?

A. Close--the others seemed to agree that asking what your grades are is wrong.
B. Amused--at how scared she had been to tell anyone.
C. Depressed--it seemed like her grades would never get better.
D. Guilty--she always seemed to put her roommate down.

23. What was Pam thinking as Mary described her dorm?

A. She must be very unhappy up here!
B. She seems like she is acting--her expressions are not real.
C. She is making me look bad for liking the dorm.
D. I never looked at it that way. But that is what it is like.

4. How did Mary feel as Pam told how her brother usually drives her places?

14. How was Ceci feeling after Pam told about her roommate asking about her grades.

24. What was Ceci thinking as Mary described her dorm?

4. How was Mary feeling as Pam told how her brother usually drives her places?

   A. Amused--she thought it was funny.
   B. Impatient--she wanted to go on to deeper things.
   C. Anxious--she was afraid she would have to come up with a story too.
   D. Surprised--that Pam let her brother get away with that.

14. How was Ceci feeling after Pam told about her roommate asking about her grades?

   A. Ashamed--her grades were not too good either.
   B. Surprised--she wondered what was so wrong with asking about grades.
   C. Angry--what a dumb thing for the roommate to ask!
   D. Capable--her grades were good, she did not mind telling.

24. What was Ceci thinking as Mary described her dorm?

   A. Why doesn't she move out?
   B. I like the dorm--but I had to move out because it was too expensive.
   C. That is exactly what it is like--very clinical.
   D. I am glad Mary got more into the discussion.

5. What will Ceci do next?

15. What was Mary thinking as Linda said that classes were hard up here?

25. What was Ceci thinking as Pam described finding friends that are like you?

5. What will Ceci do next?

A. Tell what Linda's brother might have been thinking when he would not let her drive.
B. Say that she would not let anyone else drive her car either.
C. Acknowledge that similar things had happened to her.
D. Ask what reasons Linda's brother gave.

15. What was Mary thinking as Linda said that classes were hard up here?

A. I disagree--classes are easy for me.
B. Yep--I have to work hard here for the average grades I get!
C. I wonder if I am the dumbest one here?
D. Probably I went to a better high school than she did.

25. What was Ceci thinking as Pam described finding friends that are like you?

A. It is not so hard for me to find friends.
B. Pam likes a lot of friends; I like only a few.
C. I agree, most of my friends are pretty much like me.
D. I disagree, opposites attract, not those who are just like you.

6. What was Linda thinking as she told about getting the keys to her boyfriend's car?

16. What will Pam do next?

26. How did Linda feel as Mary talked about moving winter term?

6. What was Linda thinking as she told about getting the keys to her boyfriend's car?

A. I am used to things like that. I guess they are not.
B. They think I am spoiled.
C. I love telling others this. They really think I am good.
D. I wonder what they think of my boyfriend?

16. What will Pam do next?

A. Say that her parents never helped her with school work before, so they do not supervise now.
B. Say that she paid for all of first term, so her parents could not get down on her for her grades.
C. Ask how the other's parents react to grades.
D. Tell about her roommate's parents reaction.

26. How did Linda feel as Mary talked about moving winter term?

A. Annoyed--she could not understand why Mary would have moved out in the first place.
B. Sorry for Mary--because she must have been very lonely.
C. Surprised--that Mary could not make friends easier.
D. Helpful--she usually made it easier for new people to fit in.

7. What was Ceci thinking as Linda told about getting the keys to her boyfriend's car?

17. How did Linda feel about Mary's parents rejoicing when her grades were good?

27. How did Pam feel as she commented on the room looking antique.

7. What was Ceci thinking as Linda told about getting the keys to her boyfriend's car?

A. I would like to have a car to borrow!
B. I would not want the keys to my boyfriend's car.
C. I could not even afford the gas.
D. I wonder where she found a boyfriend like that.

17. How did Linda feel about Mary's parents rejoicing when her grades were good?

A. Skeptical--that Mary's parents really did that to control her.
B. Guilty--her grades are never good enough to be rejoiced about.
C. Disappointed--her parents never praise her for her grades.
D. Bored--everybody always talks about grades.

27. How did Pam feel as she commented on the room looking antique?

A. Optimistic--she liked to talk about antiques and old places.
B. Impatient--she wanted to get this group over with.
C. Disappointed--she wanted the group to be more interesting than it turned out to be.
D. Comfortable--she could tell she was getting to know and like the others when she started talking about the surroundings.

8. What will Linda do next?

18. What was Mary thinking as Ceci told about not drinking water with meals?

28. How did Mary feel after saying that everybody dried out this winter?

8. What will Linda do next?

A. Talk about the responsibility she feels driving her boyfriend's car.
B. Say that his insurance will cover her accidents.
C. Tell an incident about almost getting in a crash.
D. Change the subject.

