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THE RELATIONSHIP BETWEEN SELF-CONSCIOUSNESS AND
THE INQUIRY PROCESS IN INTERPERSONAL
PROCESS RECALL

by

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A DISSERTATION

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ABSTRACT

This study explored the relationship between self-consciousness, i.e., the tendency to be attentive to the self, in a communication skills training course called Interpersonal Process Recall (IPR). The specific focus was on the basic training experience in IPR that is designed to induce self awareness--the self-inquiry session. The self-inquiry session consisted of one participant (the recaller) watching the playback of a previously recorded interview in the presence of a third person (the inquirer) who facilitated the recaller's self-exploration of reactions to the interview. The general disposition to be attentive to public and private aspects of the self was considered to be a key variable in productive self-inquiry.

A sample of 51 volunteers was drawn from a population of 79 students who enrolled in Education 414 (IPR) at Michigan State University during Spring Term, 1982. These students participated in weekly three-hour class sessions and four two-hour labs over an eight-week term. Each student completed the Self-Consciousness Scale at the third, fifth, and final week of class, audio-recorded a recall session, and rated their general satisfaction with the interview and recall session. These data were used to address four research questions. The first question focused

on the relationship between self-consciousness scale scores and productive self-inquiry, i.e., number of self-inquiry episodes, time spent in self-inquiry and depth of self-exploration during self-inquiry. Pre-lab measures of overall self-consciousness, public self-consciousness and social anxiety correlated negatively with inquiry time, number of inquiry episodes and total interview time. High levels of public self-consciousness and social anxiety were associated with less time in self-inquiry, fewer self-inquiry episodes and a shorter initial interview. The second research question examined pre- and post-lab measures of self-consciousness. No statistically significant results were reported for t-tests. Further analysis using a repeated measures MANOVA to determine change over time for high vs. low self-conscious students yielded no significant findings. The self-awareness inducing properties of the IPR labs did not measurably alter students' basic disposition to self-attend. The recaller-inquirer relationship and productive self-inquiry was the focus of the third research question. A statistically significant positive correlation between the rated recaller-inquirer relationship and an inquiry/interview time ratio was reported. Finally, data were collected on the relationship between the recaller ratings of the interview and recall sessions and productive self-inquiry. A statistically significant relationship was reported for ratings of the recall session and amount of time spent in self inquiry.

A discussion of the results, conclusions and implications for further research was presented.

DEDICATION

To Cyndee

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TABLE OF CONTENTS

	Page
LIST OF TABLES	vii
LIST OF FIGURES.	viii
 Chapter	
I. INTRODUCTION	1
Purpose.	2
Statement of the Problem	3
Need for the Study	5
The Interpersonal Process Recall Model	7
Theoretical Framework.	9
Theoretical Foundations of Interpersonal Process Recall.	9
The Structure and Theory of Self-Inquiry	12
Interpersonal Process Recall and Self- Focused Attention	14
Productive Self-Inquiry.	17
Definition of Terms.	19
Delimitations of the Study	19
Basic Assumptions.	20
Summary and Overview	22
II. REVIEW OF THE LITERATURE	23
Interpersonal Process Recall - Research and Evaluation	23
Research on Training Applications.	24
Acceleration of Client Progress in Psychotherapy	36
Intra-Model Studies.	37
Summary and Discussion	40
Self-Focused Attention - Induced	46
Self-Focused Attention - Dispositional and Induced.	51
Summary and Discussion	51

	Page
III. METHODOLOGY	53
Population.	53
Sample.	53
Education 414 (IPR) Course Format and Lab Procedure	54
Education 414 (IPR) Instructors	55
Physical Setting.	56
Data Collection Procedure	56
Instrumentation	58
Self-Consciousness Scale (SCS).	58
The Wisconsin Relationship Orientation Scale (WROS)	59
Lab Rating Form	59
The Degree of Self-Exploration Scale (DX).	60
Hypotheses.	61
Tape Ratings.	62
Data Analysis and Design.	64
Summary	67
IV. ANALYSIS OF RESULTS	69
Restatement of the Problem.	69
Self-Consciousness and Self-Inquiry Behavior Correlations.	70
The Impact of IPR Labs on Self-Consciousness.	74
Multivariate Analysis	78
Recaller Ratings of the IPR Session	84
Summary	84
V. SUMMARY AND CONCLUSIONS	86
Summary	86
Discussion.	89
Self-Consciousness Scores and IPR Self- Inquiry Behavior	89
The Impact of IPR Labs on Self- Consciousness.	93
Recaller Ratings of the IPR Lab Sessions.	96
Conclusions	99
Implications for Further Research	102

