

THE STRENGTH OF SENSING - INTUITION PREFERENCE
ON THE MYERS - BRIGGS TYPE INDICATOR AS RELATED
TO EMPATHIC DISCRIMINATION OF OVERT OR COVERT
FEELING MESSAGES OF OTHERS

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This is to certify that the
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ABSTRACT

THE STRENGTH OF SENSING-INTUITION PREFERENCE
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The major purpose of the study was to examine the relationship between alternative modes of perception and the way individuals attend to feeling messages of others. The theories of C.G. Jung were consulted to obtain a model for alternative modes of perception. Jung's distinction between Sensing and Intuition was postulated to be consistent theoretically with particular styles of attending to feelings in others. Sensing was assumed to be the appropriate mode of perception for overt expressions of feeling. On the other hand, when subtle or covert expressions of feeling exist, more indirect (or Intuitive) methods of receiving the message were expected to be necessary.

The focus of the study centered on the initial discriminative aspect of empathy. Subsequent processes of communication of empathic understanding were not considered.

In a review of relevant literature, no empirical studies were found which examine modes of perception as they affect the discriminative task of empathy.

The Sensing-Intuition scale of the Myers-Briggs Type Indicator was employed as a measure of alternative perceptive styles. Internal consistency reliability estimates for the sample were found to be .816 and .829 using both split-half and coefficient alpha.

Because instruments purporting to measure empathic discrimination were found to be invalid for the current investigation, the Identification of Feelings Exercise was constructed. From an original pool of 100 audiotaped vignettes, 50 were selected through several processes of refinement. Each taped vignette included a spoken statement of experience involving feeling messages. After a short training exercise, ten university counseling center psychologists determined the appropriate predominant feeling for each statement. Five additional university counseling center psychologists rated the same 100 vignettes on a four-point continuous scale to determine level of overtness, and obtained inter-rater reliability of .88. A pilot test of the vignettes was conducted with 67 Michigan State University dormitory residents. Indices of discrimination and difficulty were obtained from an item analysis of the results of the pilot study.

The final 50-item instrument included examples for each of five feeling categories: Contempt/Disgust, Distress,

Joy, Fear and Anger. The instrument further included 25 overt and 25 covert vignettes, and was entitled the Identification of Feelings Exercise. Kuder Richardson #20 reliability data from a cross-validated sample produced an estimate of .523.

A sample of 139 subjects was drawn from Summer Term students at Michigan State University. All subjects participated in the study voluntarily in return for receiving an interpretation of their Myers-Briggs Type Indicator results. Tested in nine separate groups, subjects were first presented the Identification of Feelings Exercise. Each taped item was played, followed by a 4-6 second pause for recording answers. Subjects were instructed to record the predominant feeling expressed in the vignettes by checking one of the five feeling categories. At the end of the 50-item exercise, subjects were administered the Myers-Briggs Type Indicator.

A multivariate repeated measures design was employed. Independent variables included Sensing-Intuition preference from the Myers-Briggs Type Indicator and the strength of continuous preference scores. Sensing-Intuition scores falling thirty points on either side of the midpoint were labeled Moderate. The remaining scores at each end of the continuum were pooled into one group labeled Exceptional.

Four major hypotheses were tested by analysis of variance procedures. Alpha was set at the .05 level. The following were the results of the tests of the hypotheses:

1. Intuitors more accurately identified feeling messages than Sensors.
2. No differences existed between Intuitors and Sensors on accurate identification of overtly expressed feeling messages.
3. Intuitors more accurately identified covertly expressed feeling messages than Sensors.
4. No differences existed between Exceptional and Moderate strengths of preference on accurate identification of feeling messages.

Furthermore, the following additional conclusions were reached from the data:

1. Differences between scores on the overt and covert dimensions of the Identification of Feelings Exercise were significant for both Sensors and Intuitors.
2. Extraversion-Introversion, Thinking-Feeling and Judging-Perceiving scores on the Myers-Briggs Type Indicator did not account for differences between Sensors and Intuitors in accurate identification of feelings.
3. Females more accurately identified feeling messages than males on the overt dimension and over-all, but no significant differences existed on the covert dimension between the sexes.

It was concluded that empathic discrimination is affected by one's preferred mode of perception.

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John Kesley DiTiberio

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In Memory

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The difficulties involved in completing this project have, at times, been awesome. The work, in addition, has not gone on in a vacuum. Events and experiences had their way of calling out abruptly to corners of my being which never were invested in the present work. The two sides of myself thus stood in conflict sometimes for weeks on end.

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Imogen Bowers, whose therapy supervision taught me

that attention to my own feelings, even in tragedy, need not immobilize efforts in other areas.

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Friends and colleagues who contributed their voices to the making of the stimulus tapes, who volunteered time and energy for rating the tapes, or who recruited subjects.

Barb Palmer, who through her typing now knows how boring sections of this report can be.

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CHAPTER I: THE PROBLEM

The way one identifies feelings in the messages of others (one of the crucial tasks of the empathic process) is likely affected by the way one perceives the world in general. Helping relationships demand minimal levels of empathic understanding in order to be effective. Specific information regarding the roots of difficulty that individuals have in attending to feelings in others is therefore important.

Need for the Study

Differences in the ways individuals are empathic may involve either the communication of understanding by the listener, the way the understanding develops in his mind, or the way the original perception of the other's feelings is received. It is important to examine each step in the empathic process. Yet the whole process hinges on the first crucial perception. The varying ways individuals actually perceive feeling messages when they are expressed by another person therefore deserve specific attention.

Examination of alternative modes of perception might give clues to the nature of differences in interpersonal effectiveness. This would be especially true for persons



who must attend to feeling messages of others. Selection processes for training programs in counseling, teaching or mental health could benefit from knowledge about the different ways trainees approach clients or students when feelings are involved. Certain interpersonal tasks may demand one mode of "empathic" perception, while others require another. Individuals who habitually attend to feelings in particular ways could therefore be selected for specialized situations consistent with their strength. Differential training modalities could also be developed to increase the effectiveness of persons of varying perceptive styles. Regardless of one's habitual pattern of identifying feelings, an individual may be given opportunity to develop new patterns of perception. These new patterns could subsequently be used when situations demand an alternative approach.

A study such as the one proposed would furthermore contribute to greater theoretical understanding of the empathic process. The interpersonal effects of perception differences would also be understood more fully in relation to personality theory.

Purpose of the Study

The problem, therefore, is to find means of examining alternative modes of perception in relation to discrimination of feeling messages from others. The purpose of this study is to determine the degree to which

the ability to identify feelings empathically is consistent with preferred habitual patterns of behavior associated with alternative modes of perception.

Definition of Terms as Used in the Study

In subsequent pages, the following terms have been employed frequently. An understanding of the content of the current study requires clarification of those terms as used hereafter.

Empathy refers to the process of communicating to another one's understanding of his or her feelings. Note that the listener is not required to feel as the speaker does. Empathy refers therefore more to cognitive than affective processes in the listener.

Empathic Discrimination refers to the identification of the feelings or emotions associated with the experience of another person. Empathic Discrimination is to be distinguished from Empathic Understanding, which moves beyond the process of perceiving or identifying feelings into higher levels of cognitive structuring. Furthermore, Empathic Communication involves an expression of understanding to the other person. It is assumed that Empathic Discrimination is a necessary component that must precede both Empathic Understanding and Communication.

Feeling Labels refer to the cognitive terms which are associated with emotional experience. When one is said to identify empathically the feelings in another's



message, it is meant that the individual can apply an appropriate label to the perceived emotional experience.

Perception refers to the means of taking in or registering information from the environment. As discussed by Jung (1923), perception may involve either of two alternative ways of taking in and registering information: Sensing or Intuition.

Sensing (S) as a mode of perception involves a preference for receiving information from the environment primarily through the five senses, focusing on precise details and tangible data.

Intuition (N) as a mode of perception involves a preference for registering information from the environment in patterns and wholes rather than in specific detail.

Research Hypotheses

The following general hypotheses were formulated for the study, and are considered in testable form in Chapter III.

- I. Individuals who habitually prefer Sensing as a mode of perception are less accurate in identifying the feeling messages of others than those who prefer Intuition.
- II. Individuals who habitually prefer Sensing as a mode of perception are more accurate in identifying overtly expressed feeling messages of others than those who prefer Intuition.
- III. Individuals who habitually prefer Sensing as a mode of perception are less accurate in identifying covertly expressed feeling messages of others than those who prefer Intuition.

- IV. Individuals with Exceptional strength of preference for one mode of perception over the other are less accurate in identifying either overt or covert feeling messages of others than those with Moderate preference.

Theory

The need for the current study has considerable theoretical roots, which are now discussed.

Empathy as an Area of Study. The ability to communicate empathic understanding for another person is a core aspect of helping relationships. Although there are many varying definitions for the term "empathy," Rogers' approach (1957) has received much attention in counseling research. In Rogers' use of the term, empathy in counselors includes the demonstration of understanding of the client's world as if it were one's own.

Reviews of the literature on empathy such as that of Buchheimer (1963) have recommended efforts toward identifying specific components of the empathic process rather than treating it as a unitary phenomenon. In this regard, Carkhuff (1969b) has developed a scale to measure empathic response. His work has served to define levels of effectiveness, and therefore provides information about the subroles of empathic responses.

Perception and the Empathic Process. Contrary to other discussions of empathy, the Carkhuff school (following Rogers' lead) asserts that empathic perception and understanding are not enough. Carkhuff believes that

listeners must effectively communicate their perception and understanding to the speaker. Efforts to measure empathy have been facilitated by this operational focus on the observable behaviors of communication. What has been left behind, however, is an adequate examination of what goes into the internal process of perceiving, identifying or discriminating feelings of another.

Individuals also function at different levels on various tasks of empathy. In parent training programs which focus on empathic active listening (Gordon, 1970), it has been noted that participants often find it difficult to learn skills foreign to their natural styles. Differing rates of acquisition of such skills during training are a further manifestation of the issue of individual differences in empathic effectiveness.

In explaining individual differences in empathy, a few researchers (Campbell, et al., 1971) have suggested that two alternative states of perception may exist: a sensory one and an interpretive or labeling one. Anxiety may intervene between sensation and labeling, thus accounting for differences in empathic perception. Even in the absence of anxiety, however, there may be basic differences in the way individuals perceive the stimulus. In this regard, Cronbach (1955) was one of the first to describe the effect of "implicit personality theory" on interpersonal perception.

There remains, then, the problem of examining the

reasons for variations in empathic ability. The way in which personality differences affect the processes of perception of feelings must be examined.

Ability to discriminate feelings in another does not necessarily lead to ability to communicate effectively that awareness (Carkhuff, 1969a; Campbell et al., 1971). Nevertheless, if not sufficient, discrimination is most certainly necessary for the empathic process to begin, and is most closely connected to the moment in that process when personality differences might have their effect.

Jungian Differences in Perceptive Style. The theories of C. G. Jung (1923) include a discussion of personality type differences dealing with modes of perception. Consistent with his emphasis on the dichotomous nature of human character, Jung's personality typology presents bipolar alternatives on three dimensions: Extraversion or Introversion as primarily inborn general attitudes toward the world; Sensing or Intuition as perceiving functions; and Thinking or Feeling as judging functions. Jung believed that each individual has a habitual preference for one alternative over the other on each dimension. Yet he placed importance on the validity and contributions of the opposite of one's preferred type in various life situations.

Perception and the Myers-Briggs Type Indicator. In recent years, Jung's type distinctions have been measured in a variety of settings through use of the Myers-Briggs Type Indicator (MBTI). Much of the data resulting from



research with the MBTI have demonstrated that type differences account for variations in occupational choice, academic performance, and classroom attitudes toward learning and teaching, among other areas (McCaulley, 1975; Myers, 1962; Myers, 1971). The MBTI therefore seems to have promise as a device for identification of personality differences as they relate to levels of interpersonal effectiveness.

With the MBTI each individual receives a score on four dimensions: Extraversion-Introversion (E-I), Sensing-Intuition (S-N), Thinking-Feeling (T-F), and Judging-Perceiving (J-P). Judging-Perceiving was not discussed by Jung as a separate dimension, but has been included in the MBTI to add meaning to scores in the other areas. The J-P scale identifies the preferred mode of one's outward behavior with others. The opposite of one's J-P preference therefore identifies the preferred mode of inward reflection.

Perception has been identified as the initial step in the process of empathy (Truax and Carkhuff, 1967). The perception dimension (Sensing-Intuition) of Jung's typology is therefore of particular interest.

The Sensing alternative (S) is described as a preference for receiving information from the environment primarily through the five senses, focusing on precise details and tangible data. Particularities are observed more clearly than patterns and large relationships. Precision and practicality are valued in Sensing.

Intuition (N) is described as a preference for registering information from the environment unconsciously in patterns and wholes rather than in specific detail. Stimuli are observed for complex relationships and abstract deeper meanings rather than peculiarities and details. Hunches and potentialities are valued in Intuition.

If perception leading to accurate affective discrimination is the first step prior to communication in the empathic process, the alternative modes of perception as outlined by Jung and measured by the Myers-Briggs Type Indicator might therefore explain differences in empathic ability.

Overt and Covert Expression of Feelings. How openly an individual expresses the feelings he is having determines in part how a listener attends to and then communicates understanding for that person. One situation might demand of the listener an attention to subtle covert meanings. Messages of this nature might be missed by one who listens for feelings primarily through the explicit statements of others. If this is true, Jung's Sensing-Intuition distinction is appropriate as a conceptual model for understanding differing levels of performance in empathy research.

The Value of Both Poles of the Dichotomy. It seems clear that helping relationships require ability both with overt and covert stimuli. Some speaker messages will be clear and explicit while others will be veiled and inexplicit

in many ways.

Carkhuff (1969b) has identified two types of responses as appropriate in communication of empathic understanding. Some responses must be interchangeable with speaker affect, and others must evolve from what is not said, involving attention to underlying meaning.

The argument about whether empathy is primarily an intuitive process or simply another form of inference (Allport, 1937) therefore misses the point. It seems important to examine each side of this dichotomy as openly as the other. Indeed, the empathic listener, even though he might habitually prefer one mode of perception over another, ought to have access to the other mode as well.

Problems in the empathic process come, therefore, from habitual patterns solocked into one mode of perception that the listener cannot employ the other. Preference for Intuition, for example, may be so strong as to make it awkward for the individual to operate in situations which demand attention to details and facts. Preference for Sensing, on the other hand, may be exceptional enough to preclude the listener's ability to grasp the larger picture of the speaker's experience. Subtle and inexplicit messages (whether nonverbal or connotative) may be missed, which give hints to meanings much deeper than the outward or overt message. Exceptional as opposed to moderate strength of preference for modes of perception must therefore be investigated in relation to empathic effectiveness.

A Model of Health. In spite of much of his impressive research on the place of empathy in human relationships, Carkhuff has at times employed a heavy-handed approach to the issue of different levels of performance.

Some individuals [he has written] can deliver and some cannot. Those who cannot deliver must be trained. Those who cannot be trained must be treated. Those who can be neither trained nor treated must not hold positions of responsibility in the areas of human relations. (Carkhuff, 1969b, p. 289)

In contrast, the present study is conducted with attention not so much to weaknesses in personality as to potentialities. Instead of indicating degrees of pathology in his type theory, Jung suggested that individual differences are all valid, necessary and healthy. He chose to associate pathology with the failure to accept and make constructive use of unpreferred, yet real, divergent sides of oneself. This positive growth-oriented nature of Jung's ideas stimulates the selection of the Myers-Briggs Type Indicator as the instrument of primary focus in the current study.

Some individuals may require psychotherapeutic remediation of anxiety before they can be said to be minimally empathic. But the present study follows the assumption that those who volunteer for helping relationship training, regardless of perceptive style, have within them the potential to build "interpersonal bridges" through the use of empathy (Kell & Mueller, 1966). Each mode of perception may provide an important way of creating the link

between one person and another. The belief is that alternative tendencies in people can be shaped and encouraged while those people continue to maintain their basic approach to life and other human beings.

Overview of the Study

The need has been stated for a study focusing on differences in mode of perception as they affect ability to identify feelings in messages of others. The theory underlying the need has also been examined. The remainder of the study is presented as an investigation of the problem itself. In Chapter II, the pertinent literature is reviewed. In Chapter III, the design and methodology employed in carrying out the experimental part of the study are presented. Chapter IV is included as a special section describing the development and validation of an instrument to measure empathic discrimination of overt and covert messages of others. Chapter V includes the analysis of the results of the investigation. Chapter VI presents a summary of the study, the conclusions reached, a discussion of issues that emerged from the study, and suggestions for future research.

CHAPTER II: REVIEW OF LITERATURE

The focus of the present study is on the effect of the personality variables of Sensing and Intuition on ability to discriminate empathically the feeling messages of others. In line with this emphasis, the review of pertinent literature includes studies on empathy as a general area of consideration, the dual nature of empathy, discrimination of feelings as one task of the empathic process, personality characteristics and their effect on human relationships in general, Jungian modes of perception and the Myers-Briggs Type Indicator, previous efforts to measure empathic discrimination, and overt or covert qualities of feeling expression.

A review follows of studies pertaining to perception differences as related to empathy. Two studies in particular have been examined. In one the specific functions of Sensing and Intuition were correlated with an aspect of empathy. In the other qualities of empathic discrimination were investigated in depth. A discussion and summary of the review of the literature conclude the chapter.

Empathy as a General Area of Study

The concept of empathy has been a source of considerable interest in the literature for some time. There have been several attempts to review and summarize these studies (Buchheimer, 1963; Guiora, 1967; Strunk, 1957). It is clear, however, that the term "empathy" has come to be used in a variety of ways with highly divergent meanings. One school of thought follows the early writings of Lipps (1907), stating that empathy (from the German "einfühlung" or "feeling oneself into") involves a sort of emotional contagion. The perceiver in such a case experiences the same feeling state as the person being perceived (Kerr & Speroff, 1954; Stotland et al., 1971). The psychoanalytic school has described empathy through a variety of Freudian constructs: identification and transference (Fenichel, 1945; Stewart, 1954); introjection followed by reprojectation (Fox & Goldin, 1964); realistic object relations (Olden, 1958); differentiated projection (Lundy, 1956); transient emotional identification (Fox & Goldin, 1964); moderate psychoanalytic interpretation (Bergin, 1966); and a derivative of oral introjection (Greenson, 1960).

Dymond (1949) has developed a technique for the "imaginative transposing" of oneself into the thoughts and feelings of another through prediction of the other's responses on a questionnaire. Other researchers tried to improve this predictive empathy approach by filtering out projections from empathic perceptions (Bender & Hastorf, 1953). Cronbach

(1955) warned of the dangers of "implicit personality theory" having an extraordinary effect on one's perception of another. He also suggested that examination and control of stereotypes in perceptions be included in any empathy research. Smith (1966), however, believed that sensitivity to others is enhanced when one becomes more accurate in employing stereotypes.

Another rather unique definition of empathy is that of Hogan (1969), who has completed considerable research through the measurement of what he calls "a broad moral perspective."

Scheler, as reviewed by Allport (1954), identified eight separate variations of the "forms of sympathy." "Einfühlung" was distinguished from "nachfühlung," among other variations. The former, in Scheler's view, involves reflexive motor mimicry, while "nachfühlung" is seen as a conscious and detached process, discriminating the perceiver's feeling from that of the perceived. Rogers (1957) also treated the empathic process as one of detachment, where understanding of the experience of the other is communicated in a "client-centered" fashion. Empathy, in his view, is one of the necessary and sufficient "core conditions" for effective therapeutic interactions.

Carkhuff (1969b) and Truax (Truax & Carkhuff, 1967) also agreed with Rogers that empathic communication is essential, but they did not find it sufficient. Their development of rating scales for determining counseling

effectiveness has considerably advanced knowledge about empathy and other conditions of effective helping relations.

Shantz (1975) has called attention to the affective-cognitive dimension of empathy, and noted that there is often little correlation between the two. Iannotti (1975) has written similarly, adding that both affective and cognitive components are needed in helping relationships, a view shared by Feshbach (1975).

The Dual Nature of Empathy

Allport (1937) described empathy as a phenomenon falling between inference and intuition, inference being a process of associations and analogies in perception that lead to precise categorization, and intuition being a direct, immediate and often unconscious process. With inference, prior experience similar to that of the observed is necessary for one to make associations to the other's message. With intuition, events and persons are apprehended in their totality, and the uniqueness of each new person or event perceived is retained intact, since the individuality of the other is grasped in an immediate unconscious fashion.