18. What was Mary thinking as Ceci told about not drinking water with meals?

A. Ceci's father must be a health nut.
B. She is making me thirsty.
C. I should pay more attention to my weight.
D. That is interesting. I would like to hear more about it.

28. How did Mary feel after saying that everybody dried out this winter?

A. Comfortable--she felt like she was more a part of the group now.
B. Awkward--she felt like she was talking to fill the silences.
C. Guilty--she thought she was not saying enough of substance.
D. Annoyed--she thought others in the group should have said more.

9. How did Ceci feel after she mentioned hitch-hiking?

19. How did Ceci feel when Linda said, "That's great!"?

9. How did Ceci feel after she mentioned hitch-hiking?

   A. Foolish--she thought the others considered hitch-hiking dangerous.
   B. Guilty--for putting Linda down.
   C. Superior--she could do things for herself.
   D. Discouraged--her idea had not seemed to go over well.

19. How did Ceci feel when Linda said, "That's great!"?

   A. Uneasy--it really was not that great. Anybody could do it.
   B. Bitter--she really would like to live in a plush off-campus apartment.
   C. Embarrassed--she thought she was beginning to sound poverty stricken.
   D. Happy--Linda was saying she had good sense.

10. What was Linda thinking after Ceci mentioned hitch-hiking?

20. What was Mary thinking as Ceci described how her father brought up the family?

10. What was Linda thinking after Ceci mentioned hitch-hiking?

A. Hitch hikers get all wet or splashed. I would not like it.
B. I have hitch-hiked, but it takes too long.
C. I would not hitch-hike. I am more dependent.
D. I do not think Ceci likes me.

20. What was Mary thinking as Ceci described how her father brought up the family?

A. It sounds pretty cold to me!
B. That is what I hate about families--they test you.
C. I would rather have a car than know why I could not have one.
D. That is a good way to raise kids--to let them decide for themselves.

NOW THAT YOU HAVE VIEWED THE VIDEOTAPED GROUP SESSION, ANSWER THE FOLLOWING GENERAL QUESTIONS ABOUT THE GROUP MEMBERS.

Questions on Linda

29. Who did Linda like best during the group session?
A) Mary B) Pam C) Ceci

30. Who did Linda like least during the group session?
A) Mary B) Pam C) Ceci

31. Who did Linda think was most similar to her?
A) Mary B) Pam C) Ceci

Questions on Mary

32. Who did Mary like best during the group session?
A) Pam B) Ceci C) Linda

33. Who did Mary like least during the group session?
A) Pam B) Ceci C) Linda

34. Who did Mary think was most similar to her?
A) Pam B) Ceci C) Linda

Questions on Pam

35. Who did Pam like best during the group session?
A) Ceci B) Linda C) Mary

36. Who did Pam like least during the group session?
A) Ceci B) Linda C) Mary

37. Who did Pam think was most similar to her?
A) Ceci B) Linda C) Mary

Questions on Ceci

38. Who did Ceci like best during the group session?
A) Linda B) Mary C) Pam

39. Who did Ceci like least during the group session?
A) Linda B) Mary C) Pam

40. Who did Ceci think was most similar to her?
A) Linda B) Mary C) Pam

APPENDIX D

THE AWARENESS MATERIALS

GENDLIN'S FOCUSING TECHNIQUE

This is going to be just to yourself. What I will ask you to do will be silent, just to yourself. Take a moment to relax ... (5 seconds). All right now, just to yourself, inside you, I would like you to pay attention to a very special part of you....

Pay attention to that part where you usually feel sad, glad, or scared ... (5 seconds). Pay attention to that area in you and see how you are now.

See what comes to you when you ask yourself, "How am I now?" "How do I feel?" "What is the main thing for me right now?"

Let it come in whatever way it comes to you, and see how it is.

30 seconds or less

If among the things you have just thought of, there was one major problem which felt important, continue with it. Otherwise, select a meaningful personal problem to think about. Make sure you have chosen some personal problems of real importance in your life. Choose the thing which seems most meaningful to you.... (19 seconds).

Of course, there are many parts to that one thing you are thinking about--to many to think of each one alone. But, you can feel all of these things together. Pay attention there where you usually feel things, and in there you can get a sense of what all of the problem feels like. Let yourself feel all of that.

30 seconds or less

As you pay attention to the whole feeling of it, you may find that one special feeling comes up. Let yourself pay attention to that one feeling.

1 minute

Keep following one feeling. Do not let it be just words or pictures, wait and let words or pictures come from the feeling.

1 minute

If this one feeling changes, or moves, let it do that. Whatever it does, follow the feeling and pay attention to it.