	Page
APPENDICES	108
A. EDUCATION 414 COURSE OUTLINE	108
B. INQUIRER MANUAL: A GUIDE FOR THE INQUIRER'S ROLE IN THE INTERPERSONAL PROCESS RECALL (IPR) METHOD OF INTERPERSONAL COMMUNICATION	109
C. SELF-CONSCIOUSNESS SCALE (SCS)	112
D. WISCONSIN RELATIONSHIP ORIENTATION SCALE (WROS)	113
E. LAB SESSION RATING FORM.	114
F. THE DEPTH OF CLIENT SELF-EXPLORATION SCALE (DX)	115
G. EDUCATION 414 EVALUATION PROJECT CONSENT FORM	117
H. PROJECT INTRODUCTORY LETTER TO STUDENTS.	118
I. PROCEDURE FOR AUDIO RECORDING LAB #2	119
J. AUDIO TAPE RATING FORM: INTERVIEWER RECALL.	120
K. SCS SUBSCALE PEARSON CORRELATIONS.	121
REFERENCES	122

LIST OF TABLES

Table	Page
4.1 Correlation Matrix - Self-Consciousness and Measures of Self-Inquiry Behavior	71
4.2 Analysis of Pre- to Post-Differences on the Self-Consciousness Scale using the t-test for Dependent Means	76
4.3 Analysis of Pre- to Post-Differences on the Private Self-Consciousness Subscale using the t-test for Dependent Means.	76
4.4 Analysis of Pre- to Post-Differences on the Public Self-Consciousness Subscale using the t-test for Dependent Means.	77
4.5 Analysis of Pre- to Post-Differences on the Social Anxiety Subscale using the t-test for Dependent Means	78
4.6 Summary of Multivariate Analysis for High and Low Groups over Three SCS Administrations on Total Self-Consciousness	79
4.7 Summary of Multivariate Analysis for High and Low Groups over Three SCS Administrations on Private Self-Consciousness	80
4.8 Summary of Multivariate Analysis for High and Low Groups over Three SCS Administrations on Public Self-Consciousness.	80
4.9 Summary of Multivariate Analysis for High and Low Groups over Three SCS Administrations on Social Anxiety	80
4.10 Summary of Univariate F-Tests for Social Anxiety	81
4.11 Spearman Correlation Coefficients for the Wisconsin Relationship Orientation Scale (WROS) and Measures of Self-Inquiry	82

Table		Page
4.12	Spearman Correlation Coefficients for Lab Ratings and Measures of Self- Inquiry	83
4.13	SCS Subscale Correlations	121

LIST OF FIGURES

	Page
Figure	
3.1 Summary of Data Collection Procedures	57
3.2 One Group Pretest-Posttest Design	66
3.3 MANOVA Design	66

CHAPTER I

INTRODUCTION

Self-awareness is important in effective communication and essential in professional helping relationships. It includes awareness of one's own private and public behavior. The private domain of the self includes inner sensations, feelings, motives, and fantasies that are observable only by the experiencing person. The public self includes physical appearance and overt behavior that is observable by others as well as oneself. Awareness of private and public behavior during an interaction can be a positive form of self-consciousness or self-focused attention that can contribute to the quality of being with another person. This is particularly true in counseling relationships where it is important to listen to the client and one's own blocks to effective communication with the client. Kell & Mueller (1966) suggest that the counselor's awareness of what is happening in the counseling relationship in and of itself is therapeutic and enables the client to change. Kagan (1980) has developed a training program to help counselors and a variety of other professionals increase their self-awareness through self-study and thus be more effective at positively influencing human

interaction. Individual differences in self-consciousness may have implications for participant involvement in this widely used interpersonal communication skills training program called Interpersonal Process Recall (IPR).