In a later work, Allport (1961) criticized many approaches to the understanding of others as half-way theories, and argued that one needs both inference and intuition. He stated that the intuitive process has been sorely neglected, while logical processes of association have been firmly emphasized. Such a view was recently



shared by Goodyear (1976).

Others have also written about the intuitive side of interpersonal understanding. Sarbin et al. (1960) suggested that the premises of one's perception may not be obvious, but this does not mean that they are not there. The "intuitive" process was therefore called "clinical inference" by Sarbin et al. The use of hunches in therapy was popularized by Reik (1948) as a form of listening with a "third ear." Katz (1963) warned against the professional technician of empathy, and instead suggested that empathy demands "giving up temporarily our carefully cultivated habits of alert observation, and surrender to nonrational processes." (Katz, 1963, p. 24).

Some writers have argued the opposite view--that intuition involves "obscure hypothetical constructs" (Davitz, 1964). Schlien (1970) stated that intuition has received excessive emphasis in counselor training programs, and that the place of the literal and concrete in therapy needs to be encouraged.

Another view holds that both processes of Allport's inference-intuition dichotomy are important. Smith (1966) listed among the "causes of insensitivity" 1) a rigidity that does not allow for openness to persons of differing experience (the mistake of the pure inference-oriented person), and 2) a kind of "psychological-mindedness" that is so preoccupied with underlying meanings that the obvious is overlooked. Greenson (1960) likewise has taken note of

therapist-trainees who are "oblivious to the obvious."

Fox & Goldin (1964) have stated that empathy involves both primary and secondary processes. Similarly, Taft (1955) made reference to the dual processes of analytical and non-analytical empathy. Asch (1946) expressed the view that gaining impressions involves two processes used in varying degrees. The first process includes fixing each stimulus trait in isolation and noting its meaning. The second involves the forming of homogeneous undifferentiated general impressions.

Discrimination of Feelings as One Task of the Empathic Process

Rogers (1975) has described empathy as including certain forms of perception. Traux & Carkhuff (1967) also referred to empathic understanding as "perception, then communication." Dendy (1971) identified successive processes of listening, understanding, and then communicating.

Much of the research from the Rogers school has centered around measuring levels of effective empathic communication rather than the perceptual awareness of feelings. Others have developed methods of investigating empathic awareness, which they have called "affective sensitivity" (Campbell, 1967; Campbell et al., 1971; Chapman, 1966; Danish & Kagan, 1971). Their methods involved situational tests of empathy, in which there was no interaction between the listener and the stimulus person. The process itself

involved detecting and describing the affective messages presented on film or videotape.

One issue involved in the separation of empathic perception from empathic communication centers around whether the first implies the second. Carkhuff (1969a) has written that discrimination in empathy training does not necessarily lead to effective interactions with others, a view shared by Kurtz & Grummon (1972). Campbell et al. (1971) admitted that this is probably the case, but still argued that affective sensitivity is necessary, if not sufficient, and thus must precede empathic communication.

Davitz (1964) has reported on studies of "emotional sensitivity" which investigated variations in the way people attend to stimulus differences in others. Therefore, Davitz ignored the process of communication of understanding. Bergin & Solomon (1970) have reported that the Davitz technique measured skills unrelated to performance in exercises where interaction is required of the subject. They concluded therefore that Davitz' technique is not valid for studying live emotional communication between two individuals.

Personality Characteristics and Their Effect on Human Relationships

Studies in which personality characteristics have been examined in relation to human interaction contribute helpful information about empathy. Shrauger & Altrocchi

(1964) included the character of the perceiver as one factor influencing interpersonal perception. Similarly, Cline (1964) reported that the nature of the perception is altered by the fact that the perceiver is simply present. Examination of the effect of "implicit personality theory" on the measurement of interpersonal perception has been encouraged by Cronbach (1955), who drew these notions from personal construct theory as discussed by Kelly (1955).

While agreeing that personality differences have an effect on interpersonal perception, Campbell (1962) presented the view that specific subroles of effective interviews are too precise to be explainable by general personality characteristics. This view was clearly not shared by Danish & Kagan (1971), whose studies of empathy trainers indicated that personal training styles were predictive of differences in affective sensitivity scores. Stotland et al. (1971) found that perceptual set, which they induced prior to their experiment, did affect their subjects' empathic ability (as defined according to the Lipps tradition of sharing the emotions of the other).

A host of studies have been reported in which correlations between various personality characteristics and empathy were investigated. But each researcher has employed a slightly different measure either of empathy or of personality characteristics. Personality instruments employed have included: semantic differentials (Bellucci, 1971);



the Tennessee Self-Concept Inventory (Passons, 1968); the Sixteen Personality Factor Questionnaire (Swenson, 1970); the Personality Orientation Inventory (Fisher, 1970); the Taylor Manifest Anxiety Scale, Gough Adjective Checklist and Sanford Rigidity Scale (Felker, 1970); the Edwards Personal Preference Schedule (Demos & Zuwaylif, 1966); the Allport-Vernon-Lindzey Scale of Values (Halpern, 1957); the Thematic Apperception Test, Rorschach Projective Technique, and California Ethnocentrism Test (Dymond, 1949); paragraph completion tests to measure conceptual level (Goldberg, 1974; Guy, 1971); self-developed measures of perceptual defense against anxiety (Milliken & Kirchner, 1971); the K Scale of the Minnesota Multiphasic Personality Inventory (Gowan, 1955); and the Rokeach Dogmatism Test with several of the above (Bellucci, 1971; Felker, 1970; Fisher, 1970; Hungerman, 1970; Passons, 1968). The results of these studies over-all were inconclusive, with some reporting lack of significance, and others contradicting previous findings employing similar instruments.

One of the few authors to report replicative studies is Bergin (Bergin & Jasper, 1969; Bergin & Solomon, 1963; Bergin & Solomon, 1970). He found personality disturbance as measured on the Minnesota Multiphasic Personality Inventory (MMPI) to be correlated negatively on the pathological scales of Depression (D) and Anxiety (Pt) with communication of empathic understanding as rated by judges using Truax scales.



Some studies by Halpern (Halpern, 1955; Halpern & Lesser, 1960) suggest that similarity between perceiver and stimulus person will increase empathic ability. Asch (1946), on the other hand, did not view similarity either of personality or of experience as necessary for effectiveness in forming impressions of others.

While it seems probable that personality characteristics explain differences in the level of interpersonal effectiveness across individuals, it seems especially likely that intensity of the characteristics is a crucial factor. Some studies have shown, for example, that moderate yet not excessive elevation on the K Scale (defensiveness) of the Minnesota Multiphasic Personality Inventory correlates with empathic ability (Gowan, 1955). Berlew (1961) found that subjects with moderate scores on a measure of personal needs performed better on tasks demanding interpersonal sensitivity than did those with extreme scores. Halpern (1955) found a stronger capacity for predictive empathy in individuals who score near the center of the range on a given characteristic of the Guilford-Martin Inventory of Factors (GAMIN).

Most of the reported studies of personality, however, do not offer much in the way of understanding different ways of being empathic. There appears to be little effort exerted to explain why certain specific personality variables have been selected for study, since theoretically many of the constructs do not relate to particular tasks



of the empathic process.

Jungian Perception and the Myers-Briggs Type Indicator

Although some of the above-mentioned studies reported significant correlations between personality and effective human relationships, none dealt with the issue of empathic perception. The theories of Jung (1923) have inspired efforts to measure the perceptive dimensions of Sensing and Intuition, and Myers' (1962) work in the development of the 166-item Myers-Briggs Type Indicator (MBTI) has been especially fruitful in this regard. A thorough review of the literature on the MBTI has recently been included in a study by Carlyn (1976).

Data of reliability for the Myers-Briggs Type Indicator (MBTI) show the scales of Extraversion-Introversion (E-I), Sensing-Intuition (S-N), and Judging-Perceiving (J-P) with internal consistency estimates regularly above .70. The Thinking-Feeling scale reports lower reliability scores (Stricker & Ross, 1964a). Stricker & Ross (1963) also reported comparative data of reliability from college and high school populations: .64-.83 for high school and .71-.84 for college, with the lower scores in each case being for the Thinking-Feeling scale. Mendelsohn (1970) noted that few test-retest studies have been completed, with the only reported data being above .70 for all scales except Thinking-Feeling, which fall at .48. Mendelsohn concluded that the reliability data for the MBTI are similar to those for other



self-report personality instruments.

The properties of the Sensing-Intuition (S-N) scale, with which this study is mostly concerned, are not without weaknesses. According to Stricker & Ross (1964b), each MBTI scale measures constructs that may be interpreted in a variety of ways. Although the S-N dimension seems more homogeneous than Extraversion-Introversion or Judging-Perceiving in this regard, concurrent studies with other personality and interest instruments show that there are intelligence and occupational interest components to the Sensing-Intuition preference in addition to basic perceptual differences.

Correlations between the S-N and the J-P scales have been found to be between .26 and .47 (Mendelsohn, (1970). Similar results were obtained by Webb (1964). As a qualification, however, it should be noted that the J-P scale measures a distinction which was mentioned only in passing by Jung, and he did not identify this as a separate dimension for consideration. Gray & Wheelwright (1945), for example, have not included J-P on their 85-item instrument to measure Jungian types. This instrument, the Gray-Wheelwright Psychological Type Questionnaire, was developed independently of the Myers-Briggs Type Indicator (MBTI). Strong and positive correlations with the MBTI have been reported on the three basic scales: Extraversion-Introversion, Sensing-Intuition and Thinking-Feeling. However the MBTI has been shown to have higher internal reliability

data for each scale, probably due to the greater length of the instrument (Myers, 1962).

Ross (1966) expressed the view that the Myers-Briggs Type Indicator (MBTI) is a valid instrument, but not for deep-seated psychological differences. Nevertheless, there does appear to be sufficient validity to the Sensing-Intuition scale for it to be used as a measure of perception differences. Stricker & Ross (1964a) found a clear distinction between the direct, stimulus-elicited quality of Sensing and the indirect, holistic nature of Intuition.

In terms of construct validity, Mendelsohn (1970) suggested that the scales were not a successful operationalization of Jung's typology. Sundberg (1970) countered this by finding only the Extraversion-Introversion and Judging-Perceiving scales inconsistent with their constructs. A study by Bradway (1964) reported 75% agreement between Myers-Briggs and Gray-Wheelwright Sensing-Intuition (S-N) scores. She also reported 68% agreement between Myers-Briggs S-N scores and self-descriptions of Jungian analysts, based on their knowledge of Jungian constructs. This would suggest then that as a measure of Jung's type dimensions there is indeed some construct validity to the Myers-Briggs Type Indicator.

At any rate, the Sensing-Intuition Scale seems to be one of the most reliable of the MBTI scales. It also measures constructs that appear relatively compatible with the nature of perception differences that Allport (1961) and

others have identified as influential in interpersonal observation.

Previous Efforts to Measure Empathic Discrimination

Confusion as to the appropriate definition for empathy has contributed to difficulties in its measurement as well. One of the first techniques of empathy measurement was developed by Dymond (1950). Each subject was asked to predict the answers another would give on a self-description inventory. A similar predictive empathy instrument was constructed by Kerr & Speroff (1954). Hogan (1969) developed an instrument which he reported as a measure of empathy, but which appears to evaluate the ethical behavior and attitudes of subjects more than the degree to which one attends to emotional messages of others. Truax & Carkhuff (1967) have employed a set of rating scales to measure levels of communication of empathic understanding.

The difficulties of empathy measurement were emphatically illustrated in a study by Kurtz (1970). Using the same counselor subjects, he compared the results of six different measures of empathy: two predictive empathy techniques, one employing the Leary Interpersonal Checklist and the other employing the Kelly Repertory Test; the Affective Sensitivity Scale developed by Campbell (1967); two judges' ratings using Carkhuff's rating scales of Empathic Understanding; and two estimations of counselor empathy using the Barrett-Lennard Relationship Inventory (one completed by the

client, the other by the counselor). Kurtz found no correlation among any of the six techniques. Astin (1967) reported similar lack of relationship between a predictive empathy test and ratings of subjects' responses to stimulus tapes.

It is therefore especially important to define clearly which aspect of empathy is being considered at a given instance. The focus of the present study is intended to follow this principle by examining perception of discrimination of feelings expressed by another. Empathic discrimination is intended to be separate from either empathic communication or prediction of the other's future behavior.

An instrument studied by Kurtz has also been developed with this separation in mind: the Affective Sensitivity Scale (ASS), first reported on by Chapman (1966). Subjects were asked to attend to kinescope recordings of counseling interactions and to indicate the adjective most appropriately describing the affective state of the stimulus person. Campbell (1967) further refined the instrument by employing a multiple choice answer key with qualifying phrases instead of simple adjectives to describe the stimulus person's experience. The procedure for the ASS was described as a "situational test" of empathy, since it simulated an interaction without actually requiring the subject to be interpersonally involved.

Campbell concluded from his study that affective sensitivity was a measurable psychological trait: scores



varied across individuals and could be improved through training. The instrument itself obtained internal consistency estimates between .58 and .77, and test-retest reliability figures of .75 (Danish & Kagan, 1971). Supervisor ratings of the counselors studied correlated positively with ASS scores, falling between .35 and .64. Campbell suggested that differences in scores may be a function of defense mechanisms which distort perceptions, and he recommended correlational studies with personality instruments. A later study (Campbell et al., 1971) called attention to two states of perception as part of affective sensitivity: a sensory phase and an interpretive or labeling one. It was suggested that anxiety intervening between the first and second phases accounts for difficulties in accurate identification of feelings.

A similar procedure to measure counselor perceptions of client experience was developed by Rank (1966), who filmed excerpts of actual interviews. Subjects were asked to describe their perceptions for each filmed segment on an "agree-disagree" Likert scale in reaction to questionnaire items for each film vignette. Test-retest reliability figures were listed at .69 on this instrument, called the Film Test of Counselor Perceptions (FTCP).

Another series of techniques for studying empathy was initiated by Davitz & Davitz (1959). They investigated the differences in qualities of stimulus material as they affected emotional sensitivity. Using a content-free



procedure, subjects listened to taped recitations of the alphabet, each example with inflections and other nonverbal characteristics representing a particular emotion. The technique was altered somewhat by Beldoch (1964), who employed content-standard conditions. All stimulus persons recited the same phrases, which purportedly included no emotional material in the strictly verbal message. Each example was likewise intended to portray nonverbally a given emotion. Test-retest reliability figures of .74 were obtained. Beldoch went on to find correlations between this exercise which focused on the vocal, yet nonverbal, message and two similar exercises where subjects attended to musical and artistic expressions of feeling respectively.

Overt and Covert Qualities of Expression of Feeling

In studying the process of empathic discrimination, it is important to examine closely the properties of the stimulus person's expression of feeling. Truax & Carkhuff (1967) have described variations in level of speaker expression from obvious to veiled to preconscious. They have suggested that communication of empathic understanding should coincide with the nature of the expression. Rommetveit (1960), in his study of intuition, noted that subtle covert stimuli are often discriminated without clear awareness by the observer.

Studies of the nature of self-disclosure, such as

that of Benner (1968), shed light on qualities of feeling expression in the stimulus person during the empathic process. Benner found in his study that self-disclosure is clearly an interpersonal phenomenon, and that characteristics of the discloser, the listener, and the relationship between the two are all crucial ingredients that deserve attention.

The measurement of self-disclosure often involves as many problems as the measurement of empathy, since definitions are equally diverse in each area. Stachowiak (1974) attempted to use a four-point continuous rating scale. Judges were asked to identify the speaker's level of disclosure by focusing on the outward rather than the latent meanings being expressed. Allen (1960), on the other hand, had judges rate tapes of counseling interactions on a seven-point scale for subtleness of feeling. A weighting system gave each rated counselor a higher level if he responded to the more subtle messages in his client's expression.

Degrees of overtness in speaker's messages are therefore important as cues for listeners. Langer (1953) broke some important ground in this domain by distinguishing between what she called the discursive and nondiscursive elements of emotional expression. The discursive mode involves verbal labels, has a clear syntax and order, and is verifiable. The nondiscursive, however, depends on intuition and direct insight for understanding, has no clear

nomenclature or syntax, and (in Langer's view) is not verifiable. Although Beldoch (1964) has since presented data that seem to show nondiscursive expressions to be measurable, Langer's division of the two modes still seems useful. Others have referred to similar distinctions by the terms denotative and connotative (Ostwald, 1963).

In order to investigate the usefulness of the metaphor in emotional expression, Davitz & Mattis (1964) followed Beldoch's technique for studying the nondiscursive mode (controlling content in order to examine nonverbal qualities), but by reversing the focus. By eliminating voice sounds and other nonverbal characteristics, they asked subjects to identify feelings which were being communicated in a series of written statements. Their effort represented an attempt to examine another aspect of covert emotional communication.

The particular emotional experience of the stimulus person itself also seems to be an important factor affecting the observer's perception. Iannotti (1975) found that empathy for some stimulus feelings may develop at different rates than for others. Furthermore, Deutsch (1974) reported, in a study of preschool children, that differences in emotional sensitivity depended on whether the stimulus material was congruous or incongruous. Greenberg et al. (1969) stated that affective sensitivity tended to focus on three general factorial groupings of feeling: dependency, anger/hostility, and avoidance. The three clusters

accounted for more than half of subjects' perceptions on the Affective Sensitivity Scale.

Means of recording the observer's perception thus deal with the problem of how one communicates in some measurable fashion both the feeling, and the perception of the feeling. Studies have employed adjective lists (Chapman, 1966), descriptive phrases (Campbell, 1967; Rank, 1966), multiple choice feeling work lists (Beldoch, 1964; Davitz, 1964), and semantic differential techniques using feeling labels (Greenberg et al., 1969).

Since there are clearly hundreds of feeling states of which human beings are capable, collecting information about feelings is a problem. Davitz (1969) has found that feelings cluster into similar groupings. He has come up with twelve groupings representing positive, passive-negative and active-negative dimensions crossed with levels of activation, approach-avoidance, comfort-tension and competence. Tomkins (1963) has written extensively on eight primary affect categories: anger-rage, fear-terror, joy-enjoyment, shame-humiliation, distress-anguish, contempt-disgust, surprise-startle, and interest-excitement. Plutchik (1962) likewise has identified eight groupings. Although his labels are slightly different from Tomkins', they each represent similar qualitative emotional dimensions with only one exception. Shame, for Plutchik, involves a combination of fear and disgust, and thus is not a separate cluster. The incorporative feeling state of acceptance

is identified as his eighth grouping.

Studies of Perception Differences as Related to Empathy

Few studies approach empathy and perception differences in the way the current effort is directed, especially employing measures of Sensing and Intuition. Bergin & Solomon (1970) found that the need for order on the Edwards Personal Preference Schedule (EPPS) correlated negatively ($-.41$) with empathy, while the need for autonomy correlated positively ($+.37$). Myers (1962) has reported correlations of autonomy on the EPPS with Intuition on the Myers-Briggs Type Indicator ($+.31$). Order correlated likewise with Sensing ($+.34$), suggesting that Intuition might therefore be the preferred mode of empathic individuals.

Studies with the Myers-Briggs Type Indicator (MBTI) itself have also shown links between Intuition and empathy. Levell (1965) demonstrated that effective secondary school counselors tended to prefer Intuition as a mode of perception. Braun (1971) likewise found Intuition to be related to therapists' abilities to predict clients' feelings toward them. Hogan (1969) found very mild correlations between his version of empathy ("broad moral perspective") and the Sensing-Intuition scale (Sensing $-.16$; Intuition $+.16$). Boles (1975) sought to examine both Sensing-Intuition and Judging-Perceiving differences in relation to communication of empathic understanding before, during and after training. But she obtained no significance for

any of her hypotheses. Lack of adequate controls of variables affecting subjects over time was given in explanation.

Another study which also failed to produce significant correlations between MBTI scores and empathy was that of Aldenbrand (1974). Even though hypotheses examining Intuition-Sensing and Thinking-Feeling differences in predictive empathy were not supported, her method and discussion of these negative findings raise some important questions.

After watching a videotaped interaction among four individuals, Aldenbrand's subjects were asked to predict how the stimulus persons would describe their thoughts or feelings, and how they would answer questions on a personality test. Her model for empathy therefore followed the Dymond school of prediction of future behavior.