1 minute

Now, take what is fresh, or new, in the feel of it now ... and go very easy. Just as you feel it, try to find some new words or pictures to capture what your present feeling is all about. There does not have

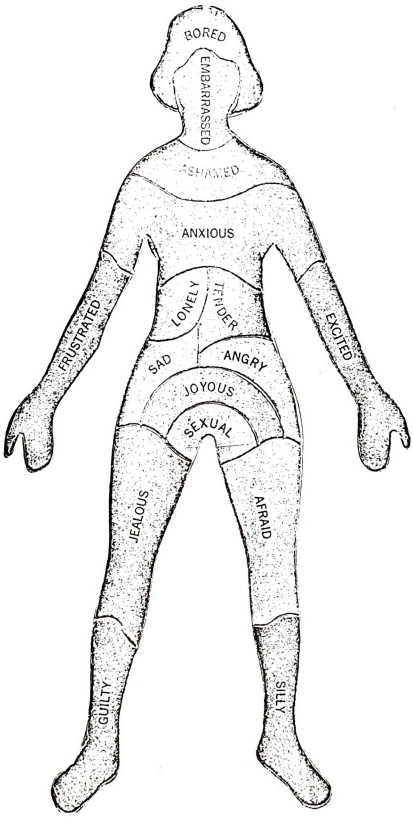
to be anything that you did not know before. New words are best, but old words might fit just as well. As long as you now find words or pictures to say what is fresh to you now.

1 minute

If the words or pictures that you now have make some fresh difference, see what that is. Let the words or pictures change until they feel just right in capturing your feeling.

1 minute

Now I will give you a little while to use in any way you want to, and then we will stop.


BORED
EMBARRASSED
ASHAMED
ANXIOUS
LONELY
TENDER
FRUSTRATED
EXCITED
SAD
ANGRY
JOYOUS
SEXUAL
JEALOUS
AFRAID
GUILTY
SILLY

APPENDIX E

FEELING SUMMARY USED BY TARGET TO IDENTIFY FEELINGS

FEELING INDICATOR

Check all the feelings you were having in the last few seconds before the videotape stopped. Explain, if you can, what these feelings were in response to.

surprised	___	___	___	___	reluctant	___	___	___	___
awe	___	___	___	___	careful	___	___	___	___
					cautious	___	___	___	___
talkative	___	___	___	___	stubborn--resistant	___	___	___	___
amused	___	___	___	___	forced	___	___	___	___
happy	___	___	___	___	controlled	___	___	___	___
					trapped	___	___	___	___
hopeful	___	___	___	___					
optimistic	___	___	___	___	frustrated	___	___	___	___
enthusiastic	___	___	___	___	annoyed--angry	___	___	___	___
courageous--daring	___	___	___	___	disgusted--fed up	___	___	___	___
sensible--reasonable	___	___	___	___	upset-disturbed	___	___	___	___
patient	___	___	___	___	anxious	___	___	___	___
flexible	___	___	___	___	embarrassed	___	___	___	___
helpful	___	___	___	___	foolish-ridiculous	___	___	___	___
capable	___	___	___	___	guilty	___	___	___	___
determined	___	___	___	___	worried	___	___	___	___
proud	___	___	___	___	scared	___	___	___	___
relieved	___	___	___	___	disappointed	___	___	___	___
comfortable--at ease	___	___	___	___	abused	___	___	___	___
satisfied	___	___	___	___	bitter	___	___	___	___
refreshed	___	___	___	___					
					regretful	___	___	___	___
protected	___	___	___	___	discouraged	___	___	___	___
appreciated	___	___	___	___	depressed	___	___	___	___
					defeated	___	___	___	___
ambivalent	___	___	___	___	lonely	___	___	___	___
confused--mixed up	___	___	___	___	helpless	___	___	___	___
baffled	___	___	___	___	hopeless	___	___	___	___
erratic--disorganized	___	___	___	___					
					other				
impatient	___	___	___	___	_____	___	___	___	___
listless--indifferent	___	___	___	___	_____	___	___	___	___
bored	___	___	___	___	_____	___	___	___	___
daydreaming	___	___	___	___	_____	___	___	___	___
exhausted	___	___	___	___					

APPENDIX F

POST-EXPERIMENT DATA

SUBJECTS' OBSERVATIONS CONCERNING THE EXPERIMENT

Observations	No. of Ss Responding
I. Problems with quality of videotaped information.	
A. Some videotaped sessions were more interesting than others.	1
B. Group II was easier to understand than Group I.	1
C. Targets did not say their real feelings. The situation was artificial.	4
D. Thought targets were trying to be safe.	2
II. Problems with attending.	
E. Subject was more awake some days than others.	1
F. Took awhile to become accoustomed to the testing situation.	1
G. Had a hard time following participants.	2
H. Had a hard time seeing the videotape.	1
I. Too complex.	1
J. Felt pressured during the testing situation.	1
K. Felt empathized differently with some than with others.	3
III. Problems with tests.	
L. Information on videotape not adequate to answer questions.	1
M. Had different alternatives than those given.	1
N. Questions too difficult, too specific; better if more general.	2
O. Thinking questions were more flexible than the others.	1
P. Subject reacted to the same words on the Myers-Briggs differently.	1

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