IPR is a training program for influencing human interaction that provides a method for facilitating self-awareness in human interaction (Kagan and Burke, 1976). The central training experience in the model--the inquiry session--is designed to help participants observe and fully examine behavior, thoughts, feelings, intentions, expectations, and images that occur during an interaction. The inquiry session is a complex dyadic interaction with one participant (the recaller) attempting to learn about his/her interpersonal communication style by reviewing an audio/video recorded interaction. A second participant (the inquirer) in the inquiry session helps the subject examine and recall his/her interpersonal processes by asking non-judgmental, non-interpretive questions from a relatively neutral frame of reference. The recaller takes full responsibility for stopping the tape and disclosing whatever s/he chooses. The recaller's awareness of his/her private and public self may be a key variable in the inquiry session. (The specific steps in the inquiry session are described later in this chapter.)

Purpose

The main purpose of this research is to explore the relationship between the recaller variable of

self-consciousness and recaller self-inquiry behavior in the recall session. Do differences in levels of self-consciousness influence subjects' involvement with the basic recall process? Would subjects high in self-consciousness, i.e., the capacity for self-focused attention, be more active in the process since they are accustomed to attending to their own thoughts and feelings? A secondary focus is on the impact of the recall sessions on the disposition of self-consciousness and the relationship between self-inquiry behavior and (1) rated satisfaction with the interpersonal process recall session, and (2) the relationship between the inquirer and recaller.

Statement of the Problem

There is a considerable body of literature supporting the effectiveness of IPR as a method of supervision (Kagan, Krathwohl, et al., 1967; Spivak, 1972), a communication skills training program for undergraduate paraprofessionals (Dendy, 1971), and a procedure for promoting interpersonal effectiveness (Archer and Kagan, 1973). Even with these positive findings and anecdotal reports about the overall effectiveness of the IPR program, there remains considerable difficulty in quantifying the effects of the process, and, therefore, being able to identify with confidence the variables which make IPR an effective training model. As Kagan (1982) has suggested, "The statistically significant findings which have occurred in numerous studies must be

thought of as minimal . . . that which could be measured is not, in all likelihood, all that was learned" (p. 24). He also states that group evaluation in IPR research is very difficult, since individuals are encouraged to learn at their own rate and begin with the interpersonal issues of their choice. Clearly individual differences influence participants' response to the IPR process. Blair and Fretz (1980) and Hartson & Kunce (1973) have provided some supportive evidence for this notion. Also, Cronbach & Snow (1977) have demonstrated the importance of considering individual differences when constructing training programs. Research focused on how specific variables affect the basic training experience in IPR--the inquiry session--may very well provide additional data for further explication of this complex process. Self-consciousness is one such variable.

When applying the IPR method in the early 1960's, Kagan observed that the recaller in self-inquiry would engage in (1) self-evaluation of underlying thoughts and feelings, and (2) evaluation of their own behavior and its impact on the "other" in the recorded interactions. These observations suggest that the IPR process facilitates exploration and learning about two distinct aspects of the self: private and public. Fenigstein, Scheier, and Buss (1975) have developed an instrument to measure self-consciousness, which they define as the consistent tendency of a person to direct attention inward (private self-consciousness) or outward (public self-consciousness). Public and private

self-consciousness refer to a process of self-focused attention, the very process necessary for active participation in the inquiry session. A third component of self-consciousness has been labeled social anxiety, a reaction to the process of public self-focused attention. Individual differences in level of self-consciousness may moderate participants' interpersonal process recall; that is, subjects high in private or public self-consciousness may respond differently to the basic recall experience.

In addition to being a moderator variable, the level of self-consciousness of participants in IPR and the reaction to self-focused attention, i.e., social anxiety, may be influenced by IPR training itself. A major goal of IPR is to foster increased self-awareness in participants. Productive self-awareness can be facilitated by the process of self-focused attention. The recall component of IPR induces the process of self-focused attention, i.e., the tendency to direct attention toward the self. Examining private and public aspects of the self in the recall session is further facilitated by the inquirer who poses questions that direct the recaller's attention in these areas. Subjects with little ability to focus on themselves may develop this capacity through IPR training.

Need for the Study

The IPR training technique is used in undergraduate, graduate, and professional programs of study in the U.S.A.

and many foreign countries. Hundreds of students and professionals in a variety of disciplines complete the IPR training annually. How does the capacity for self-focused attention affect their involvement with the basic recall process in the inquiry sessions?