Aldenbrand concluded that recognition of emotion in others was related to 1) the method of stimulus presentation, 2) the degree of discrimination demanded of the subject, and 3) the extent to which feeling labels used by the subject are self-generated. The problem of veridicality (who really knows the feelings of the stimulus person?) was raised, and Aldenbrand's methods admittedly fell short of solving the problem. "Expert" raters, questionnaire answers, and even a statement by the stimulus person himself all must be tentative as criteria to determine accurately the appropriate feeling. The coding of feelings

perceived in Aldenbrand's study was facilitated by a short training for subjects using feeling word lists.

Myers-Briggs Type Indicator scores were then translated onto a continuum, in keeping with recommendations for research by Myers (1962). Extraversion-Introversion (E-I) was controlled by taking only subjects with mid-range scores, who therefore could not be clearly identified as E or I.

One problem reported by Aldenbrand was that stimulus persons were selected randomly, contributing to uncontrollable stimulus variables. She recommended that replicative studies undergo a more careful screening procedure to ensure that subjects may attend to particular stimulus variables without distraction.

The level of interaction on many of Aldenbrand's stimulus tapes was considerably less intimate than seemed necessary for feeling states to be distinguishable at all. Each taped sequence was viewed by subjects for several items. Subjects tended to look for messages which were similar to their prior perceptions of those stimulus persons. Aldenbrand recommended, as a result, that initial responses only be recorded. She also suggested that subjects be allowed to stop the tape when they have perceived a feeling or thought process, since asking for responses at cued moments is artificial.

Aldenbrand concluded with several statements about the nature of empathy. Empathy research, she noted, often

focuses on the products of interactions (correct answers) and ignores the process. Most research methodologies also assume that individuals are equally empathic over time; that feelings, thoughts and actions all may be perceived at once; or that only one correct empathic response exists per given situation. She stated that these assumptions are in general quite false.

Aldenbrand's use of the predictive model of empathy is not consistent with the intentions of the present study. On the other hand, Davitz (1964) has contributed important work in the area of discrimination of immediate feelings.

Davitz' study began with an attempt to find correlations between personality and emotional sensitivity, the latter measured by the 37-item instrument of Beldoch (1964). Thirty-three correlations were sought from scales of the Guilford-Zimmerman Temperament Survey (GZTS), the Allport-Vernon-Lindzey Scale of Values (AVL), the Edwards Personal Preference Schedule (EPPS), and the Hysteria (Hy) and Anxiety (Pt) scales of the Minnesota Multiphasic Personality Inventory (MMPI). Only three of the correlations differed significantly from zero: heterosexuality +.34 and aggression +.42 from the EPPS, and general activity +.39 from the GZTS. Chance alone could account for so few correlations, he concluded. In his view, personality characteristics, especially as measured by paper-pencil tests, offer little in the way of explaining differences in scores of emotional sensitivity.

A second part of Davitz' study turned attention to perceptual/cognitive aspects of emotional sensitivity, which he suspected would hold more promise than personality test information. The measures used produced more easily observable data. They included the Seashore Measure of Musical Talents to describe capacity for making auditory discriminations; the Progressive Matrices Test to determine cognitive ability; judges' ratings of cued emotional vocal sounds produced by subjects as a measure of ability to interpret emotions; and a forty item vocabulary test to measure verbal intelligence.

All measures were correlated with an instrument of emotional sensitivity similar to the one used in the earlier part of the study. In the current edition, forty items were taped recorded expressing eight different emotional meanings; five were nonemotional or neutral items. The content-standard technique of Beldoch (1964) was employed, where nonverbal or covert qualities of expression were the only distinctions among items. Davitz reported that answer keys for each item were obtained when a plurality of listeners agreed with the intended emotional meaning of the speaker. He did not indicate who served as the criterion group. Test-retest reliability data were reported at .82 with thirty-eight subjects.

Results of the study showed consistent significance among all characteristics. The perceptual/cognitive qualities intercorrelated positively between +.26 and +.31, and figures

of correlation between each of the characteristics and emotional sensitivity ranged from +.34 to +.50.

Discussion of Previous Research

One of the problems in empathy research has involved absence of agreement on clear and precise working definitions. Kurtz' study (1970) showed lack of correlation among six common means of measuring empathy, thus illustrating the need for clarity. In contrast, the present study seeks understandings about one aspect of the process of empathy: the simple discrimination of feelings in the spoken messages of others. It is distinguished from those which examine communication of empathic understanding or empathic prediction of future behavior. Each of the other facets of empathy depend on discrimination of feelings as a necessary first step.

Previous instruments intended to measure simple empathic discrimination have reported results quite different from instruments where effectiveness in situation is measured. The need, nevertheless, exists for understanding how people differ in perception of other's feelings.

Many studies have investigated the effects of personality differences on empathy. There was little agreement among these studies about which personality variables were crucial and which were not. Very few studies presented a theoretical basis for selection of the instruments or scales they used.

The effect of perception differences in particular has been neglected in the literature. Some have reported significant correlations between empathy and a variety of personality measures loosely related to Intuition. But these studies have used either the predictive empathy model or ratings of communication of empathic understanding according to the Carkhuff design.

The notion that empathy may involve dual processes such as Sensing and Intuition has been supported by theoretical writings, but empirical research is still lacking. There is a question as to whether Allport's conception of inference is the same as Jung's Sensing alternative. Some studies have indicated that Intuition may be more consistent with empathic processes than Sensing (Braun, 1971; Levell, 1965). But there is at least theoretical support for the notion that each pole of the dichotomy indicates a valid, if not equivalent, means of attending to emotion in others (Allport, 1961).

Some studies have reported that moderate or midrange scores on an instrument or scale indicate greater versatility in human relations (Berlew, 1961; Halpern, 1955). Even though Myers (1962) warned against over-interpretation of the strength of personality preference scores, it seems fruitful to examine their possible meaning empirically. The intriguing theoretical notion of easy accessibility to alternative modes stimulates this aspect of the present investigation.

At first glance, the Affective Sensitivity Scale (ASS) (Campbell, 1967) seemed valid as a potential instrument for use in the present study. As a situation test, no interaction with other individuals was required. However, stimulus material for the ASS included no separation between overt and covert expressions of affect. Multiple choice options for many items involved thinking and complex cognitive expressions. Such multiple choice options are questionable as affective material. Since stimulus material was on film, subjects took their cues from visual as well as auditory stimuli. This appeared to be realistic, but interpretation of results is difficult if one is interested in how subjects perform under specific stimulus conditions.

The Affective Sensitivity Scale (ASS) has been shown to have further problems. Subjects were directed to "feel the emotion of the other." The ASS therefore represents in this way the Lipps school of empathy, by expecting one to have an affective experience consistent with the stimulus person. Some of the multiple choice answers refer to feelings the stimulus person had early in the excerpt; others ask for feelings expressed at the moment the excerpt ended. The lack of consistent focus is further compounded because subjects are expected to focus attention on more than one person in each vignette. The procedure is thus very involved and confusing, and not analagous to many one-to-one helping relationships. The authors have recommended



follow-up studies, using personality data, to understand differences in scores across subjects. However, significant results might not reveal which task correlates with which personality variable.

Similar objections have been found for the Film Test of Counselor Perceptions (FTCP) (Rank, 1966). Subjects waited from one to five minutes until a segment was completed before indicating their perceptions. Their perceptions were recorded on an agree-disagree continuum in reaction to written statements about the excerpt. The written statements often did not include actual emotional expressions.

Since other instruments measuring empathic discrimination seemed invalid, an effort was made in the present study to construct a measure that is more appropriate to the issues under investigation. Special consideration was given to the control of stimulus conditions in order to provide a clear set of variables for investigation. Reported reliability estimates of .58-.77 for the Affective Sensitivity Scale and .69 for Rank's test have provided a range of comparison with the new instrument.

Studies by Aldenbrand (1974) and Davitz (1964), although not identical in purpose to the present study, nevertheless provide important guidelines for future research. Aldenbrand's discussion section included the statement of need for clear control of variables in stimulus conditions. This procedure may sacrifice conditions of

realism, but it is still valid, she reported. She found that the intimacy level of her stimulus tapes was too shallow for feeling messages to be discriminated. That there exist distinct levels of disclosure, and that degrees of subtleness or overtiness characterize these levels, has been supported in the literature. No study examined in the present review has reported efforts to examine both overt and covert distinctions with perceptive style. One of the purposes of the present study is to fill the need for investigation of both overt and covert stimulus material.

Feelings, thoughts, and behaviors are all a part of stimulus material in helping relationship settings. Sel-dom are individuals expected to respond to more than one of these dimensions at a time. At Aldenbrand's encouragement, only feelings are investigated in this study. She further recommended recording only the initial response of each subject.

Davitz' findings have also contributed to the need for the current study. He has illustrated that covert ("nonverbal") qualities of stimulus material can be perceived apart from the spoken message, and that perceptions of this material can be successfully measured. His efforts to find personality correlates of emotional sensitivity were haphazard, since he presented no a priori explanation for selection of instruments. When nonsignificant results were obtained in his study, he also seemed quick to condemn

the practice of employing self-report paper-and-pencil personality measures. Rather than replicate his study, Davitz moved to a new set of variables for examination.

Significant correlations were obtained between perceptive/cognitive measures and emotional sensitivity in Davitz' follow-up study. The results, however, were not necessarily more meaningful than the results of his first effort. Instruments used in this second study provided more concrete data on physical and intelligence variables, but alternative modes of perception were not examined. In effect, he substituted aptitude instruments for personality instruments in the hope of coming up with more satisfying results.

Where Davitz' study lacked, Aldenbrand's was often strong, and vice versa. The current effort attempts to separate overt from covert in stimulus material (one of Davitz' key contributions), measure differences in ability to identify immediate feelings expressed in such stimulus material (another strength of Davitz' work) and correlate results with differences in perception as described by Jung (1923). Aldenbrand employed the Myers-Briggs Type Indicator to measure the latter, unfortunately in combination with a model for empathy that is not valid if one is interested in empathic discrimination of immediate messages. Yet the critique of her own study when added to ideas of Davitz contributes to planning for the present study. The current effort seeks the best of both approaches, while hopefully

controlling for the shortcomings of each.

Summary

Literature was reviewed which addressed the problem of personality correlates as related to differences in empathic discrimination. Numerous studies were found with unsatisfactory implications. Measures of empathy were often not appropriate to the problem under consideration in the present study. Personality instruments or scales employed were chosen without explanation of their appropriateness to studies in empathy.

The literature was reviewed pertinent to the Myers-Briggs Type Indicator and the Sensing-Intuition scale in particular. Both internal consistency and test-retest reliability figures were discovered to be above .70 for Sensing-Intuition. Studies have reported satisfactory conclusions regarding the validity of Sensing-Intuition as a measure of Jung's construct.

Efforts to measure empathy were found to be at least as diverse as the definitions of empathy. One study found that six instruments which were purported to measure aspects of empathy were unrelated. The Affective Sensitivity Scale (ASS), one of the instruments, appeared at first to have face validity for possible inclusion in the present study. Subjects were asked only to identify the affect perceived. They were not expected to respond or interact in any way with another individual. The ASS was reported internally

consistent between .58 and .77 and held test-retest reliability of .75. But the purpose of the current study is to investigate empathic discrimination as it varies from overt to covert stimulus qualities. The ASS did not differentiate overt and covert conditions. Nor did all multiple choice answer options comply with the concept of "affect." Stimulus material was both visual and auditory, and included more than one stimulus person per example. These shortcomings made the ASS inappropriate for use in the current study.

An examination of another similar instrument, the Film Test of Counselor Perception (FTCP) was made. Test-retest reliability was reported at .69. However, more than one stimulus person was included per example. In addition, items were answered by subjects only after each stimulus example (one to five minutes in length) was completed. Answer options did not always focus on feelings. Thus, the FTCP was another instrument found unsuited for use in the present study.

Two forms of a test of emotional sensitivity were also reviewed (Beldoch, 1964; Davitz, 1964). Covert qualities of stimulus material were examined alone by the use of content-standard examples. Test-retest reliability was reported at .74 for the first form, and .88 for the second. It was concluded that nonverbal or covert sensitivity can be measured effectively. However, the absence of overt material on the test excluded it from consideration in the present



investigation.

Two studies were reviewed in some depth. Aldenbrand's study (1974) of two Myers-Briggs Type Indicator Scales and predictive empathy reported nonsignificance. However, her thorough recommendations for future research suggested identifying specific aspects of stimulus materials. She also suggested recording only the initial perception of the subject. A minimal level of affective self-disclosure was missing from her stimulus tapes, and was believed to contribute to her disappointing results. Each of Aldenbrand's suggestions have been considered in preparing the present study's design.

Davitz (1964) examined personality variables as related to emotional sensitivity. Lack of significance was reported, but the variables for examination were poorly selected. Davitz admitted to lack of theoretical base for much of his work. The present study has attempted to avoid such a gap in theoretical support.

Hypotheses for the current study derive primarily from theoretical notions of Intuition (N) and Sensing (S) and the nature of overt and covert stimuli. Only mild correlations were reported in the literature of empathy with S-N ($-.16$ for S; $+.16$ for N). However, concurrent validity studies show S correlating with order ($+.34$) and N with autonomy ($+.31$) on the Edwards Personal Preference Schedule. One study reported significant correlations between empathy and each need: positive ($+.37$) for autonomy

and negative (-.41) for order.

The review of the literature indicated that theoretical support exists for examination of Sensing-Intuition differences in empathic discrimination. Research data, however, was discovered to be sparse and lacking significant results. Problems encountered in methodology were discussed and considered for use in designing the current study.

Chapter III includes the design and methodology employed in carrying out the experimental part of the study.

CHAPTER III: DESIGN OF THE STUDY

The methodological part of the study involved administration of the Identification of Feelings Exercise and the Myers-Briggs Type Indicator to subjects. Tests of significance were then performed for the major hypotheses by comparing scores from each instrument. A description of the design and procedural aspects of the study follows.

Selection and Description of the Sample

The 139 subjects who participated in the study came from two sources. The first source of subjects included undergraduate and graduate dormitory residents at Michigan State University during Summer Term 1976. Each of the students had volunteered to take the Myers-Briggs Type Indicator (MBTI) for their own self-awareness. In return for receiving an interpretation of their MBTI scores, they agreed to participate in the present study by completing the Identification of Feelings Exercise. Of the 74 students included in the sample from dormitories, 23 were either Resident Assistants or Graduate Assistants serving as Residence Hall Staff for Summer Term. These and other descriptive data may be noted in Table 3.1.

Table 3.1 Distribution of Subjects by Descriptive Information: N = 139

Sex:	Male = 55	Female = 84	
Interpersonal Skills Training ₁ :	Yes = 36	No = 103	
Counseling ₂ :	Yes = 7	No = 132	
Source of Subject:	Dorm ₃ = 51	RA ₄ = 23	Ed ₅ = 65

¹completed feeling-based interpersonal skill training program within the last twelve months

²had counseling for eight or more regular sessions within the last twelve months

³Michigan State University dormitory residents during Summer Term 1976

⁴Michigan State University dormitory resident assistants during Summer Term 1976

⁵Michigan State University students enrolled in a teacher education course during Summer Term 1976

The second source of subjects included 65 undergraduates in Teacher Education classes during Summer Term 1976. They were spread among four separate class sections, and volunteered to participate in the study in return for receiving an interpretation of their Myers-Briggs Type Indicator scores. The memorandum used to solicit participation by Education Teaching Assistants and their sections may be found in Appendix A.

Data were gathered describing the sample by sex, number who had completed interpersonal skill training in the previous year, and number who had been in counseling or

therapy for eight or more regular sessions in the previous year.

It may be noted from Table 3.1 that there were more females than males in the sample in a ratio of approximately 3:2. Recent interpersonal skill training only accounted for 36 of the 139 subjects. Those having recently been in counseling were even fewer in number (7).

Data from all four scales of the Myers-Briggs Type Indicator (MBTI) were obtained for each subject. Analysis of variance procedures were employed to determine if the sources of subjects for the study (dormitory, resident assistant, and education) accounted for any significant differences in scores on the four MBTI dimensions. A summary of this data is included in Appendix B. It may be noted in Table 3.2 that dormitory resident assistant and education groups did not differ significantly on the Sensing-Intuition dimension.

Table 3.2 Analysis of Variance Examining Differences Among Sources of Subjects by Continuous Sensing-Intuition (S-N) Scores.

	N	S-N Mean	Standard Deviation	F Ratio	F Prob- ability
Dorm [@]	51	102.41	24.78		
RA [@]	23	109.96	26.53	2.387	.096
Ed [@]	65	96.81	25.51		
Total:	139	101.04			

[@]Dorm = Dormitory, RA = Resident Assistant, Ed = Education

It was therefore concluded that the three groups could be treated together as a unitary single sample of 139 with regard to Sensing-Intuition. A summary of all MBTI data on the sample is included in a type table in Appendix C.

Subjects in the sample were stratified according to two dimensions: Sensing-Intuition (S-N) preference from the Myers-Briggs Type Indicator (MBTI) and strength of preference score on this same dimension. Items scored "S" refer to preference for concreteness, realism, adjustment to facts as they are over efforts to alter them, valuing statements over concepts, and wishing others were clear in saying exactly what they mean. Items scored "N" refer to the preference for imagination, liking abstractions and concepts, valuing the figurative over the literal, and appreciating the stimulation of change rather than accepting and adjusting to reality.

Subjects' S-N scores were placed on a continuum according to transformation procedures suggested by Myers (1962). Sensing types thus ranged in score from 33 to 99, and Intuitive types from 101 to 161. Scores are odd-numbered in order to provide a type classification for individuals near the zero point. Zero is transformed to 100 on the continuum.

Subjects with scores from 71 to 129 were considered Moderate scorers. Subjects with scores at 69 or below and 131 or above were considered Exceptional scorers. Myers (1962) and McCaulley (1971) have each written about the

need for differential (yet cautious) interpretations of individual scores above or below these particular division points.

Based on the meaning of the Moderate-Exceptional separation of scores which is suggested here, the following descriptions result.

Exceptional Sensing (ES) refers to the mode where there is a clear preference expressed for attention to details, facts and sensory stimuli in the environment. One operates only awkwardly or not at all in the Intuitive mode, tending to perseverate in the Sensing mode in frustration even when evidence shows this to be ineffective.

Moderate Sensing (MS) refers to the mode where clear preference is expressed for attention to details, facts and sensory stimuli in the environment. Comfortable functioning when necessary, however, is possible in the Intuitive mode.

Moderate Intuition (MN) refers to the mode where clear preference is expressed for attention to the environment in complex patterns and wholes, perceiving possibilities and potentialities for the stimuli. Comfortable functioning when necessary, however, is possible in the Sensing mode.

Exceptional Intuition (EN) refers to the mode where there is a clear preference expressed for attention to the environment in patterns and wholes, perceiving possibilities and potentialities for the stimuli. One operates only awkwardly in the Sensing mode, tending to perseverate in the Intuitive mode in frustration even when evidence shows this



to be ineffective.

Employing the criteria just described for classifying subjects, the sample for the present study was stratified into Sensing-Intuition and Exceptional-Moderate groups. It may be observed in Table 3.3 that only 39 of the 139 subjects were found to have Exceptional scores for either Sensing or Intuition.

Table 3.3 Stratification of Sample by Strength of Scores on Sensing or Intuition: N = 139.

	Exceptional Scores (33-69 or 131-169)	Moderate Scores (71-129)	Total
Sensing (S)	21	47	68
Intuition (N)	18	53	71

Setting and Procedures

The 139 subjects were tested in nine groups, ranging in size from seven to twenty-three. Residence hall staff met together in one group, the remaining dormitory residents met in groups by floor, and Education students met in their regular class groups.

In each situation, a short description of the general purpose of the study was presented. Mark-sense answer sheets and a procedure sheet for the Identification of Feelings Exercise were then distributed. A copy of the procedure sheet may be found in Appendix D. A paraphrasing of the

general directions followed and questions about the procedure were answered.

The Identification of Feelings Exercise (IFE) included 50 audio item-vignettes, each with one person describing a recent experience. Items varied in length from a few seconds to a minute. Emotional material was expressed either overtly or covertly. Subjects were not told about the overt-covert distinctions. They were only instructed to listen to each item and to identify the predominant feeling they heard being expressed.*

After the general directions were explained by the experimenter, each item of the IFE was presented, with a 4-6 second pause between each to allow subjects to record their answers. A summary of the procedures followed is included in Table 3.4.

Table 3.4 Summary of Procedures Followed with Each Group of Subjects

-
- I. The experimenter directs the completion of the answer form (name, sex, and student number) and paraphrases the general directions for the Identification of Feelings Exercise.
 - II. The experimenter gives directions for the Identification of Feelings Exercise in more detail:
 - A. Subjects are to listen to each taped example. Feelings will be expressed which fall into one of five categories: A) Contempt/Disgust, B) Distress, C) Joy, D) Fear, and E) Anger.

* Answers were to be recorded by checking a letter corresponding to one of five feeling categories: Contempt/Disgust, Distress, Joy, Fear or Anger.

Table 3.4 (continued)

-
- B. Subjects are to identify the predominant feeling each stimulus person was experiencing as he spoke in the example. If more than one feeling is heard, the predominant feeling should be marked on the answer sheet.
 - C. Subjects are to mark only one answer per item, and answer all items.
 - D. Subjects are told that after a 4-6 second pause to record their answer, the experimenter will play the next item on the tape.
- III. At the conclusion of the test, the experimenter asks subjects to sign the release form and indicate Interpersonal Skills Training and Counseling experience.
- IV. Myers-Briggs Type Indicator materials are distributed. Subjects are encouraged to complete items as fast as possible, but without a specific time limit.
-

All groups except one completed the Myers-Briggs Type Indicator (MBTI) following the Identification of Feelings Exercise (IFE). Dormitory Resident Assistants had completed the MBTI individually prior to the session when the IFE was administered.

Reliability and Validity of Instruments Used in the Study

The two instruments employed in the present study were the Identification of Feelings Exercise (IFE) and the Myers-Briggs Type Indicator (MBTI). Data of reliability and explanation of validation procedures in the construction of the IFE are included in Chapter IV.

Reliability estimates for the Sensing-Intuition Scale of the MBTI on the present sample were determined by two



separate procedures. Carlyn (1976) has reported that split-half and coefficient alpha procedures have each produced similar estimates for the MBTI. In order to check this finding, the present study employed both methods.

Following Myers' (1962) suggested item assignment for split-half procedures, items were hand-scored for the x-half and y-half of the Sensing-Intuition (S-N) Scale. Since continuous scores were to be used to test the major hypotheses, each x-half and y-half total was similarly transformed onto an S-N continuum. Pearson product-moment correlation coefficients were calculated comparing the two halves. These data were corrected by the Spearman-Brown prophecy formula for reduced length of the instrument. The estimated internal reliability of the Sensing-Intuition scale for the present sample was found with this method to be .8160.

The Cronbach coefficient alpha system (1967) produces an estimate of the reliability of all possible split-halves for a given instrument. Since each item on the Myers-Briggs Type Indicator may be scored 0, 1 or 2 in the direction of either bipolar alternative, subjects' answers on the Sensing-Intuition (S-N) items were recorded by a -2, -1, 0, +1, +2 system. The negative values referred to items scored for Sensing; the positive values for Intuition. Using this data, internal reliability of the S-N scale was computed by Cronbach's system. The resulting value was .8291.

Validity of the Sensing-Intuition (S-N) scale has been demonstrated by several means. Estimates of

correlation between S-N and scales of the Edwards Personal Preference Schedule, the Strong Vocational Interest Blank, and the Allport-Vernon-Lindzey Scale of Values have been reported, among others, by Myers (1962). Myers (1962) also has reported that in using a college student sample the S-N scale correlates strongly and positively (.58) with the Sensing-Intuition scale of the Gray-Wheelwright Psychological Type Questionnaire. The Gray-Wheelwright is an independently constructed measure of Jungian type distinctions. Similar results were obtained by Bradway (1964). Stricker & Ross (1964b) found the Extraversion-Introversion (E-I) and Judging-Perceiving (J-P) scales of the Myers-Briggs Type Indicator lacking in construct validity, but not the S-N scale. The S-N scale has also been reported to be theoretically sound by Sundberg (1970).

Design

The present study employs a repeated measures design with fixed factors. Two crossed factors over subjects (Sensing-Intuition type crossed with strength of preference) and one factor over measures (scores on overt and covert dimensions of the Identification of Feelings Exercise) are included. A pictorial representation of the design is presented in Table 3.5.



Table 3.5 Design of the Study

			D ₁	D ₂
P ₁	I ₁	S's		
	I ₂	S's		
P ₂	I ₁	S's		
	I ₂	S's		

P₁ = Perception Preference for Sensing

P₂ = Perception Preference for Intuition

I₁ = Intensity of Preference: Exceptional

I₂ = Intensity of Preference: Moderate

S's = Subjects

D₁ = Disclosure Level of Stimulus Person: Overt

D₂ = Disclosure Level of Stimulus Person: Covert

Statistical Hypotheses

Statistical hypotheses were developed to investigate the effect of Sensing-Intuition (S-N) on three aspects of the dependent variable: Identification of Feelings Exercise (IFE) total scores, and overt and covert divisions of stimulus material on the IFE. Exceptional and Moderate strength of preference differences were also of concern

for their effect on IFE scores. Null hypotheses and their directional alternatives were determined. The following symbols are used to describe the hypotheses:

H_0 - Null Hypothesis

H_a = Alternate Hypothesis

M = Mean Scores

S = Sensing

N = Intuition

exc = Exceptional Strength of Preference

mod = Moderate Strength of Preference

I. Effect of Sensing-Intuition on Empathic Discrimination: Total

Null Hypothesis: Mean scores do not differ between Sensing and Intuitive types on an exercise measuring empathic discrimination of feeling messages of others.

$$H_0: M_S = M_N$$

Alternate Hypothesis: Mean scores of Intuitive types exceed those of Sensing types on an exercise measuring empathic discrimination of feeling messages of others.

$$H_a: M_S < M_N$$

II. Effect of Sensing-Intuition on Empathic Discrimination: Overt Stimulus Conditions

Null Hypothesis: Mean scores do not differ between Sensing and Intuitive types on an exercise measuring empathic discrimination of overt feeling messages of others.

$$H_0: M_S = M_N$$

Alternate Hypothesis: Mean scores of Sensing types exceed those of Intuitive types on an exercise measuring empathic discrimination of overt feeling messages of others.

$$H_a: M_S > M_N$$

III. Effect of Sensing-Intuition on Empathic Discrimination: Covert Stimulus Conditions

Null Hypothesis: Mean scores do not differ between Sensing and Intuitive types on an exercise measuring empathic discrimination of covert feeling messages of others.

$$H_0: M_S = M_N$$

Alternate Hypothesis: Mean scores of Intuitive types exceed those of Sensing types on an exercise measuring empathic discrimination of covert feeling messages of others.

$$H_a: M_S < M_N$$

IV. Effect of Exceptional-Moderate Strength of Preference

Null Hypothesis: Mean scores do not differ between Exceptional and Moderate Strengths of preference on an exercise measuring empathic discrimination of feeling messages of others.

$$H_0: M_{exc} = M_{mod}$$

Alternate Hypothesis: Mean scores of Moderate Strength of preference exceed those of Exceptional Strength of preference on an exercise measuring empathic discrimination of feeling messages of others.

$$H_a: M_{exc} < M_{mod}$$

Analysis Procedures

Hypotheses were tested by use of multivariate repeated measures analysis of variance (ANOVA). Two-way ANOVA was employed to test main and interaction effects. A regression analysis was carried out for three covariates on the dependent variable. The three covariates corresponded to the Extraversion-Introversion, Thinking-Feeling, and Judging-Perceiving scales of the Myers-Briggs Type

Indicator (MBTI). The regression analysis was used to determine the appropriateness of subsequent analysis of covariance (ANCOVA) with regard to the three MBTI dimensions.

Post hoc procedures were also employed. Where significance was found, data from the two-way ANOVA were examined to determine the direction of the effect. T-tests were performed on the particular variables to examine the differences. Univariate procedures were also employed to examine each dimension (overt and covert) of the dependent variable.

Summary

Subjects were obtained from dormitory floors and Teacher Education classes during a Summer Term session at Michigan State University. Subjects were administered the Identification of Feelings Exercise (IFE) and the Myers-Briggs Type Indicator (MBTI). The IFE was developed as a measure of empathic discrimination. The MBTI was included for its Sensing-Intuition scale as a measure of mode of perception. A stratification of subjects was based on expressed preference for Sensing or Intuition on the MBTI and the strength of that preference. Strength of preference was described as either Exceptional or Moderate, and was defined by specific ranges of continuous Sensing-Intuition scores. The criteria for selection of Exceptional-Moderate division points was discussed. A description of the setting and procedure employed with subjects was also presented.

Reliability estimates of the Sensing-Intuition scale



with the present sample were obtained in two ways. A split-half procedure corrected by the Spearman-Brown prophecy formula produced an internal reliability of .8160. The Cronbach coefficient alpha procedure was used as a check on this figure. Data from the latter procedure showed the Sensing-Intuition scale reliable at .8291.

The design of the study was presented. The multivariate repeated measures design for fixed factors was developed to investigate the relationship between strength of Sensing-Intuition preference and scores from the Identification of Feelings Exercise. Statistical hypotheses and analysis procedures for testing the hypotheses were included.

A description of the Identification of Feelings Exercise and a report on methods of its construction and validation are presented in Chapter IV.

CHAPTER IV: DEVELOPMENT AND VALIDATION OF IDENTIFICATION OF FEELINGS EXERCISE

Previous efforts to measure identification of feelings independent from empathic communication have fallen short in many ways. In the absence of instruments appropriate for the current study, a measurement device of empathic discrimination on overt and covert dimensions was developed. A description of the development of the Identification of Feelings Exercise follows.

Preparation of Audio Stimulus Tapes

One hundred audiotaped expressions of personal experience were collected. These tapes served as the stimulus material for the Identification of Feelings Exercise (Form A). Each audiotaped item involved a simulated expression of experience by one individual to a hypothetical other person. The item-vignettes were acted by thirty-six different individuals (eighteen males, eighteen females), all of whom had been involved in either teaching, counseling, interpersonal skill training, or social work. Each vignette was developed to present a specific predominant feeling and level of overtness.

Previous research has suggested that stimulus

conditions be firmly controlled without sacrificing realism. In this regard, audiotaped rather than videotaped expressions were adopted in the present study. Each subject therefore received a limited amount of stimulus material.

Stimulus persons ranged from late adolescence to middle age, with the bulk falling in the early twenties. Situational content for the items included various life styles and social status. However, a large proportion of the items represented experiences that involved male-female couple relationships, drug-related issues, and academic frustrations. The content of most examples thus applied to the college population from which the final sample for the study was drawn.

Each of the one hundred examples in the instrument was intended to represent one of five feeling clusters: Contempt/Disgust, Distress, Joy, Fear, or Anger. The five groups were selected from categorizations by both Tomkins (1963) and Plutchik (1962). Tomkins and Plutchik each proposed a system of eight primary affect clusters. One of Tomkins' groups (shame) was not identified as a separate cluster by Plutchik. One of Plutchik's categories (incorporation or acceptance) likewise was not discussed by Tomkins. Due to such lack of consensus, both shame and incorporation were excluded from the present study. In addition, the affect of surprise was omitted, since by definition it is one of the more rapidly appearing and disappearing emotions. It was assumed that with audiotaped material,

quick changes in emotion would be too difficult to identify without the aid of visual stimuli.

Validation of the Instrument

Each of the five affect clusters represented one of five multiple choice options. Answers were recorded on mark-sense five-choice answer sheets for ease in scoring.

A priori suspicions about a correct answer key were tested by a rating procedure. After a short training exercise, ten university counseling center psychologists were asked to indicate the predominant feeling expressed in each item-example. Of the ten individuals, six were male, four female. Five held the Ph.D. in Counseling or Clinical Psychology, while five were actively pursuing doctorates in these fields. Four were senior members of the University Counseling Center staff; six were interns on the same staff. All ten were currently seeing student clients in therapy. Intensive regular therapy experience was assumed to qualify the raters as experts on identification of feelings.

The ten raters were given precise definitions of the feeling category groups. The raters were encouraged to attend to overt as well as covert messages to determine their answers. The training procedure was thus intended to counteract a bias on the part of therapists. It was expected that this bias would lean toward use of covert stimuli and intuitive processes to the neglect of their

alternatives (overt stimuli and sensory perception).

Raters were further instructed to focus primarily on immediate feelings of the stimulus person. Eight taped examples were played and discussed prior to beginning the rating of items. Raters were scheduled in two groups of five. The one hundred items were split into two sets of fifty. The order of the two sets was reversed for the second group. This procedure was established to control for the effect of fatigue on ratings at the end of the exercise. The complete training procedure is described in Appendix G.

Information in Table 4.1 shows that a majority of the items (83) received 60% agreement or better as to the correct feeling category. It was from this pool of 83 items that construction of a final 50-item instrument began. An answer key was developed by using the counselors' modal response for each item rated.

Table 4.1 Agreement of Raters on Correct Answer Key for Identification of Feelings Exercise (Form A): N = 100 items; N = 10 raters.

Number of Raters in Agreement	Number of Items Agreed Upon	Subtotal Number of Items
10	24	24
9	18	42
8	10	52
7	21	73

Table 4.1 continued

Number of Raters in Agreement	Number of Items Agreed Upon	Subtotal Number of Items
6	10	83
5	13	96
4	3	99
3	1	100

A second procedure was used to validate the overt-covert character of each item. After a short training exercise, five university counseling center psychologists (all different from the first group) were asked to rate the level of overtness of each item by employing a four-point continuous scale: the "Scale of Overt or Covert Disclosure of Feeling." (Complete overt-covert training procedures are described in Appendix H.) Of these five individuals, two held the Ph.D. in Counseling or Clinical Psychology, while three were actively pursuing doctorates in these fields. Two were senior staff members; three were interns on the same staff. All were male, and were currently seeing student clients in therapy. Intensive regular therapy experience was assumed to qualify the raters as experts of overtness or covertness in self-disclosure.

The use of four-point scales to determine levels of disclosure has been demonstrated by Stachowiak (1974). The bipolar nature of the overt-covert dimension especially

recommended an even-numbered scale approach. Eight taped examples were played and discussed prior to beginning the rating of items. Raters were scheduled in two sessions of three and two each. The order of the two sets of fifty items each was reversed for the rating groups similar to the procedure for development of the answer key. Since there were fewer raters in this part of the validation procedure, a check on agreement among raters was initiated. Inter-rater reliability estimates were found to fall at .88. Complete data from the inter-rater reliability estimates are presented in Appendix I.

Pilot Test of the Instrument

A first estimate of reliability of the Identification of Feelings Exercise was obtained by administering the instrument to 67 undergraduate dormitory residents at Michigan State University during Spring Term 1976. The first set of fifty items (Form A-1) was given to thirty-nine subjects (twenty-seven female, twelve male); the second set (Form A-2) to the remaining twenty-eight (all female). Items from each form which had not obtained at least 60% correct answer agreement from raters were omitted from the scoring. Forty-three items remained for Form A-1, forty for Form A-2.

The validity of the dormitory group as a criterion was examined by administering the Myers-Briggs Type Indicator (MBTI). Since items for a final form of the

instrument were selected in part from results of this pilot study, it was important for the individuals tested to be roughly similar in type to the group used as subjects to test the hypotheses. A type table for the Spring Term group may be found in Appendix J. Comparisons with the final subject group (Appendix C type table) showed the pilot test group to have a similar ratio of MBTI characteristics. The size and sex distribution of each group differed considerably however.

As with the raters, the group of dormitory students was instructed to indicate the predominant feeling expressed in each item. Unlike the raters, they were not given training with regard to specific meanings of the feeling categories. Nor were they told about overt-covert distinctions. Students were told instead only what the five options were, and were encouraged to answer every item even if more than one feeling was heard per item.

Data of reliability and an item analysis were obtained from this pilot test sample using the criterion answer key derived from prior ratings. For Form A-1 (first fifty items) a Kuder-Richardson internal reliability estimate of .43 was obtained. For Form A-2 (second fifty items) the Kuder-Richardson internal reliability estimate was .54. The sample was small, with fewer subjects than items for each of the two forms. Thus reliability estimates for the two halves were lower than desired. A complete report of data from the pilot test of the instrument is found in

Appendix K.

Selection of Items for Form B

Selection of items for inclusion in the new form (Form B) of the Identification of Feelings Exercise was based on several guidelines:

1. Items with answer key inter-rater agreement of 50% or less were omitted, due to lack of consensus.
2. Items falling within two standard errors of the mean on overt-covert rating were eliminated due to indeterminacy of level of disclosure. Half of the fifty items selected were to be overt, the other half covert.
3. Indices of discrimination and difficulty from the item analysis of the pilot study presented further information. Those items with high and mid-range discrimination were given strongest priority.
4. An identical number of items for each of the five feeling categories was sought.
5. Judgments of the experimenter based on a priori item definitions were employed when item characteristic data were equivalent on items, and when some still needed to be dropped from the scale.

A table indicating the interaction of the guideline variables for building the instrument is included in Table 4.2. All data on the original one hundred items may be found in Appendix L.

Due to the factor of fatigue, it was decided to limit the final form to fifty items. Twenty-five overt and twenty-five covert vignettes were included. In Table 4.3 the final balance of feeling categories employed for both overt and covert portions of the exercise is identified.



Table 4.2 Overt-Covert Rating, Feeling Distribution and Rated Right-Answer Agreement Variables for Items from Identification of Feelings Exercise (Form A): N = 83 items

Average Level of Overt-Covert Rating	Contempt/ Disgust	Distress	Joy	Fear	Anger
4.0	Y	VY	V	VX	VV
3.8	V	VW	--	X	VWW
3.6	--	VXY	--	V	--
3.4	Y	Y	Y	V	--
3.2	WW	--	VVW	--	--
3.0	--	XX	ZZ	VWXYZ	--
2.8	YZ	VW	W	--	XY
2.6	7 items fell within 2 S.E.M. on overt-covert				
2.4	$\bar{x} = 2.57$ S.E.M. = .091				
2.2	--	VW	--	YY	--
2.0	--	YZ	Y	--	VWY
1.8	--	WXY	Y	--	Y
1.6	W	--	--	--	Z
1.4	VV	--	X	--	--
1.2	XYZ	--	Y	WWY	W
1.0	--	V	Z	V	X

V = item where all 10 raters agreed on predominant feeling
W = item where 9 raters agreed on predominant feeling
X = item where 8 raters agreed on predominant feeling
Y = item where 7 raters agreed on predominant feeling
Z = item where 6 raters agreed on predominant feeling

Table 4.3 Distribution of Overt and Covert Items from Identification of Feelings Exercise (Form B) by Feeling Category: N = 50 items.

Feeling Category	Overt	Covert
Contempt/Disgust	3	4
Distress	7	7
Joy	3	4
Fear	7	4
Anger	<u>5</u>	<u>6</u>
Total:	25	25

When the final group of items was determined they were arranged in random order.

Performance of each item of the final Form B on the earlier pilot test is summarized in Appendix M.

Reliability of Identification of Feelings Exercise (Form B)

With the increase in sample size plus the careful selection of fifty items from the original group of one hundred, it was expected that internal reliability of the instrument would increase. However, the performance of the instrument only improved moderately. The reliability ($r = .52$) also compared poorly with estimates from other instruments in the literature which have been purported to measure constructs related to empathic discrimination. The data for Form B are included in Table 4.4.

Table 4.4 Data of Reliability for Overt, Covert and
Total: Identification of Feelings Exercise
 (Form B): N = 50 items.

Characteristics	Overt	Covert	Total
Meán Item Difficulty	40	48	44
Mean Item Discrimin- ation	27	25	21
Kuder-Richardson Reliability #20	.3254	.3014	.5231
Standard Error of Measurement	2.2750	2.2566	3.2041

Indices of discrimination and difficulty were also obtained for each item. These data are listed in Appendix N.

Reliability data on the instrument fell below generally acceptable standards. The decision was nevertheless made to conduct the research with the instrument as formulated.

Summary

The procedures employed in construction of the Identification of Feelings Exercise were discussed. Audio-tape stimulus material was prepared. Situational and affective content for each item were examined and controlled where possible. Affect categories for a five-option multiple choice answer key were discussed.

The criterion answer key and degree of overtness of

disclosure for each item were determined from ratings of university counseling center psychologists. Data of internal reliability from a pilot test of Forms A-1 and A-2 of the instrument were reported to be .43 and .54 respectively. Procedures for selection of items for a single fifty item instrument (Form B) were discussed. Data of internal reliability on the final sample were reported to be .52 for the instrument as a whole, .32 for the overt, and .30 for the covert items.

In Chapter V an analysis of the results of the hypothesis tests is presented.

CHAPTER V: ANALYSIS OF RESULTS

The main statistical hypotheses were tested by means of a two-way analysis of variance procedure. Where F-tests were significant at the .05 level or better, post hoc investigations were carried out to determine the direction of the significance.