The IPR model places the majority of the responsibility for learning with the person (the recaller) reviewing a previously recorded interview. Yet there is little research on what variables affect the recaller's ability to engage in the potential learning of the inquiry session. Exploration of participants' individual differences in self-consciousness may provide preliminary evidence to address the question of what people are best suited to respond to the structure of the IPR model. Also, the potential exists for the training to be more efficient if it is shown that high and low self-conscious subjects respond differentially to the recall process. For example, participants might be paired on the basis of their self-consciousness scores to facilitate maximum learning.

Archer and Kagan (1973) have suggested that the recall technique applied during the inquiry session is the most potent component of the entire training model. It is the inquiry session where the subject quite literally "makes inquiry" into what happened in the previously recorded interaction. Kagan (1980) has said that the inquiry session gives participants ". . . an experience of studying themselves in action and an opportunity to come to know

themselves in new ways, in greater depth and detail" (p. 105). The potential for developing increased interpersonal self-awareness is greatest during the inquiry session--the foundational component in the IPR model. Previous investigators have focused primarily on the global impact of the entire model rather than specific components such as the inquiry session. This research proposes to measure the impact of the self-inquiry as a part of the IPR course taught each term at Michigan State University.

The Interpersonal Process Recall Model

The Interpersonal Process Recall technique was originally used by Kagan and Krathwohl, et al. (1967) as a method of supervision and training in graduate counselor education. The basic recall technique applied during the inquiry sessions eventually developed into a five-component model of counselor training with broad applicability. It is more than a skills training program and has been referred to as " . . . a curriculum in human relations" (Brammer and Allman, 1977, p. 3). The components of the model include specific skills to be learned and are sequenced from least to most complex. Kagan (1980) has described the components in the IPR model for the beginning counselor. They include:

1. Elements of Effective Communication - Four verbal response modes--exploratory, listening, affective, and honest labeling--are presented and practiced. These are the most basic elements in skillful communication.
2. Affect Simulation - A series of short stimulus vignettes that convey intense feelings such as anger, fear, sadness, and affection are shown. The actors in the vignettes simulate affect in order to stimulate reactions in the viewer. Participants begin studying their own reactions to emotionally laden encounters.
3. Inquirer Role and Function - An assertive, non-judgmental questioning style emerging out of the inquirer's interest in learning from the recaller's self-observations is taught and practiced. Effective inquirers facilitate recaller exploration of the recorded interaction during the inquiry session.
4. Theoretical Constructs - A conceptual framework for understanding interpersonal styles and behavior is introduced.
5. Recall Sessions - Interactions are videotaped and then reviewed by the recaller in one of three different formats: interviewer, interviewee or mutual (both participants) recall. The inquirer's task is to help the recaller explore the video/audiotaped stimulated experiences of the previous interaction.

This final component of the IPR model is the core of the IPR process. In a sense, the previous four components prepare participants for the recall session although the recall technique has been used alone (Kagan, Krathwohl and Miller, 1963).

Several key assumptions form the theoretical foundation for the IPR model. This will be described in the next section.

Theoretical Framework

The theoretical foundation of the variables selected for study in this research is presented in this four-part section. In the first sub section the basic assumptions of the entire IPR model are described. This is followed by a description of the structure and theory of the inquiry session. The next two sub sections lay out the theoretical threads connecting the construct of self-consciousness and the recall process in the inquiry session. Finally, a rationale is provided for the definition of productive self-inquiry.

Theoretical Foundations of Interpersonal Process Recall

The basic assumption in Interpersonal Process Recall is that people are the best source of knowledge about themselves. In his theory of personality and behavior, Rogers (1951) stated the following related proposition: "The best vantage point for understanding behavior is from the internal frame of reference of the individual himself" (p. 494). In the inquiry session the inquirer helps the recaller explore his/her frame of reference in relation to specific points on the tape-recorded interview. For example, the recaller might stop the tape and comment, "I seem to be avoiding eye contact there, and I look very nervous. I was thinking that what I was saying wasn't making any sense. I sound stupid." The inquirer would attempt to help the recaller explore these reactions further

with a number of "inquirer questions." Implicit in this assumption is the idea that people are inclined toward self-discovery and awareness, and that to see oneself leads to self-evaluation and the potential for change. This potential varies widely among individuals, although there is some empirical support for the hypothesis that there is an initial reaction of self-evaluation to self-focused attention (Wicklund, 1978). Video-tape playback provides a powerful stimulus for self-focused attention.