Hypothesis I: Effect of Sensing-Intuition on Empathic Discrimination: Total

The first null hypothesis was formulated as follows:

Mean scores do not differ between Sensing and Intuitive types on an exercise measuring empathic discrimination of feeling messages of others.

The first alternate hypothesis was formulated as follows:

Mean scores of Intuitive types exceed those of Sensing types on an exercise measuring empathic discrimination of feeling messages of others.

Obtained values from the statistical tests indicated that the null hypothesis was rejected at the .05 level of significance. Sensors and Intuitors did therefore differ in

the way they responded to items on the Identification of Feelings Exercise. Examination of the mean scores for Sensors and Intuitors indicated the direction of the difference to be in favor of Intuitors. The alternative hypothesis was thus accepted. Results from the test of Hypothesis I are listed in Table 5.1.

Table 5.1 Univariate Analysis of Variance for Sensing-Intuition on Identification of Feelings Exercise: N = 139

	N	Mean	F Value	p<
Sensors	68	27.15	4.2724	.0407*
Intuitors	71	28.76		

* significant at the .05 level

Hypothesis II: Effect of Sensing-Intuition on Empathic Discrimination: Overt Stimulus Conditions

The second null hypothesis was formulated as follows:

Mean scores do not differ between Sensing and Intuitive types on an exercise measuring empathic discrimination of overt feeling messages of others.

The second alternative hypothesis was formulated as follows:

Mean scores of Sensing types exceed those of Intuitive types on an exercise measuring empathic discrimination of overt feeling messages of others.

Failure to obtain statistical significance at the .05 level indicated that the second null hypothesis was not rejected. Sensors and Intuitors did not differ significantly on their scores on the overt section of the Identification of Feelings Exercise. Furthermore, an investigation of the means for each group indicated that the pattern did not match the direction expected by the alternative hypothesis. The mean for Intuitors exceeded the mean for Sensors, even though the difference was not found to be significant. Results from the test of Hypothesis II are found in Table 5.2.

Table 5.2 Univariate Analysis of Variance for Sensing-Intuition on Overt Scale of Identification of Feelings Exercise: N = 139

	N	Mean	F Value	p<
Sensors	68	14.53	1.9676	.1630
Intuitors	71	15.21		

Hypothesis III: Effect of Sensing-Intuition on Empathic Discrimination : Covert Stimulus Conditions

The third null hypothesis was formulated as follows:

Mean scores do not differ between Sensing and Intuitive types on an exercise measuring empathic discrimination of covert feeling messages of others.

The third alternative hypothesis was formulated as follows:

Mean scores of Intuitive types exceed those of Sensing types on an exercise measuring empathic discrimination of covert feeling messages of others.

The third null hypothesis was rejected at the .05 level. Sensors and Intuitors did differ in the way they responded to covert items on the Identification of Feelings Exercise. Furthermore, the direction of this difference favored Intuitors. The alternative hypothesis was thus accepted. Table 5.3 includes results from the test of Hypothesis III.

Table 5.3 Univariate Analysis of Variance for Sensing-Intuition on Covert Scale of Identification of Feelings Exercise: N = 139

	N	Mean	F Value	p<
Sensors	68	12.62	4.3062	.0399*
Intuitors	71	13.55		

* significant at the .05 level

Hypothesis IV: Effect of Exceptional-Moderate Strength of Preference

The fourth null hypothesis was formulated as follows:

Mean scores do not differ between Exceptional and Moderate strengths of Sensing-Intuition preference on an exercise measuring empathic discrimination of feeling messages of others.

The fourth alternative hypothesis was formulated as follows:

Mean scores of Moderate strength of Sensing-Intuition preference exceed those of Exceptional strength of preference on an exercise measuring empathic discrimination of feeling messages of others.

The obtained values indicated that the fourth null hypothesis was not rejected. Subjects with Exceptional strength of Sensing-Intuition scores did not differ significantly from subjects with Moderate strength of scores in performance on the Identification of Feelings Exercise. An investigation of the means for each group further indicated that the pattern was not in the direction suggested by the alternative hypothesis. Although the difference was found to be nonsignificant, the mean for Exceptional strength exceeded that of Moderates. Exceptional-Moderate differences were further found not to be significant on either the overt or the covert portions of the Identification of Feelings Exercise. In Table 5.4 are the results from the test of Hypothesis IV.

Table 5.4 Univariate Analysis of Variance for Exceptional-Moderate Strength of Preference on Identification of Feelings Exercise: N = 139.

	N	Mean	F Value	p<
Total Scores:				
Exc ₁	39	28.59	1.2526	.2651
Mod ₂	100	27.73		
Overt Scores:				
Exc ₁	39	15.05	.2846	.5947
Mod ₂	100	14.81		
Covert Scores:				
Exc ₁	39	13.54	1.8724	.1735
Mod ₂	100	12.92		

¹Exc = Exceptional

²Mod = Moderate

Investigation of the Overt-Covert Scales

Analysis of variance was employed to examine the overall effect of overt and covert distinctions on the Identification of Feelings Exercise (IFE). This was done by using differences between overt and covert scores on the instrument in relation to the Grand Mean. The obtained values indicated that significant differences existed between the two scales at the .0001 level. The IFE was believed therefore, to be discriminating effectively on the overt-covert dimension among subjects in the present study. Results from this investigation are included in Table 5.5.

Table 5.5 Univariate Analysis of Variance for Overt-Covert Effect on Identification of Feelings
Exercise: N = 139.

	Sum	Difference	F Value	p<
Grand Mean	28.1261	1.70	47.8272	.0001 *

* significant at the .0001 level

In order to investigate how the overt and covert scales operated with a single subgroup of the sample, t-tests were performed for Sensors and Intuitors separately. The obtained values indicated that significant differences existed between overt and covert scores for Sensors at the .000 level. Identical results were also obtained for Intuitors. An examination of the mean values for each group showed that overt scores in each case were higher than covert scores. Results from the t-tests are listed in Table 5.6.

Table 5.6 T-tests Examining Differences Between Overt and Covert Scores by Type.

	Mean	Standard Deviation	t value	df	Probability
Sensors:					
Overt	14.53	2.79	5.87	67	.000 *
Covert	12.62	2.89			
Intuitors:					
Overt	15.21	2.91	4.22	70	.000 *
Covert	13.55	2.41			

* significant at the .000 level

Investigation of Interaction Effects: Sensing-Intuition with Exceptional-Moderate

Interaction effects between the Sensing-Intuition and Exceptional-Moderate dimensions of the independent variable were examined. Since the effect of Exceptional-Moderate scores had been found to be lacking in significance when considered separately, the interaction effect also produced lack of significance. Lack of significance was found for Identification of Feelings Exercise scores as a whole as well as on the overt or covert dimensions individually. Data from the univariate analysis of variance procedure employed are presented in Appendix O.

Regression Analysis of Three Covariates on the Dependent Variable

A regression analysis with the three Myers-Briggs Type Indicator variables of Extraversion-Introversion (E-I), Thinking-Feeling (T-F), and Judging-Perceiving (J-P) was performed on the dependent variable. Significance was not achieved either for the three covariates taken together or for step-wise regression estimates of the contribution of each covariate on the dependent variable. The results were interpreted to mean that E-I, T-F, and J-P did not account for differences in subjects' scores on the Identification of Feelings Exercise, either when taken together or when examined individually. Data from the regression analysis are presented in Appendix P.

Additional Findings

Descriptive information about subjects was investigated through post-hoc analysis of variance and t-test procedures to show how each factor may have affected scores on the Identification of Feelings Exercise (IFE). No significant differences in scores either on the IFE as a whole, the overt or the covert scales were found among the three sources from which subjects were solicited (dormitory, resident assistants, and education students). Completion of interpersonal skill training in the previous year also produced no significant differences in scores. Similarly, no significant differences were found in scores as a result of subjects' receiving regular counseling or therapy during the previous year. These data are included in Appendix Q.

In contrast, one further variable did produce significant findings. When grouped by sex, subjects were found to differ significantly both on their total IFE scores and on the overt dimension. In each case the level of significance was .01. An examination of the means for each group showed that females scored higher than males in every category of IFE scores. These data are listed in Table 5.7.

Table 5.7 T-tests Examining Effect of Sex on Differences in Identification of Feelings Exercise Scores

	N	Mean	Standard Deviation	t value	df	2-tail Proba- bility
Total:						
Male	55	26.47	4.81	-2.84	137	.005*
Female	84	28.71	4.38			
Overt:						
Male	55	14.09	2.95	-2.68	137	.008*
Female	84	15.39	2.71			
Covert:						
Male	55	12.74	2.80	-1.24	137	.218
Female	84	13.32	2.60			

* significant at the .01 level

Summary

Four hypotheses were tested linking subjects' preferences for Sensing or Intuition on the Myers-Briggs Type Indicator (MBTI) to scores on the Identification of Feelings Exercise (IFE). The results of the tests were as follows:

1. In Hypothesis I it was stated that differences in Identification of Feelings Exercise scores would exist between Sensors and Intuitors, and that the differences would favor the Intuitors. The null hypothesis was rejected at the .05 level. Examination of mean scores for each group showed that Intuitors indeed did score higher than Sensors.

2. In Hypothesis II it was stated that differences in scores for overt stimulus conditions of the Identification of Feelings exercise would exist between Sensors and Intuitors, and that the differences would favor the Sensors. The null hypothesis was not rejected.

3. In Hypothesis III it was stated that differences in scores for covert stimulus conditions of the Identification of Feelings Exercise would exist between Sensors and Intuitors, and that the differences would favor the Intuitors. The null hypothesis was rejected at the .05 level. Examination of mean scores for each group showed that Intuitors indeed did score higher than Sensors.

4. In Hypothesis IV it was stated that differences in Identification of Feelings Exercise scores would exist between Exceptional and Moderate preference strengths, and that the differences would favor the Moderates. The null hypothesis was not rejected.

5. An investigation of the overt and covert scales was carried out by examining the differences between the two sets of scores. Significant differences were found between the two scales at the .0001 level. Differences further were found between overt and covert for Sensors alone at the .000 level, and for Intuitors alone also at the .000 level.

6. Interaction effects between Sensing-Intuition and Exceptional-Moderate dimensions were investigated, and were found lacking in significance.

7. The regression of Extraversion-Introversion,

Thinking-Feeling, and Judging-Perceiving Myers-Briggs Type Indicator scores on the dependent variable indicated that these three dimensions did not account for significant differences in subjects' IFE scores, either taken together or separately.

8. Examination of descriptive characteristics of subjects found that neither interpersonal skill training nor counseling during the previous year affected scores on the IFE. Dormitory residents, residence hall staff, and education students also did not significantly differ in IFE performance. A sex difference in scores was found, however, significantly (.01) favoring females over males on both total IFE scores and on the overt dimension.

In Chapter VI, the findings of the study will be discussed, conclusions drawn, and implications for future research considered.

CHAPTER VI: SUMMARY AND CONCLUSIONS

The major purpose of the study was to examine the relationship between alternative modes of perception and the way individuals attend to feeling messages of others.

Summary

The theories of C.G. Jung were consulted to obtain a model for alternative modes of perception. Jung's distinction between Sensing and Intuition was found to be consistent theoretically with particular styles of attending to feelings in others. Overtly presented expressions of feeling allow the listener to derive empathic understanding from a concrete source. The assumption was that Sensing as a mode of perception would be appropriate to an overt expression of feelings. On the other hand, when subtle or covert expressions of feeling exist, more indirect (or Intuitive) methods of receiving the message are necessary.

The present study, therefore, began with a consideration of theoretical issues behind the empathic process. The focus of the study centered on the initial discriminative aspect of empathy. Subsequent processes of integration or communication of understanding were not considered.

Relevant literature was reviewed related to empathic

discrimination and to the dual processes of Sensing and Intuition. Studies were found in which the authors investigated relationships between a variety of personality variables and empathy. However, the only studies which examined specific modes of perception unfortunately approached the measurement of empathy from a point of view incompatible with that of the present effort.

The Sensing-Intuition (S-N) scale of the Myers-Briggs Type Indicator was employed as a measure of alternative perceptive styles. Internal consistency figures of reliability with the present sample were found to be .8160 and .8291 using two methods of estimation. Studies were quoted from the literature attesting to the construct validity of the S-N scale as well.

Since instruments purporting to measure empathic discrimination were found to be invalid for the current investigation, the Identification of Feelings Exercise (IFE) was developed. From an original pool of 100 audiotaped vignettes, 50 were selected through several processes. Each taped vignette included a spoken statement of experience involving feeling messages. Ten psychologists at a university counseling center determined the appropriate predominant feeling for each statement after a short training exercise. Five additional university counseling center psychologists rated the same 100 vignettes on a four-point continuous scale to determine level of overtness, and obtained inter-rater reliability of .88. A pilot test of the

vignettes was conducted with 67 Michigan State University dormitory residents. Indices of discrimination and difficulty for each vignette were obtained from an item analysis of the results.

The final fifty item-vignettes were selected using the above data, with attention also paid toward balancing the number of examples for each of five feeling categories. The feeling categories were Contempt/Disgust, Distress, Joy, Fear and Anger. The final instrument included twenty-five overt and twenty-five covert item-vignettes and was entitled the Identification of Feelings Exercise (IFE).

A sample of 139 subjects was drawn from Summer Term students at Michigan State University. All subjects participated in the study voluntarily in return for receiving an interpretation of their Myers-Briggs Type Indicator results. Tested in nine separate groups, subjects were first presented the Identification of Feelings Exercise. Each taped item was played, followed by a 4-6 second pause for recording answers. Subjects were instructed to record the predominant feeling expressed in the vignettes by checking one of the five feeling categories. At the end of the fifty-item exercise, subjects were administered the Myers-Briggs Type Indicator.

A multivariate repeated measures design was employed. Independent variables included Sensing-Intuition (S-N) preference from the Myers-Briggs Type Indicator and strength of continuous preference scores on the S-N dimension.

Scores falling thirty points on either side of the midpoint were labeled Moderate. The remaining scores at each end of the continuum were pooled into one group labeled Exceptional.

Four major hypotheses were tested by analysis of variance procedures, and null hypotheses were rejected when the .05 level of significance was obtained. The following were the results of the tests of hypotheses:

1. Intuitors more accurately identified feeling messages than Sensors.
2. No differences existed between Intuitors and Sensors on accurate identification of overtly expressed feeling messages.
3. Intuitors more accurately identified covertly expressed feeling messages than Sensors.
4. No differences existed between Exceptional and Moderate strengths of preference on accurate identification of feeling messages.

In addition to tests of the hypotheses, the following discoveries were made:

1. Differences between scores on the overt and covert dimensions of the Identification of Feelings Exercise were found significant for both Sensors and Intuitors.
2. Extraversion-Introversion, Thinking-Feeling and Judging-Perceiving scores did not account for differences between Sensors and Intuitors in accurate identification of feeling messages.
3. Females more accurately identified feeling messages than males on the overt dimension and over-all, but no significant differences existed on the covert dimension.

Discussion of the Findings

Although only two of the four major alternate hypotheses were accepted, some important conclusions and implications have been discovered as a result of the study.

Intuitors scored significantly higher than Sensors both on the covert dimension of the Identification of Feelings Exercise (IFE) and over-all. This verifies theoretical arguments found in the literature that awareness of the emotional world of others requires nondirect and often unconscious processes (Goodyear, 1976; Katz, 1963; Reik, 1948).

The fact that Sensors and Intuitors did not differ on the overt dimension suggests that there are aspects of feeling perception in which all individuals are of roughly equivalent capacity. Scores on the overt dimension were in general higher than covert scores for both Sensors and Intuitors. Perhaps empathic discrimination does include, therefore, a large element of attention to explicit messages from others. If this is true, and if the IFE successfully measures that phenomenon, then Sensors and Intuitors appear equally qualified to be called empathic in attending to overt messages of others.

On the other hand, the results of this study suggest that the covert dimension is where Sensors have difficulty in comparison with Intuitors. Attention to subtle cues, tone or inflection of voice, hidden meanings of words, or intensity of punctuation may not come naturally to those

who express preference for the concrete, the literal and the particular. Results of this study suggest that if Sensors are aware of covert cues, they do not trust these perceptions. Sensors rather prefer to report on awarenesses of others' feelings which can be clearly verifiable.

Item-vignettes for the Identification of Feelings Exercise were designed to differentiate between explicit and inexplicit stimulus cues. Some items (rated as overt by a panel of trained therapists) included material where the words used were congruent with the subtle cues. In others (rated covert), the worded statement expressing one feeling conflicted with tone of voice or implied meanings indicating a more predominant feeling. Results of the study show that the distinction between these two sets of items apparently was clear enough to discriminate between Sensors and Intuitors.

The failure of the hypothesis with regard to overt conditions was at first disappointing. Following the lead of Allport (1937) among others, this study was designed to examine contributions that alternative poles of the Sensing-Intuition dichotomy have to offer in interpersonal effectiveness. Results of the study show Sensors and Intuitors alike performed equivalently in empathic discrimination of overt messages. However, Sensors appear to need encouragement to employ and trust intuition. The idea that each individual has potential for using both processes regardless of preference has been suggested by Jung (1923). If that is

the case, training or nurturing the opposite of one's preference appears appropriate if one is involved in helping relationships.

The notion of easy access to the opposite of one's preferred function was the theoretical source for presentation of the Exceptional-Moderate hypothesis. No significant differences were found between those who scored between 71 and 129 on the Sensing-Intuition continuum (Moderate) and those who scored on either end of the continuum (Exceptional). Myers (1962) has written that strength of Myers-Briggs Type Indicator scores must be cautiously interpreted, and her warning holds true in the present study at least. She has suggested that strong scores may indicate either a locked-in pattern in one mode, or simply a clear understanding of one's preferences. The latter would appear to be at least partially the case considering the closeness of mean scores in the present study.

That only 39 of the sample of 139 clustered into the Exceptional group weakened the investigation, even though these subjects were proportionately split between Sensing (21) and Intuition (18). The division points were based on previous references by Myers (1962) and McCaulley (1971). Adjustment more toward the center of the distribution, however, would have threatened description of the end groups as "Exceptional."

Additional interesting results of the study emerged. Regression analysis of each of the remaining Myers-Briggs

Type Indicator (MBTI) dimensions on the dependent variable showed none of these scales significantly affecting differences in Identification of Feelings Exercise scores for Sensors and Intuitors. The conclusion has been drawn, therefore, that the selection of the Sensing-Intuition scale for consideration in the current study was, at least among MBTI scales, an entirely appropriate choice. The Thinking-Feeling scale, at face value an important dimension of consideration for a study of this type, did not interfere with examination of Sensing-Intuition scores as one might have expected.

The significant difference in scores between males and females tends to support stereotyped beliefs that women are more perceptive of others' feelings than men. Curiously, however, the main source of differentiation between the two was on the overt rather than the covert scale. The ratio between Sensing and Intuition for women ($S = 40$, $N = 44$) was similar to the over-all ratio ($S = 68$, $N = 71$). Therefore, type differences did not account for the higher overt scores among women. This perplexing result deserves further examination in replicative studies with the Identification of Feelings Exercise.

Limitations of the Study

Due to the absence of reported research on the relationship between alternative modes of perception and empathic discrimination, the findings of the present study

appear to break new ground. Some areas of concern have emerged, however.

Self-report instruments for indication of important personality differences must be employed with care. The authors of the Myers-Briggs Type Indicator (MBTI) have been especially cautious by encouraging interpretation of results as "preferences," not as concrete characteristics. Studies such as the current one suggest parameters for understanding the behavioral limits of MBTI scales. If follow-up studies continue to demonstrate links between expressed preference for Intuition and accurate identification of covert feeling messages of others, for example, more certain statements about individuals' MBTI scores could be made. As it is, many of the studies with the MBTI correlate its dimensions with results from other self-report instruments. Thus concrete observable data are lacking for understanding type differences.

The reliability and validity of the Identification of Feelings Exercise (IFE) clearly need further examination. Present reliability estimates are modest at best (.52). With only fifty items, reliability will remain deflated to a certain degree. Increasing the length of the instrument however, would introduce a fatigue factor for subjects.

The testing situation with the Identification of Feelings Exercise (IFE) was only roughly analogous to real-life situations where attention to feelings is required. Subjects were cued to respond at certain moments rather

than allowed to present their perceptions as they received them. This problem in empathy research has been also noted by Aldenbrand (1974). In the IFE procedure subjects were also asked to indicate feelings perceived through multiple-choice options. They were not allowed to employ their own feeling labels except to associate them with one of the five already placed before them. Since each vignette with a new voice and situation followed immediately within six seconds of the ending of the previous one, what has been constructed in the IFE may in many ways be an artificial test of empathy. Such conditions result from the never-ending problem of human research: how to keep the experimental atmosphere realistic while still having an adequate means of collecting data on the variable of consideration. In this light, Campbell & Stanley (1963) have described one threat to external validity as the "reactive effects of experimental arrangements."