A second assumption in the IPR model is that all people act as naive psychologists with implicit theories of interpersonal behavior. Simply stated, most people have ideas about what they and other people are like without studying psychology. Wegner and Vallacher (1977) point out that "commonsense theories of psychology" are not particularly novel, and have been discussed by influential psychologists and philosophers such as George Kelly (1955), Alfred Schutz (1932) and Fritz Heider (1958). Heider suggests that " . . . the ordinary person has a great and profound understanding of himself and of other people, which, though unformulated or only vaguely conceived, enables him to interact with others in more or less adaptive ways" (p.2). It is these vaguely conceived theories that are explored and verbalized more fully in the recall sessions. It is assumed that, provided with the proper stimulation, ordinary people are able to explore their own intuitive psychology and how it influences interpersonal relations.

The shortcomings of the "intuitive psychologist" are discussed elsewhere (Ross, 1978).

A third assumption in the model is that the language labeling of interpersonal and intrapersonal processes serves an ordering function. Describing physiological reactions, cognitions, affect and fantasies gives the person a sense of mastery over, not only vague sources of anxiety or fear, but also over sources of joy and happiness. Dollard and Miller (1950) describe the powerful function of language in helping people change feelings and attitudes. Language labeling is a necessary prerequisite to thinking about an emotional response. Language allows people to think about events and behavior. Kagan (1980) has described the process by suggesting that:

Finding labels, finding words for what had been vague thoughts, finding words for what had been pre-language feelings, helps us know ourselves in language. We may be literally informing one part of the brain about the content of another . . . having a language, having words makes our fears more manageable, less frightening. It's almost as if the ferocious wolf, on close examination, is found to be very old and toothless. (p. 103)

Berger and Luckman (1966) describe the process by saying that:

. . . in the face-to-face situation . . . I hear myself as I speak; my own subjective meanings are made objectively and continuously available to me and ipso facto become "more real" to me. . . language makes "more real" my subjectivity not only to my conversation partner but also to myself. (p. 38)

These assumptions have implications for the application of the entire model as well as the inquiry or recall

session. The primary focus of this research is on the inquiry session.

The Structure and Theory of Self Inquiry

The Random House Unabridged Dictionary defines the word inquiry in the following manner: "a seeking for truth, information or knowledge; an investigation, as into an incident; act of inquiring, or seeking information by questioning." This is precisely what happens in productive inquiry sessions in the IPR model. Both participants, the inquirer and recaller are seeking information, investigating the previous interview by questioning. The recaller has full responsibility for stopping the tape and chooses what aspect of the interaction to comment on. The recaller questions him/herself about the previous interaction. The inquirer also poses questions or "leads" to help the recaller fully explore the observations made and to encourage the language labeling of the experiences, feelings, and behaviors that occurred during the session.

The recall technique applied during the inquiry session is one component of the entire IPR model. As noted earlier, it has been used alone and in conjunction with various parts of the model (Dematatis, 1981; Tomory, 1979). This study focuses on interviewer recall as part of the basic IPR course offered to students at Michigan State University. (Appendix A includes an outline of the course.)

The basic steps in interviewer recall proceed as follows: First, a 10-minute interview is video-recorded where the interviewer's task is to help the interviewee explore a concern by using the four elements of effective communication. Second, after the interview is completed, the interviewee leaves the room and the inquirer enters. The inquirer introduces the structure of the inquiry session if the interviewer is not familiar with it. The interviewer (now called the recaller) is encouraged to stop the tape whenever a thought, feeling, reaction, image, etc., that occurred during the interview is recalled with the general goal of self-exploration. Interviewers often comment on the four basic elements of communication learned in the first unit of the IPR course. The inquirer's role (outlined in detail in Appendix B) is to facilitate the recaller's self-exploration by the use of assertive, nonjudgmental probes. Previous research indicates that this process, along with the other IPR training activities, helps the interviewer (recaller) learn the specific communication skills and move toward more effective interpersonal functioning (Archer and Kagan, 1973; Dendy, 1971).