One frequent criticism by subjects centered around the presence of only one "positive" feeling category. The important issue from a measurement point of view deals with the balance of multiple choice options. If the difference between positive and negative emotional content is immediately obvious to subjects, then "joy" items on the Identification of Feelings Exercise should have received nearly perfect identification across subjects. The above assumption clearly needs investigation.

In summary, the following recommendations for

refinement of the Identification of Feelings Exercise are suggested:

1. The instrument should be lengthened to improve reliability without producing fatigue for subjects.
2. Subjects should be allowed to use their own feeling labels, which could later be coded by the experimenter into broader classifications.
3. Subjects should be encouraged to record their perception of feelings at their own rate rather than at the rate of the experimenter.
4. A broader selection of feeling categories should be employed in order to balance negative and positive emotional material.

Suggestions for Future Research

As a result of the efforts of the present study, specific directions for follow-up research have emerged. As noted in the previous section, the Identification of Feelings Exercise (IFE) needs further refining. Validation studies with a variety of college major or occupational groups would test the ability of the IFE to identify differences in empathic discrimination that exist across such groups. Item analysis data for each vignette must be examined closely, and new items devised which measure more reliably the constructs of overt and covert feeling expression. Although internal consistency estimates seem more appropriate for measuring reliability for the IFE instrument, test-retest data would additionally identify the level of stability over time of empathic discrimination.

The method of data collection on the Identification of Feelings Exercise (IFE) deserves special attention. The number of multiple choice options might be expanded. Tests should be run on the distribution of answers per feeling category for a given group of subjects. Davitz (1964) has suggested that some emotions are easily confused with others in empathic discrimination. If this is true, the particular feeling categories in conflict should be investigated with regard to multiple choice options on the IFE.

An impressive piece of work has very recently been completed by Carlyn (1976) using the Myers-Briggs Type Indicator (MBTI). In addition to a thorough review of the literature on the MBTI, she has made some helpful suggestions for future research. In place of standard analysis of variance procedures, she has encouraged use of phi and tetrachoric correlation coefficients for comparing dichotomous data with MBTI scores, which themselves are often treated as dichotomous. Point-biserial and biserial correlation coefficients were recommended for comparison of dichotomous data with continuous data. The discovery of Carlyn's suggestions at the moment the present study was concluding was disappointing in one respect. On the other hand, her recommendations seem appropriate for replication of the current findings.

Results from the present study have led to the conclusion that Sensing-Intuition preferences in perception may explain differences in the way people perceive feelings

in others. Such findings are important for their contributions to a theoretical understanding of the nature of empathy. The results of the study also suggest that observable and measurable manifestations of the Sensing-Intuition dimension do exist. In the helping professions, attention to Sensing-Intuition differences may be especially instructive. Although there is no evidence to show that empathic discrimination implies interpersonal effectiveness, it seems clear that the initial aspect of accurate identification of feeling messages in others is a crucial function of empathy.

APPENDICES

APPENDIX A

MEMORANDUM PRESENTED TO EDUCATION TEACHING ASSISTANTS

APPENDIX A

MEMORANDUM PRESENTED TO EDUCATION TEACHING ASSISTANTS

TO: Ed 200 TAs
Summer 1976

FROM: John DiTiberio
355-8270

- A. What I need: Groups of individuals who are willing to spend $1\frac{1}{2}$ hours as subjects for my doctoral research.
- (1) Identification of Feelings Exercise: 30 minutes (listening to audiotaped stimulus and indicating on answer sheet the predominant feeling message heard per example)
 - (2) Myers-Briggs Type Indicator: 30-45 minutes (to be completed following Identification of Feelings Exercise)
- B. What I can give in return: An interpretation of Myers-Briggs results which will focus on Self and Other awareness as well as interpersonal issues that relate to teaching/learning situations.
- (1) Awareness of Self: look at one's own tendency to perceive and judge the world in certain preferred ways rather than other ways. Encourage acceptance of Self as legitimate in any case.
 - (2) Awareness of Others: look at others who may be different or similar in their preferred ways of perceiving or judging the world. Encourage acceptance of Others as legitimate in any case whether similar or different from Self.
 - (3) Interpersonal Process: look at interactions with others in light of knowledge of similarities or differences in type preferences. Encourage use of this knowledge less as a source of conflict among individuals and more as a vehicle for appreciating complimentary alternatives in given situations.

- (4) Teaching/Learning Situations: look at relationships between student and teacher in light of type preferences (as well as teacher-teacher, student-student, teacher-administrator, etc.). Report on some research findings on type differences in schools and their effect on learning, performance, satisfaction, etc.
- C. The focus of my research: Strength of Sensing-Intuition Preferences as an Indicator of Differences in Ability to Identify Overt as Opposed to Covert Affective Messages in Others.

APPENDIX B

ANALYSIS OF VARIANCE:

SOURCE OF SUBJECTS AND THREE

MYERS-BRIGGS TYPE INDICATOR DIMENSIONS

APPENDIX B

ANALYSIS OF VARIANCE:

SOURCE OF SUBJECTS AND THREE

MYERS-BRIGGS TYPE INDICATOR DIMENSIONS

Table B.1 Analysis of Variance Examining Differences Among Sources of Subjects by Continuous Extraversion-Introversion (E-I) Scores.

	N	E-I Mean	Standard Deviation	F Ratio	F Proba- bility
Dorm [@]	51	102.75	28.37		
RA [@]	23	84.39	27.68	4.013	.020*
Ed [@]	<u>65</u>	<u>93.98</u>	24.57		
Total:	139	95.61			

[@]Dorm = Dormitory, RA = Resident Assistant, Ed = Education

* Significant at the .05 level

APPENDIX B (continued)

Table B.2 Analysis of Variance Examining Differences Among Sources of Subjects by Continuous Thinking-Feeling (T-F) Scores.

	N	T-F Mean	Standard Deviation	F Ratio	F Prob- ability
Dorm [@]	51	106.09	23.14	1.060	.349
RA [@]	23	112.22	18.28		
Ed [@]	<u>65</u>	<u>111.03</u>	19.49		
Total: 139		109.41			

[@]Dorm = Dormitory, RA = Resident Assistant, Ed = Education

Table B.3 Analysis of Variance Examining Differences Among Sources of Subjects by Continuous Judging-Perceiving (J-P) Scores.

	N	J-P Mean	Standard Deviation	F Ratio	F Prob- ability
Dorm [@]	51	97.86	23.90	.401	.670
RA [@]	23	93.08	28.29		
Ed [@]	<u>65</u>	<u>98.66</u>	26.70		
Total: 139		97.47			

[@]Dorm = Dormitory, RA = Resident Assistant, Ed = Education

APPENDIX C

MYERS-BRIGGS TYPE INDICATOR

DATA ON FINAL SAMPLE

APPENDIX C

MYERS-BRIGGS TYPE INDICATOR DATA ON FINAL SAMPLE

Table C.1 Myers-Briggs Type Indicator: Type Distribution on Final Sample: Summer 1976

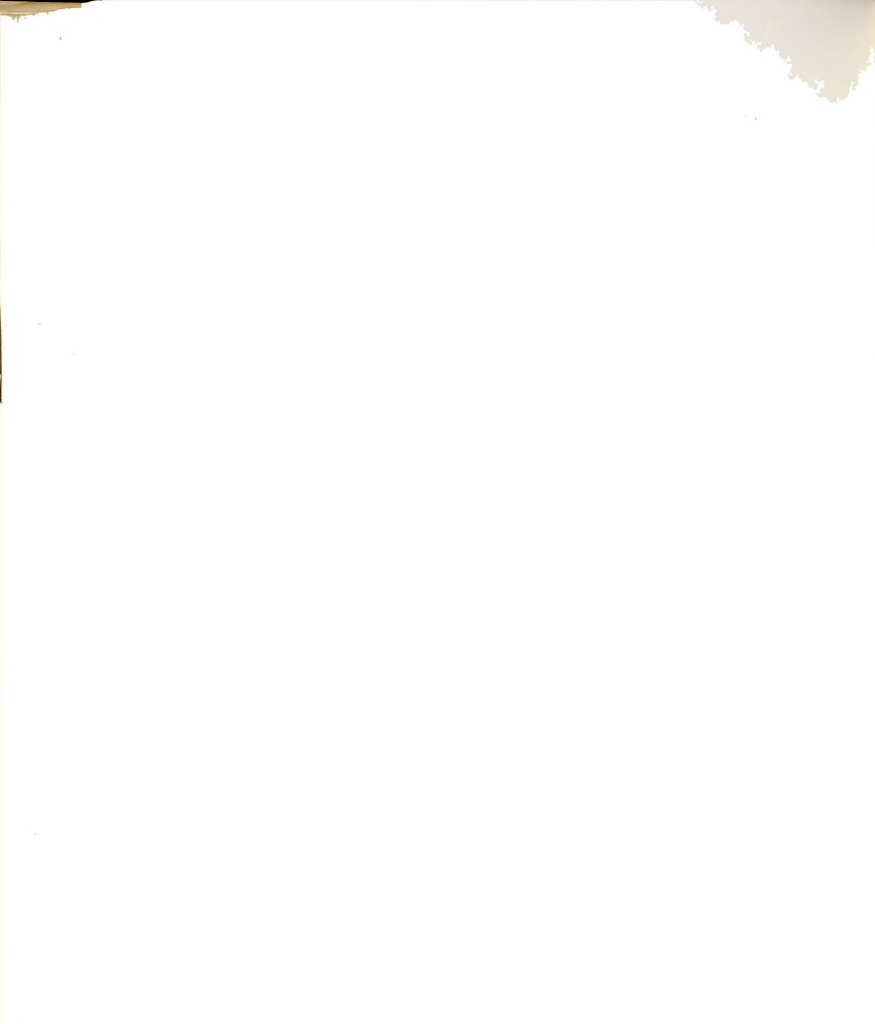
SENSING TYPES		INTUITIVE TYPES			
with THINKING	with FEELING	with FEELING	with THINKING		
ISTJ	ISFJ	INFJ	INTJ	JUDGING	E 84
N = 4 % = 3 XXX 0	N = 11 % = 8 XXXXXXXXX	N = 9 % = 6 XXXXXXX	N = 5 % = 4 XXX 00		I 55
ISTP	ISFP	INFP	INTP	PERCEPTIVE	S 68
N = 4 % = 3 X 000	N = 5 % = 4 XX 000	N = 15 % = 11 XXXXXXXXX XXX 00000	N = 2 % = 1 00		N 71
ESTP	ESFP	ENFP	ENTP	EXTRAVERTS	T 43
N = 2 % = 1 X 0	N = 10 % = 7 XXXXXXXXX X 00	N = 16 % = 12 XXXXXXXXX XXX 000000	N = 5 % = 4 XXX 00		F 96
ESTJ	ESFJ	ENFJ	ENTJ	JUDGING	J 80
N = 17 % = 12 XXXXXXXXX XX 0000000 0	N = 15 % = 11 XXXXXXXXX XXX 00000	N = 15 % = 11 XXXXXXXXX XX 000000	N = 4 % = 3 XX 00		P 59
					IJ 29
					IP 26
					EP 33
					EJ 51
					ST 27
					SF 41
					NF 55
					NT 16
					SJ 47
					SP 21
					NP 38
					NJ 33
					TJ 30
					TP 13
					FP 46
					FJ 50
					IN 31
					EN 40
					IS 24
					ES 44

NOTES: Total: 139
X = Females (84)
0 = Males (55)

APPENDIX C (continued)

Table C.2 Mean Continuous Scores for the Final Sample
on the Three Covariate Dimensions: N = 139.

	E-I	T-F	J-P
Sensors (S)	92.81	106.0	87.74
Intuitors (N)	98.30	112.7	106.70
Exceptional (E)	93.77	109.7	93.92
Moderate (M)	96.33	109.3	98.82
ES	90.62	104.5	80.05
MS	93.79	106.7	91.17
MN	98.58	111.6	105.60
EN	97.44	115.6	110.11



APPENDIX D

INSTRUCTION SHEET FOR

IDENTIFICATION OF FEELINGS EXERCISE

APPENDIX D
INSTRUCTION SHEET FOR
IDENTIFICATION OF FEELINGS EXERCISE

Your answers in this exercise will be used along with data from other individuals exclusively for the purpose of a research project. When student numbers or other identifying data are asked for, they will be used only in the initial process of sorting out information into understandable groups. Beyond this, all data that you give will be employed strictly anonymously, and in no way will the identities of the participants or their answers or scores be divulged.

If you have any questions or comments with regard to this project and its purposes, do not hesitate to contact or call:

John DiTiberio
207 Student Services
355-8270

General Directions: You will be listening to a series of taped statements of expression of feelings. For each person you hear, fill in on your answer sheet the letter of the feeling category below that includes the predominant feeling the person seems to you to be experiencing while you listen to him or her.

(A) Contempt/ (B) Distress (C) Joy (D) Fear (E) Anger
Disgust

Answer every item, even if it is difficult to decide on the feeling involved. Mark only one letter for each item however.

APPENDIX E

ANSWER FORM FOR DESCRIPTIVE DATA ON THE SAMPLE

APPENDIX E

ANSWER FORM FOR DESCRIPTIVE DATA ON THE SAMPLE

I agree that my answers on these exercises may be used in comparison with scores from my Myers-Briggs Type Indicator results for the purposes of research. My agreement is based on the stipulation that all information will be used strictly anonymously.

Signature_____

Interpersonal Skills Training: last 12 months (focus on feelings)

Yes

No

Counseling: last 12 months (8 or more regular sessions)

Yes

No



APPENDIX F

INSTRUCTION SHEET FOR

THE MYERS-BRIGGS TYPE INDICATOR

APPENDIX F
INSTRUCTION SHEET FOR
THE MYERS-BRIGGS TYPE INDICATOR

Each individual should have a computer-scored answer sheet and a Myers-Briggs booklet. When they are returned, the booklets should be put in numerical order so as to keep track of each one.

(A) THE ANSWER SHEETS are not used in exactly the way you may be accustomed to, so read carefully the following:

1. Use a soft (#2) pencil only. Do not use pen. When you change an answer, erase the old one completely. Do not write in the booklets.
2. On the top of the answer sheet, fill and code in your last and first names in the boxes provided. You will see a place to print each letter of your name, below which is a column for the letter to be coded.
3. Do not code in your middle initial. In this box, code in either M or F for your sex. Do not use the box marked "sex" for this purpose.
4. Fill and code in your student number in the space provided.
5. Leave all other information boxes blank. The only ones to be filled in therefore are your first and last names, your sex (in the middle initial column) and your student number.

(B) DIRECTIONS FOR TAKING THE MYERS-BRIGGS are pretty clearly presented on the first page of the booklet. But keep these additional things in mind:

1. Complete the Myers-Briggs all at one sitting.
2. Even though there is no time limit, answer each item as fast as possible, and move to the next item if more than a few seconds pass before you can think of your answer.
3. Plan 30-45 minutes of time to be sure you can complete it all at one sitting. You may find that you finish in less time than this if you move quickly through the items.



APPENDIX F (continued)

4. Do not talk about any of the items with anyone until after you are completely finished.
5. If you are confused about an item, the general rule is to respond in the best way you can based on your understanding of the item.

APPENDIX G

INSTRUCTION SHEET FOR RATERS OF THE
IDENTIFICATION OF FEELINGS EXERCISE

CORRECT ANSWER KEY

APPENDIX G

INSTRUCTION SHEET FOR RATERS OF THE
IDENTIFICATION OF FEELINGS EXERCISE
CORRECT ANSWER KEY

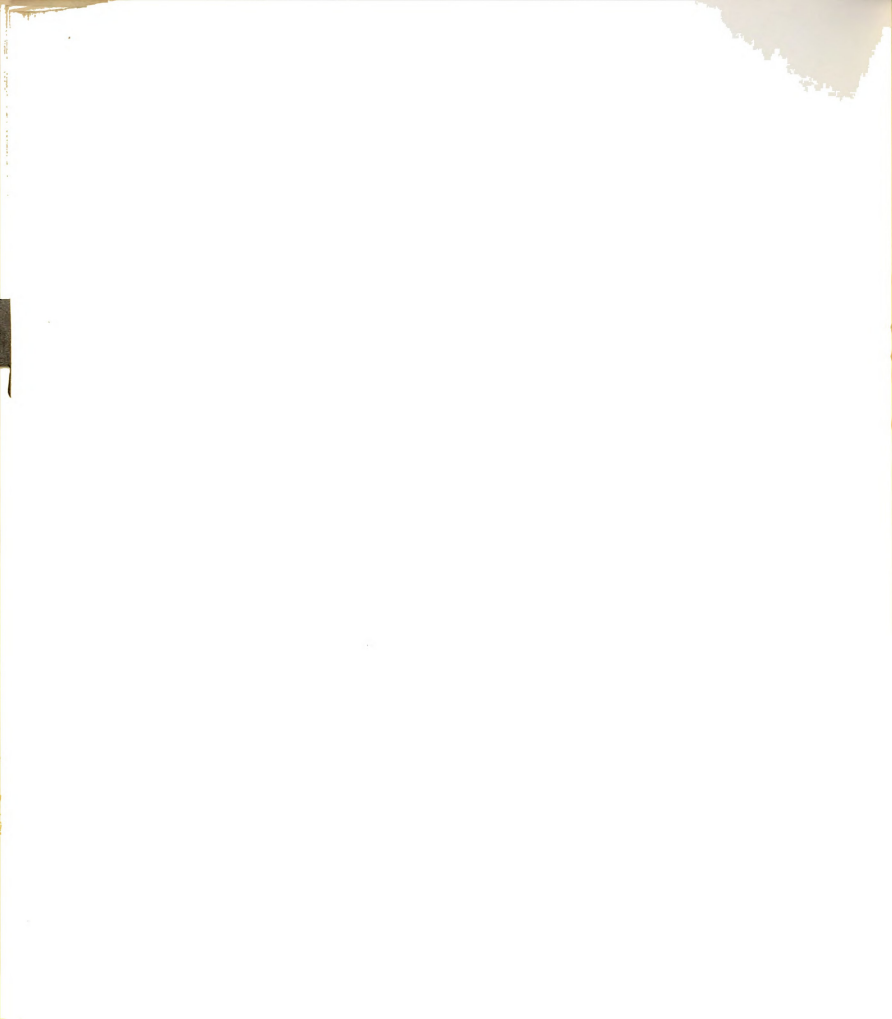
You have been asked to serve as a rater for a preliminary screening and validation of a series of audiotape segments. The results of this process will lead toward use of the tapes with subjects in a doctoral research project.

1. In the exercise involved you will hear simulated presentations of personal experiences. One individual will be speaking in each example to a hypothetical other individual. A lot of the items are similar in nature to concerns presented at crisis intervention centers, such as drug or pregnancy related problems. Many others however are more casual statements of experience which might be heard outside of a counseling situation.

Your task while listening to each example is to identify the predominant current feeling the person seems to you to be experiencing. Since human feelings are so diverse, we have chosen to simplify this exercise by using several groupings or categories of feelings as a means of recording your answers.

2. Categories of Feelings. Among the thousands of words that people use to describe feelings or emotions, some words in particular serve as feeling word labels, such as happy, sad, angry, hurt, elated, etc. From studies that have been done on categories of basic human emotions, we have selected five groupings for use in this study: Contempt/Disgust, Distress, Joy, Fear and Anger. There are, of course, other categories of feeling, but the examples and items that you will be hearing on tape have been developed with the intention of representing one of these five groupings only. For a description of each category, refer to the list of "Feeling Categories."

3. Directions. In each of the examples of this exercise, the person speaking on the tape will be expressing a feeling that falls within one of the five categories on the list of



APPENDIX G (continued)

"Feeling Categories." Your task is to listen to each example, decide which of the categories includes the current predominant feeling of the person on the tape, and then to indicate your choice by filling in the appropriate letter on the answer sheet corresponding to the feeling category you have chosen.

You may hear more than one feeling being expressed in a single example, but you should still decide which feeling is the predominant one for the person as he speaks. Give only one answer per item.