The recall process is based on the assumption that in any interaction much more happens between people than can be acknowledged or discussed. The interpersonal process is rich with meaning that participants typically do not fully explore for a variety of reasons. Videotape replay and the

presence of the inquirer stimulate the recalling and discussion of these interpersonal processes. Most participants are able to engage in the learning by discovery aspects of self-inquiry. They are able to take " . . . the opportunity for 'stepping outside oneself' during or after an interview and examining the session" (Kagan, 1979, p. 477). However, there is some variability in students' ability and interest in talking about what occurred during the interview. The construct of self-focused attention discussed in the next section may be related to these differences.

Interpersonal Process Recall and Self-Focused Attention

The specific technique of interpersonal process recall developed out of efforts to define valid and reliable methods for training counselors.¹ It was and still is an applied technique used most frequently in clinical, field and training settings. The literature of IPR reflects the fact that the concept grew out of applied educational psychology--most of the research focuses on the effect of the technique as a component of the entire training program in applied settings.

¹Interpersonal process recall is a term in the literature that has come to signify both (1) an interpersonal skill training program, and (2) a specific technique that is part of that training program. This discussion uses the second definition of the term.

The construct of self-focused attention has an entirely different origin. It is the core concept in a theory of objective self-awareness developed by Duval and Wicklund (1972) in highly controlled experimental research. The theory holds that a person's attention at any given instant is directed either wholly toward the self, or wholly toward external events. A person in this state of attention will typically discover shortcomings in themselves and experience negative affect. Attention may oscillate between the self and non-self, but cannot focus on both simultaneously. Thus, one may speak of increased or decreased self-focused attention. Wicklund (1978) describes how this process operates in the following manner:

Theoretically, any symbol or reflection of a person will cause a shift of his focus inward, and experimentally we have often used mirrors and tape recordings of the person's voice for this purpose. Not only should symbols of oneself create self-focused attention, but the knowledge of being attended to by others should also create a set toward self-observation. (p. 408)

The applied technique of interpersonal process recall and the theoretical construct of self-focused attention emerge from very different research traditions. The IPR technique has been used as a microscope for studying human interaction. It has been used to study real people in real situations and can be said to have what Brunswik (1947) has termed "ecological validity." The concept of self-focused attention for the most part has been used to predict non-interpersonal behavior in highly contrived situations.

The link between these lies in the assumption that the basic IPR process induces a state of self-focused attention. The videotaped replay of an interaction along with the presence of the inquirer create a powerful set toward self-observation. The theoretical construct of self-focused attention and its measurement open up new possibilities for further understanding of the effect of IPR training.

The concept of self-focused attention is directly related to each of the basic assumptions underlying the IPR technique. First, if we assume that people are the best source of knowledge about themselves, then it follows that their self-reports are important. They know more about the meaning of their interactions than anyone else. The IPR technique enhances subjects' ability to observe themselves in interaction and discuss their observations. It facilitates self-focused attention which allows people to tap their self-knowledge source. There is some evidence suggesting that self-focused individuals are more likely to provide valid self-reports (Pryor, et al, 1977).

Second, if we assume that people have their own "theories of interpersonal behavior," then self-observation and discussion of specific interactions may help them articulate these implicit theories. Each IPR session allows for the possibility of learning about the subject's implicit theory of human behavior.

Third, the very structure of the IPR sessions encourages the subjects to talk about any self-observations

which are made. They can articulate and label the overt and covert behavior of the interaction. This final assumption regarding language labeling is directly related to the next section on productive self-inquiry.

Productive Self-Inquiry

There is a wide range of behavior that may be defined as productive self-inquiry during the basic interpersonal process recall session. For example, one recaller may stop the tape numerous times and, with the help of a skilled inquirer, discuss specific observations in depth; while another may show little reaction to the video-recording, stopping it only a few times. Which person has had the most productive inquiry? Under the basic structure of the IPR model, it is assumed that each has learned at his/her own pace, and it is difficult to say who has "learned more." However, it is possible to ask each student to rate their experience with the process for a subjective reading of what was learned. It is also possible to quantify the learning by recording the time spent in language labeling. Simply recording the number of inquiry episodes and the time spent in dialogue with the inquirer provides a measure of the learning taking place in IPR. However, this is the case only if the language labeling assumption of IPR is accepted as valid. Does talking about thoughts, feelings, fears, expectations actually change them?