Be sure to answer every item, even if it is difficult to decide on the feeling involved. You will hear each example only once, but will be given a short period of time between items to identify the feeling and to record your answer. (LISTEN TO EXAMPLES)

4. Different kinds of messages: Overt and Covert. Some statements quite clearly give an indication of the feelings involved, while others are either less clear or give conflicting messages. During this exercise, it is important to discriminate the particular cue that identifies the predominant current feeling from other cues that may be distracting.

For example, the overt message and the feeling word labels used by the individual may be decoys, with the actual current predominant feeling being indicated by more subtle cues such as tone of voice. On the other hand, these inferential cues and more subtle covert messages may at times be decoys themselves, or they may furnish no clear indication of feeling. In this case, the literal statement of the person might be the primary cue. In still other situations, there may be conflicting or contradictory messages given, either overt, covert or both.

Furthermore, it is important to examine certain emotional labels which could indicate either of two possible feeling categories, and by themselves are only general statements of feelings. "Bothered," for example, could be an indication of Distress, Anger or Fear, depending on the context.

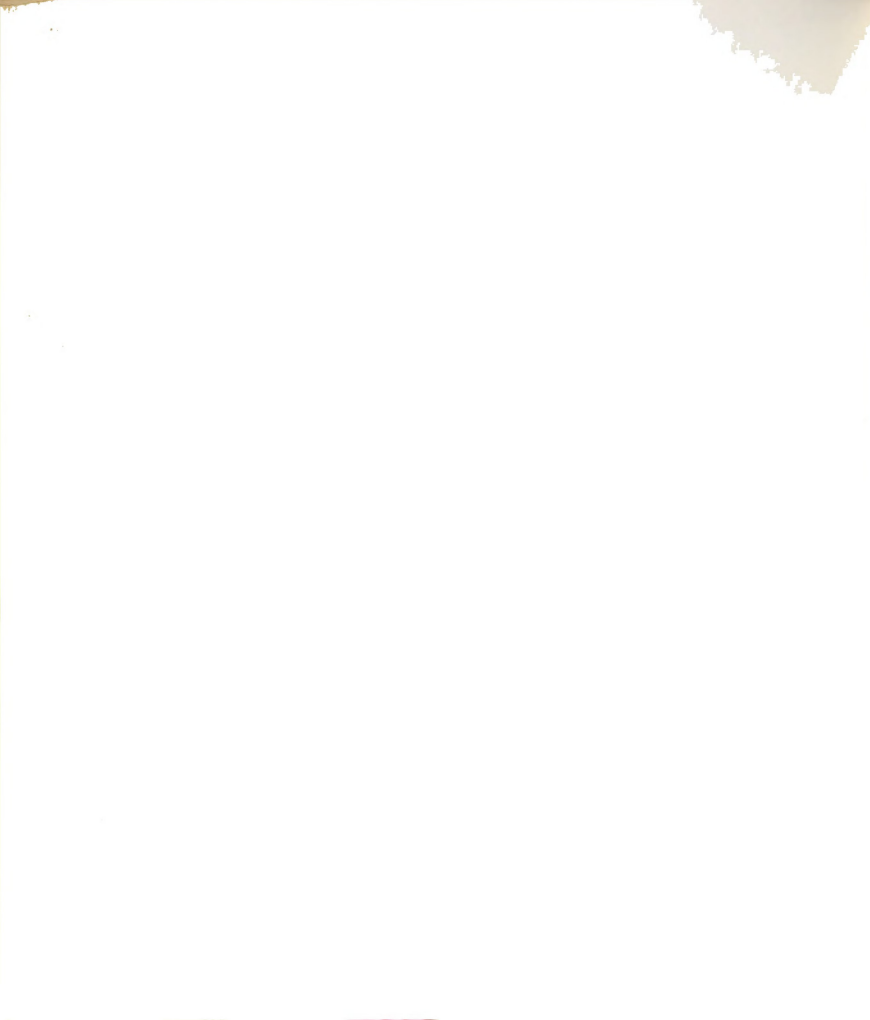
Whatever the case, your task in listening to the tapes is still the same. You are to identify the current predominant feeling of the person speaking. Since you have no other information about each person other than that provided in each short segment, the focus of your attention necessarily must be on the person's immediate expression of emotional experience.

APPENDIX G (continued)

(LISTEN TO SECOND SET OF EXAMPLES)

FEELING CATEGORIES

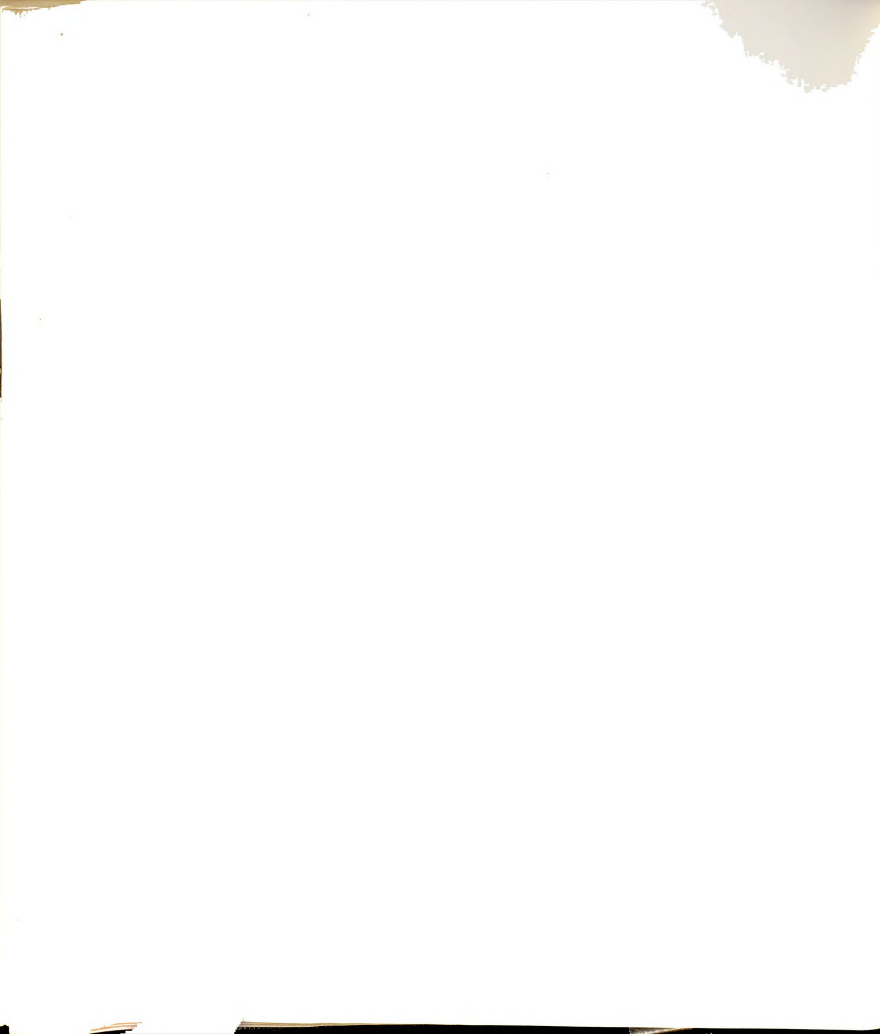
- (A) Contempt/Disgust as a category includes feelings that make one want to reject or expel an object of displeasure, either physically (by spitting or vomiting) or psychologically (by putting distance between oneself and the object). It expresses an aversion to ideas, things or people, and involves condescension, or looking down on the object. Feeling word labels that fall into this category include: repulsed, spiteful, disdainful, condemning, disgusted, revolted, skeptical, contemptful.
- (B) Distress as a category includes feelings that communicate a loss of some sort, either of a loved one, of health, of self-esteem, or of anything important to the person. A sense of deprivation and often a need for comfort or help is associated with this group of feelings, which tend to be more prolonged in duration than others. Feeling word labels that fall into the category include: anguished, sad, sorrowful, lonely, hurt, rejected, grieving, despairing.
- (C) Joy as a category includes feelings that are positive in a rewarding way, and often such feelings bring people together in warmth. This may be stimulated by the onset of positive stimuli or likewise by the cessation of negative stimuli. Feeling word labels that fall into the category include: happy, cheerful, proud, relieved, elated, ecstatic, inspired, pleased, jubilant.
- (D) Fear as a category includes feelings that express a desire to withdraw, to flee or to protect oneself. These feelings usually have an inhibiting effect on one's behavior, and result in hesitation, avoidance or sometimes immobilization. Feeling word labels that fall into this category include: scared, apprehensive, timid, terrified, afraid, frightened, panicked, hesitant.
- (E) Anger as a category includes feelings that mobilize one's resources for confrontation with some disturbing



APPENDIX G (continued)

element in the environment. This may be stimulated by frustration, a physical threat, a psychological hurt, a violation of one's values or a failure of fulfillment of expectations. Feeling word labels that fall into this category include: irritated, mad, annoyed, furious, resentful, enraged, hostile, perturbed.

Example One	(A)	(B)	(C)	(D)	(E)
Example Two	(A)	(B)	(C)	(D)	(E)
Example Three	(A)	(B)	(C)	(D)	(E)
Example Four	(A)	(B)	(C)	(D)	(E)
Example Five	(A)	(B)	(C)	(D)	(E)
Example Six	(A)	(B)	(C)	(D)	(E)
Example Seven	(A)	(B)	(C)	(D)	(E)
Example Eight	(A)	(B)	(C)	(D)	(E)



APPENDIX H

INSTRUCTION SHEET FOR RATERS USING THE "SCALE
OF OVERT OR COVERT DISCLOSURE OF FEELING"

APPENDIX H

INSTRUCTION SHEET FOR RATERS USING THE "SCALE OF OVERT OR COVERT DISCLOSURE OF FEELING"

You have been asked to serve as a rater for a preliminary screening and validation of a series of audio-tape segments. The results of this process will lead toward use of the tapes with subjects in a doctoral research project.

(1) In the exercise involved you will hear simulated presentations of personal experiences. One individual will be speaking in each example to a hypothetical other individual. A lot of the items are similar in content to concerns presented at crisis intervention centers, such as drug or pregnancy related problems. Many others however are more casual statements of experience which might be heard outside of a counseling situation.

Your task while listening to each example is to identify the degree to which the speaker's overt verbalized expression indicates the actual current predominant feeling he or she seems to be experiencing. In order to record your assessment of this level of overt expression, we have chosen to use a four-level scale to describe these degrees of verbal explicitness.

(2) Different kinds of messages: Overt and Covert. Some statements of experience quite clearly give an indication of the feelings involved, while others are either less clear or give conflicting messages. Nevertheless, every statement has an overt message, including the literal meaning of the words used to describe the experience. There are cases where a feeling can be very explicitly expressed by words without the use of particular labels that we associate directly with feelings. But much of the focus of this exercise will be on the degree to which the speaker's use of feeling word labels (such as happy, sad, hurt, angry, afraid, etc.) is congruent with what seems to be his current predominant feeling.

Every statement also has a covert message, including tone of voice, deeper implication of the words used, and other subtle cues. These covert messages may or may not be

APPENDIX H (continued)

congruent with the overt verbalization, and thus it is important to listen closely to each set of cues in order to identify the actual feeling. As stated previously, your task here is to indicate the degree to which overt cues in each example are congruent with the current predominant feeling such that they alone could give an accurate presentation of the feeling of the person in question. The vehicle for determining the degree of this congruence is the "Scale of Overt or Covert Disclosure of Feeling."

(3) Summary of directions. In each of the examples on the tape, the person will be expressing feelings that may vary in degree of overtness from the beginning of the statement to the end. Nevertheless your task is to decide the appropriate level for the statement as a whole.

Although in reality it is difficult to find statements that have only one feeling associated, the examples in this exercise have been developed with the intention of presenting expressions where one predominant feeling can be identified, even where there are more feelings involved in addition to the predominant.

Since you have no other information about each person than that provided in each short segment, the focus of your attention necessarily must be on the person's immediate expression of emotional experience.

Indicate your rating of the level of overt expression by filling in either a 1, 2, 3, or 4 on your answer sheet. Leave #5 blank on every case, even though this option is also listed on the answer sheet.

Answer every item, even if it is difficult to decide on the level involved. You will hear each item only once, but you will be given a short period of time between items to identify your answer and to record it.

(LISTEN TO EXAMPLES)

APPENDIX H (continued)

SCALE OF OVERT OR COVERT DISCLOSURE OF FEELING

LEVEL 1 - CLEARLY COVERT. The words used by the speaker clearly distract from what seems to be the current predominant feeling he is experiencing. Indication of the speaker's feeling comes only from more subtle cues such as tone of voice or deeper implications of the way words, including feeling word labels, are used. The speaker's outward statement clearly either denies his feeling or projects it onto others or away from the present. If one chose to listen only to the words stated by the speaker, these alone would clearly not give an indication of the actual current predominant feeling which that person seems to be experiencing.

LEVEL 2 - SOMEWHAT COVERT. The words used by the speaker tend somewhat to distract from what seems to be the current predominant feeling he is experiencing. Indication of the speaker's feeling comes considerably from more subtle cues such as tone of voice or deeper implications of the way words, including feeling word labels, are used. The speaker's outward statement tends to describe his experience in situational terms, either very hesitantly dealing with feelings or using them facetiously in such a way as to distract attention away from the actual current emotional experience. If one chose to listen only to the words stated by the speaker, these alone would give only a hint of the actual current predominant feeling which that person seems to be experiencing.

LEVEL 3 - SOMEWHAT OVERT. The words used by the speaker tend somewhat to be congruent with what seems to be the current predominant feeling he is experiencing. Indication of the speaker's feeling comes considerably from verbalized cues, such as feeling word labels, however the labels may be unspecific or unclear, there may be conflicts between different feeling labels, and in general it is necessary to attend to more subtle cues such as tone of voice or deeper implications of the way words are used in order to identify the actual predominant feeling. If one chose to listen only to the words stated by the speaker, these alone would give some indication of the actual current

APPENDIX H (continued)

predominant feeling which that person seems to be experiencing.

LEVEL 4 - CLEARLY OVERT. The words used by the speaker are clearly congruent with what seems to be the current predominant feeling he is experiencing. The words also specifically identify that feeling by use of feeling word labels. Indication of the speaker's feeling comes primarily from verbalized cues. More subtle cues such as tone of voice or deeper implications of the way words are used provide no message about the speaker's feelings that is not also provided by his words. If one chose to listen only to the words stated by the speaker, these alone would give a clear and accurate indication of the actual current predominant feeling which that person seems to be experiencing.

Example One	1	2	3	4
Example Two	1	2	3	4
Example Three	1	2	3	4
Example Four	1	2	3	4
Example Five	1	2	3	4
Example Six	1	2	3	4
Example Seven	1	2	3	4
Example Eight	1	2	3	4

APPENDIX I

INTER-RATER RELIABILITY USING THE

"SCALE OF OVERT OR COVERT DISCLOSURE OF FEELING"

APPENDIX I

INTER-RATER RELIABILITY USING THE

"SCALE OF OVERT OR COVERT DISCLOSURE OF FEELING"

N = 5 RATERS N = 100 ITEMS

Rater	Mean Rating Per Item	Standard Deviation	α if Rater Deleted
1	2.53	.989	.8782
2	2.70	1.096	.8481
3	2.64	1.039	.8419
4	2.47	1.209	.8714
5	<u>2.52</u>	<u>1.167</u>	.8484
Total:	2.57	.910	

$\alpha = .8831$

Standard Error = .091

APPENDIX J

TYPE DISTRIBUTION ON PILOT STUDY SAMPLE: SPRING 1976

APPENDIX J

TYPE DISTRIBUTION ON PILOT STUDY SAMPLE: SPRING 1976

SENSING TYPES INTUITIVE TYPES
with THINKING with FEELING with FEELING with THINKING

ISTJ	ISFJ	INFJ	INTJ
N = 3 % = 4 XXX	N = 8 % = 12 XXXXXXX 00	N = 5 % = 8 XXXXXX	N = 1 % = 1 X
ISTP	ISFP	INFP	INTP
N = 1 % = 1 0	N = 4 % = 6 XX 00	N = 4 % = 6 XXXX	N = 0 % = 0
ESTP	ESFP	ENFP	ENTP
N = 1 % = 1 X	N = 4 % = 6 XXX 0	N = 15 % = 22 XXXXXXXX XXXXXXXX 0	N = 2 % = 3 XX
ESTJ	ESFJ	ENFJ	ENTJ
N = 2 % = 3 00	N = 9 % = 13 XXXXXXXX X 0	N = 4 % = 6 XXXX	N = 4 % = 6 XX 00

JUDGING

INTROVERTS

PERCEPTIVE

PERCEPTIVE

EXTRAVERTS

JUDGING

E 41
I 26

S 32
N 35

T 14
F 53

J 36
P 31

IJ 17
IP 9
EP 22
EJ 19

ST 7
SF 25
NF 28
NT 7

SJ 22
SP 10
NP 21
NJ 14

TJ 10
TP 4
FP 27
FJ 26

IN 10
EN 25
IS 16
ES 16

NOTES: Total: 67
X = Females (55)
0 = Males (12)



APPENDIX K
DATA OF RELIABILITY FOR
IDENTIFICATION OF FEELINGS EXERCISE
(FORMS A-1 AND A-2)

APPENDIX K

DATA OF RELIABILITY FOR

IDENTIFICATION OF FEELINGS EXERCISE

(FORMS A-1 AND A-2)

Table K.1 Raw Score Distributions

FORM A-1 N = 43 SCORED ITEMS N = 38 SUBJECTS		FORM A-2 N = 40 SCORED ITEMS N = 29 SUBJECTS	
Raw Score	Frequency	Raw Score	Frequency
39	1	32	1
38	1	31	2
37	1	30	1
36	1	29	3
35	1	28	3
34	3	26	4
33	4	25	6
32	1	24	3
31	9	23	1
30	4	22	1
29	4	21	1
28	3	20	2
27	2	15	1
26	1		
25	1		
23	1		
Mean 31.00		Mean 25.58	
Standard Deviation 3.44		Standard Deviation 3.76	
Variance 11.84		Variance 14.18	

APPENDIX K (continued)

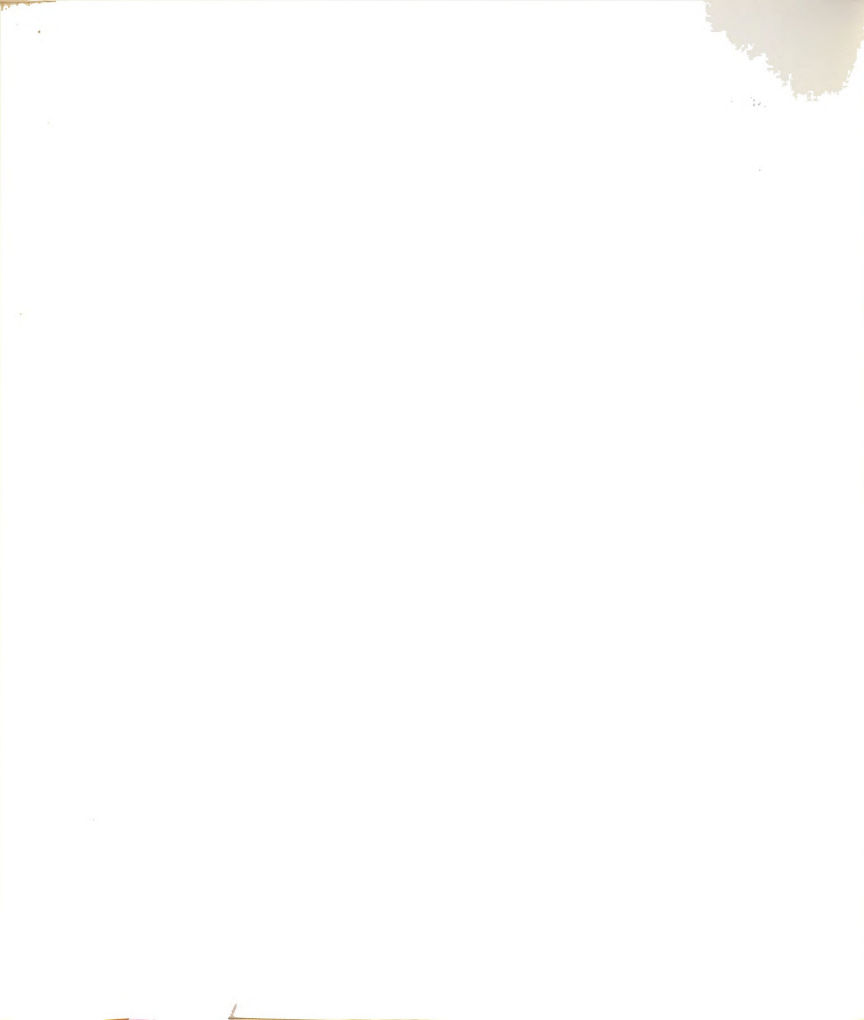
Table K.2 Distribution of Item Difficulty and Discrimination Indices (Form A-1): N = 43 Scored Items.

Item Difficulty Index	Number of Items	Discrimi- nation Index	Number of Items
91-100	--	91-100	--
81-90	--	81-90	--
71-80	2	71-80	--
61-70	3	61-70	--
51-60	3	51-60	1
41-50	1	41-50	--
31-40	9	31-40	7
21-30	7	21-30	8
11-20	8	11-20	9
00-10	10	00-10	16
		Less than 00	2
Mean Item Difficulty		28	
Mean Item Discrimination		19	
Kuder-Richardson Reliability		.4320	
Standard Error of Measurement		2.5925	

APPENDIX K (continued)

Table K.3 Distribution of Item Difficulty and Discrimination Indices (Form A-2): N = 40 Scored Items.

Item Difficulty Index	Number of Items	Discrimi- nation Index	Number of Items
91-100	1	91-100	--
81-90	2	81-90	--
71-80	-	71-80	4
61-70	5	61-70	--
51-60	4	51-60	3
41-50	3	41-50	3
31-40	6	31-40	--
21-30	7	21-30	12
11-20	5	11-20	9
00-10	7	00-10	6
		Less than 00	3
Mean Item Difficulty		36	
Mean Item Discrimination		23	
Kuder-Richardson Reliability		.5438	
Standard Error of Measurement		2.5394	



APPENDIX L
SUMMARY OF ITEM DATA FOR
IDENTIFICATION OF FEELINGS EXERCISE
(FORMS A-1 AND A-2)



APPENDIX L

SUMMARY OF ITEM DATA FOR

IDENTIFICATION OF FEELINGS EXERCISE

(FORMS A-1 AND A-2)

Table L.1 Summary for Form A-1.

Item #	Feeling Ratings (10 Raters)	Average OVCOV (5 Raters)	Item Difficulty (Pilot)	Discrimi- nation Index (Pilot)
1	10B	3.8	5	20
2	10C	3.2	11	10
3	10A	3.8	3	10
4*	9D1B	2.2	13	20
5*	10D	3.6	26	20
6*	9E1A	2.0	74	40
7*	7D3E	2.2	34	10
8	10E	4.0	24	10
9	7C2A1E	1.2	3	10
10	10C	2.6	0	0
11	7D2B1A	1.2	63	-10
12*	9E1A	1.2	68	40
13	10B	2.4	8	20
14	5B4E1A	2.6	--	--
15*	7C1B1D1E	1.8	32	10
16	10D	1.0	18	10
17	9A1E	3.2	11	0
18*	7C2B1A	2.0	24	40
19*	7B3D	3.6	61	30
20*	7B3E	4.0	24	30
21*	9E1A	3.8	18	30
22	10D	3.0	26	20
23	5B4A1E	1.6	--	--
24	9B1E	2.4	5	20
25	9D1E	1.2	34	0
26*	7A3E	1.2	18	10
27*	5D4B1E	2.0	--	--

APPENDIX L (continued)

Table L.1 (continued)

Item #	Feeling Rating (10 Raters)	Average OVCOV (5 Raters)	Item Difficulty (Pilot)	Discrimi- nation Index (Pilot)
28	10C	4.0	0	0
29*	6C4A	1.0	32	0
30*	9D1C	1.2	26	20
31	4C3B3D	1.8	--	--
32	3B3E3D1A	1.4	--	--
33	6A4E	2.8	24	0
34*	10E	3.8	8	30
35	10A	1.4	5	10
36*	10E	4.0	11	30
37*	8D2B	3.8	53	40
38	5D3B2E	2.2	--	--
39*	10B	2.2	34	30
40*	9B1D	3.8	18	40
41*	9D1A	3.0	47	40
42	5B5E	2.0	--	--
43*	8E1A1B	2.8	53	30
44	9A1E	3.2	5	-10
45	6A4E	1.2	71	0
46*	7E3A	1.8	39	60
47	7B2E1D	3.4	39	0
48*	7B3A	2.0	55	30
49*	10B	1.0	37	40
50*	8D2B	3.0	39	20

* = Included in Form B

A = Contempt/Disgust

B = Distress

C = Joy

D = Fear

E = Anger

OVCOV = Overt-Covert Rating

Mean = 2.57

Standard Error = .091



APPENDIX L (continued)

Table L.2 Summary for Form A-2.

Item #	Feeling Rating (10 Raters)	Average OVCOV (5 Raters)	Item Difficulty (Pilot)	Discrimi- nation Index (Pilot)
51*	10D	3.4	28	71
52*	9B1C	1.8	34	28
53*	7E1A1B1D	2.0	97	-14
54	7A3E	3.4	21	0
55*	6E3C1A	1.6	69	57
56	9C1B	3.2	0	0
57	9A1E	1.6	3	14
58	10C	3.2	0	0
59*	8E2A	1.0	41	43
60*	7B2D_E	1.8	34	72
61	5B2A2E1D	2.6	--	--
62	5A4E1B	1.8	--	--
63*	8B2D	3.6	24	28
64	6D4B	3.0	55	29
65	10B	2.6	28	14
66*	7D2B1E	3.0	48	29
67*	10B	3.6	24	29
68	4B3A3D	3.0	--	--
69	5D3A2E	2.2	--	--
70*	8C1A1E	1.4	7	29
71*	9E1B	3.8	45	72
72*	7E2A1B	2.8	90	-43
73	5B3D2E	3.2	--	--
74	7E3A	2.6	14	14
75*	6C3B1A	3.0	90	29
76*	8B2D	3.0	62	71
77	9B1D	2.8	14	15
78	5E3A2B	3.6	--	--
79	5A2D2E1B	3.0	--	--
80	10B	2.8	10	0
81*	10E	2.0	62	28
82*	7A3E	2.8	31	43
83	6B4A	2.6	24	14
84*	10B	4.0	31	57
85	10D	4.0	14	15
86*	8B2E	1.8	59	14
87	8B1C1D	3.0	34	28
88	5B4E1D	2.6	--	--

APPENDIX L (continued)

Table L.2 (continued)

Item #	Feeling Rating (10 Raters)	Average OVCOV (5 Raters)	Item Difficulty (Pilot)	Discrimi- nation Index (Pilot)
89*	8D1B1E	4.0	14	29
90	5A5E	1.6	--	--
91	4A3E1B1C1D	1.6	--	--
92*	7C3D	3.4	10	29
93*	10A	1.4	21	43
94	9C1A	2.8	10	14
95*	7D3B	2.2	69	-57
96*	9A1E	1.2	31	57
97*	7A3E	4.0	66	15
98	6B3D1A	2.0	52	0
99*	6C3A1E	3.0	17	29
100	6B2D2E	2.6	59	0

* = Included in Form B

A = Contempt/Disgust

B = Distress

C = Joy

D = Fear

E = Anger

OVCOV = Overt-Covert Rating

Mean = 2.57

Standard Error = .091

APPENDIX M

SUMMARY OF ITEM DATA FOR

IDENTIFICATION OF FEELINGS EXERCISE

(FORM B)

APPENDIX M

SUMMARY OF ITEM DATA FOR

IDENTIFICATION OF FEELINGS EXERCISE

(FORM B)

Table M.1

Item #	Former Number (Form A)	Correct Feeling	OVCOV	Item Diffi- culty (Final)	Discrimi- nation Index (Final)
1	12	Ang	-	76	3
2	53	Cont	-	81	16
3	92	Joy	+	40	22
4	49	Dist	-	26	24
5	82	Cont	+	47	36
6	84	Dist	+	24	27
7	34	Ang	+	19	19
8	95	Dist	-	35	30
9	59	Ang	-	67	27
10	5	Fear	+	18	19
11	93	Cont	-	40	29
12	60	Dist	-	40	19
13	66	Fear	+	48	11
14	39	Dist	-	50	43
15	29	Joy	-	51	11
16	89	Fear	+	22	27
17	15	Joy	-	44	18
18	6	Ang	-	86	3
19	51	Fear	+	32	3
20	72	Cont	+	44	27
21	63	Dist	+	56	6
22	21	Ang	+	40	19
23	96	Cont	-	60	32
24	41	Fear	+	49	19
25	40	Dist	+	41	19
26	97	Cont	+	40	49
27	67	Dist	+	27	43
28	20	Dist	+	35	27

APPENDIX M (continued)

Table M.1 (continued)

Item #	Former Number (Form A)	Correct Feeling	OVCOV	Item Diffi- culty (Final)	Discrimi- nation Index (Final)
29	46	Ang	-	35	19
30	71	Ang	+	60	37
31	30	Fear	-	40	16
32	75	Joy	+	76	2
33	48	Dist	-	60	11
34	18	Joy	-	36	33
35	27	Fear	-	55	8
36	36	Ang	+	10	8
37	4	Fear	-	33	29
38	99	Joy	+	16	27
39	26	Cont	-	21	16
40	86	Dist	-	18	29
41	37	Fear	+	42	10
42	81	Ang	-	71	19
43	43	Ang	+	62	40
44	55	Ang	-	85	21
45	52	Dist	-	42	8
46	19	Dist	+	72	0
47	7	Fear	-	30	52
48	70	Joy	-	13	25
49	76	Dist	+	37	24
50	50	Fear	+	43	24

Cont = Contempt/Disgust

Dist = Distress

Joy = Joy

Fear = Fear

Ang = Anger

OVCOV = Overt or Covert

+ = Overt

- = Covert

APPENDIX N
DATA OF RELIABILITY FOR
IDENTIFICATION OF FEELINGS EXERCISE
(FORM B)

APPENDIX N
DATA OF RELIABILITY FOR
IDENTIFICATION OF FEELINGS EXERCISE
(FORM B)

Table N.1 Raw Score Distributions: Total N = 139 Subjects.

Total IFE Scores (50 Items)	
Raw Score	Frequency
39	1
38	1
37	1
36	1
35	1
34	7
33	8
32	8
31	17
30	13
29	12
28	15
27	12
26	9
25	9
24	5
23	5
21	1
20	2
19	5
17	3
16	1
15	2

IFE = Identification of Feelings Exercise
Mean = 28.05
Standard Deviation = 4.64
Variance = 21.54

APPENDIX N (continued)

Table N.2 Raw Score Distributions: Overt and Covert.

Form B Overt (25 Items)		Form B Covert (25 Items)	
Raw Score	Frequency	Raw Score	Frequency
20	4	19	2
19	6	18	4
18	19	17	8
17	15	16	11
16	22	15	16
15	19	14	14
14	19	13	30
13	10	12	23
12	6	11	13
11	7	10	4
10	6	9	6
9	4	8	3
8	2	7	2
		6	1
		5	2
Mean = 15.00		Mean = 13.05	
Standard Deviation = 2.77		Standard Deviation = 2.70	
Variance = 7.72		Variance = 7.30	

Table N.3 Distribution of Item Difficulty and Discrimination Indices (Form B): Total N = 50 Items.

Item Difficulty Index	Number of Items	Discrimi- nation Index	Number of Items
91-100	--	91-100	--
81-90	3	81-90	--
71-80	4	71-80	--
61-70	2	61-70	--
51-60	6	51-60	1
41-50	10	41-50	3

APPENDIX N (continued)

Table N.3 (continued)

Item Difficulty Index	Number of Items	Discrimi- nation Index	Number of Items
31-40	13	31-40	5
21-30	6	21-30	16
11-20	5	11-20	15
00-10	1	00-10	10
		Less than 00	--
Mean Item Difficulty		44	
Mean Item Discrimination		21	
Kuder-Richardson Reliability #20		.5231	
Standard Error of Measurement		3.2041	

Table N.4 Distribution of Item Difficulty and Discrimination Indices (Form B): Overt N = 25 Items.

Item Difficulty Index	Number of Items	Discrimi- nation Index	Number of Items
91-100	--	91-100	--
81-90	--	81-90	--
71-80	2	71-80	--
61-70	1	61-70	--
51-60	2	51-60	--
41-50	6	41-50	4
31-40	7	31-40	9
21-30	3	21-30	5
11-20	3	11-20	2
00-10	1	00-10	5
		Less than 00	--
Mean Item Difficulty		40	
Mean Item Discrimination		27	
Kuder-Richardson Reliability #20		.3254	
Standard Error of Measurement		2.2750	

APPENDIX N (continued)

Table N.5 Distribution of Item Difficulty and Discrimination Indices (Form B): Covert N = 25 Items.

Item Difficulty Index	Number of Items	Discrimi- nation Index	Number of Items
91-100	--	91-100	--
81-90	3	81-90	--
71-80	2	71-80	--
61-70	1	61-70	--
51-60	4	51-60	--
41-50	3	41-50	--
31-40	7	31-40	6
21-30	3	21-30	14
11-20	2	11-20	4
00-10	--	00-10	1
		Less than 00	--
Mean Item Difficulty		48	
Mean Item Discrimination		25	
Kuder-Richardson Reliability #20		.3014	
Standard Error of Measurement		2.2566	

APPENDIX O

UNIVARIATE ANALYSIS OF VARIANCE FOR TYPE BY
STRENGTH INTERACTION (SENSING-INTUITION
BY EXCEPTIONAL-MODERATE)

APPENDIX O

UNIVARIATE ANALYSIS OF VARIANCE FOR TYPE BY
STRENGTH INTERACTION (SENSING-INTUITION
BY EXCEPTIONAL-MODERATE) N = 139

Table O.1

	N	Mean	F Value	p<
Total:				
ES	21	28.57	1.6853	.1965
MS	47	26.51		
EN	18	28.61		
MN	53	28.81		
Overt:				
ES	21	15.09	1.0318	.3116
MS	47	14.28		
EN	18	15.00		
MN	53	15.28		
Covert:				
ES	21	13.48	1.3395	.2492
MS	47	12.23		
EN	18	13.61		
MN	53	13.53		

ES = Exceptional Sensing
MS = Moderate Sensing
EN = Exceptional Intuition
MN = Moderate Intuition

APPENDIX P

REGRESSION ANALYSIS DATA

OF EXTRAVERSION-INTROVERSION, THINKING-FEELING
AND JUDGING-PERCEIVING ON THE DEPENDENT VARIABLE

APPENDIX P

REGRESSION ANALYSIS DATA

OF EXTRAVERSION-INTROVERSION, THINKING-FEELING AND JUDGING-PERCEIVING ON THE DEPENDENT VARIABLE

Table P.1 Statistics for Regression Analysis with Three
Covariates: Sum of Scores.

	% Addit. Variab. Acc. for	F Value	df	p<
3 Covariates Together	2.3706	1.0684	3,132	.3649

% Addit. Variab. Acc. for = % Additional Variability
Accounted for

Table P.2 Step-wise Regression to Analyze the Contribution
of Each Independent Variable: Sum of Scores.

	% Addit. Variab. Acc. for	F Value	df	p<
Covariate E-I	1.0642	1.4413	1,134	.2321
Covariate T-F	.2877	.3879	1,133	.5345
Covariate J-P	1.0187	1.3774	1,132	.2427

% Addit. Variab. Acc. for = % Additional Variability
Accounted for

APPENDIX P (continued)

Table P.3 Statistics for Regression Analysis with Three Covariates: Difference of Scores

	% Addit. Variab. Acc. for	F Value	df	p<
3 Covariates Together	1.9699	.8842	3,132	.4512

% Addit. Variab. Acc. for = % Additional Variability
Accounted for

Table P.4 Step-wise Regression to Analyze the Contribution of Each Independent Variable: Difference of Scores.

	% Addit. Variab. Acc. for	F Value	df	p<
Covariate E-I	.5584	.7525	1,134	.3873
Covariate T-F	.7212	.9716	1,133	.3261
Covariate J-P	.6903	.9295	1,132	.3368

% Addit. Variab. Acc. for = % Additional Variability
Accounted for



APPENDIX P (continued)

Table P.5 Statistics for Regression Analysis with Three Covariates: Overt Scale.

	% Addit. Variab. Acc. for	F Value	df	p<
3 Covariates Together	2.5295	1.1418	3,132	.3347

% Addit. Variab. Acc. for = % Additional Variability
Accounted for

Table P.6 Step-wise Regression to Analyze the Contribution of Each Independent Variable: Overt Scale.

	% Addit Variab. Acc. for	F Value	df	p<
Covariate E-I	.1863	.2501	1,134	.6179
Covariate T-F	.7770	1.0435	1,133	.3089
Covariate J-P	1.5662	2.1210	1,132	.1477

% Addit. Variab. Acc. for = % Additional Variability
Accounted for

APPENDIX P (continued)

Table P.7 Statistics for Regression Analysis with Three Covariates: Covert Scale.

	% Addit. Variab. Acc. for	F Value	df	p<
3 Covariates Together	1.9195	.8611	3,132	.4632

% Addit. Variab. Acc. for = % Additional Variability
Accounted for

Table P.8 Step-wise Regression to Analyze the Contribution of Each Independent Variable: Covert Scale.

	% Addit. Variab. Acc. for	F Value	df	p<
Covariate E-I	1.7591	2.3995	1,134	.1238
Covariate T-F	.0005	.0006	1,133	.9798
Covariate J-P	.1599	.2152	1,132	.6435

% Addit. Variab. Acc. for = % Additional Variable
Accounted for

APPENDIX Q

DESCRIPTIVE DATA IN RELATION TO SUBJECTS' SCORES
ON THE IDENTIFICATION OF FEELINGS EXERCISE

APPENDIX Q

DESCRIPTIVE DATA IN RELATION TO SUBJECTS' SCORES ON THE IDENTIFICATION OF FEELINGS EXERCISE

Table Q.1 Analysis of Variance Examining Differences in Scores on Identification of Feelings Exercise Among Sources of Subjects

	N	Mean	Standard Deviation	F Ratio	F Prob- ability
<u>Total:</u> Dorm [@]	51	27.2157	5.0053		
RA [@]	23	28.2174	3.7290	.690	.504
Ed [@]	<u>65</u>	<u>28.1692</u>	4.7056		
Total:	139	27.8273			
<u>Overt:</u> Dorm [@]	51	14.7647	3.1597		
RA [@]	23	15.0435	2.7216	.080	.923
Ed [@]	<u>65</u>	<u>14.9077</u>	2.7141		
Total:	139	14.8777			
<u>Covert:</u> Dorm [@]	51	12.8431	2.8098		
RA [@]	23	13.1739	1.8501	.355	.702
Ed [@]	<u>65</u>	<u>13.2615</u>	2.8574		
Total:	139	13.0935			

@ = Dormitory, RA = Resident Assistant, Ed = Education

APPENDIX Q (continued)

Table Q.2 T-tests Examining Effect of Interpersonal Skill Training (IPS) on Differences in Identification of Feelings Exercise Scores

	N	Mean	Standard Deviation	t value	df	2-tail Proba- bility
Total:						
IPS	36	28.42	4.06	.88	137	.381
No IPS	103	27.62	4.86			
Overt:						
IPS	36	14.83	2.37	-.11	137	.915
No IPS	103	14.89	3.03			
Covert:						
IPS	36	13.58	2.38	1.27	137	.205
No IPS	103	12.92	2.78			

APPENDIX Q (continued)

Table Q.3 T-test Examining Effect of Counseling on Differences in Identification of Feelings Exercise Scores

	N	Mean	Standard Deviation	t value	df	2-tail Proba- bility
Total:						
C ₁	7	27.42	4.50	-.23	137	.818
NC ₂	132	27.84	4.69			
Overt:						
C ₁	7	14.14	3.24	-.69	137	.489
NC ₂	132	14.91	2.85			
Covert:						
C ₁	7	13.28	1.89	.19	137	.847
NC ₂	132	13.08	2.73			

¹C = Counseling²NC = No Counseling

1. The first step in the process is to identify the problem or issue that needs to be addressed.

2. The second step is to gather information and data related to the problem.

3. The third step is to analyze the information and data to identify the root cause of the problem.

4. The fourth step is to develop a plan of action to address the problem.

5. The fifth step is to implement the plan of action and monitor the results.

6. The sixth step is to evaluate the results and make adjustments as needed.

7. The seventh step is to document the process and results for future reference.

8. The eighth step is to communicate the results to the relevant stakeholders.

9. The ninth step is to review the process and make improvements as needed.

10. The tenth step is to repeat the process as needed to address ongoing issues.

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