Ulrich Neisser (1976) suggests that language surely alters cognitive processes. The act of speaking changes one's thoughts. When the recaller talks about what s/he was thinking or experiencing, the very experience is altered. The argument that observing and talking about thought processes changes them was used to discredit introspection as a tool for studying mental processes in the early history of psychology. Talking about thinking changes the thinking. Dollard and Miller (1950) also note the importance of language in shaping thought and emotion. In a similar manner, perhaps talking about thought and feelings in IPR changes them and can be taken as a measure of productive inquiry.

There is a second way that talking or "language labeling" during the IPR session may provide an index of change. Talking about what was said and what one wanted to say may be a form of behavioral rehearsal, a way of trying out new behavior in the safety of a recall session (Kagan, 1980). For example, students often write that they wish they could have used the basic interviewer responses more effectively. In reviewing the tape they have the opportunity to stop and say what they wanted to say. This happens often.

These two observations--that language changes thought and that talking can provide a basis for behavioral rehearsal form the theoretical rationale for using number and duration of inquiry episodes as a measure of productive inquiry.

Definition of Terms

Special terms used in this research are defined as follows:

1. Self-consciousness - the consistent tendency of a person to direct attention inward or outward.
 - a. Public self-consciousness - the general awareness of the self as a social object that has an effect on others.
 - b. Private self-consciousness - the awareness of one's inner thoughts and feelings.
2. Social anxiety - a reaction to the process of self-focused attention. A feeling of discomfort in the presence of others.
3. Recall session - the time the recaller and inquirer spend reviewing and discussing a video-recorded interview. It includes:
 - a. Inquiry episodes - the time elapsed between stopping and starting the video tape during the recall session. Consists of recaller observations and inquirer probes.
 - b. Self-inquiry - the process whereby the recaller stops the video tape to make observations about his/her thoughts, feelings, actions, appearance, etc.
 - c. Interviewer - the person who previously conducted a 10-minute interview with the goal of learning effective interview behavior and discovering blocks to open communication.
 - d. Recaller - the interviewer becomes the recaller during the recall session.

Delimitations of the Study

The following factors delimit any generalizations that can be made from this study.

1. Data was collected only on the interviewer recall format of IPR. Observations and conclusions may not be

accurate for the two other recall formats, i.e., interviewee and mutual.

2. There was no effort to measure the duration of effects of the IPR sessions. Post-measures were confined to the time period immediately following the sessions.

3. In this study the IPR training model was not compared to any other training method. No generalizations can be made for training approaches other than IPR.

4. Since this was a field research study, no legitimate control group was available. In light of this, results must be viewed as preliminary and exploratory.

5. Students participating in this study were volunteers and presumably motivated to learn about themselves.

Basic Assumptions

The basic assumptions of this study are:

1. The students who participated in this study were no different than other students who enroll in Education 414 each term at Michigan State University.

2. Students' level of self-consciousness, inquiry behavior, and reactions to the IPR technique can be accurately measured.

3. Self-consciousness scale scores of students who enroll in Education 414 are no different than other students of similar age and background.

4. The disposition of self-consciousness influences student behavior in the IPR sessions.

5. The disposition of self-consciousness can change over time.

Research Questions

1. Is there a relationship between pre-course measurement of self-consciousness and IPR self-inquiry behavior in the recall sessions?
 - a. Is there a relationship between private self-consciousness and IPR self-inquiry behavior in the recall sessions?
 - b. Is there a relationship between public self-consciousness and IPR self-inquiry behavior in the recall sessions?
 - c. Is there a relationship between social anxiety and IPR self-inquiry behavior in the recall sessions?
2. Is there a significant difference between pre- and posttest scores on the dimension of self-consciousness following the IPR labs?
 - a. Is there a significant difference between pre- and posttest scores on the dimension of private self-consciousness following the IPR labs?
 - b. Is there a significant difference between pre- and posttest scores on the dimension of public self-consciousness following the IPR labs?
 - c. Is there a significant difference between pre- and posttest scores on the dimension of social anxiety following the IPR labs?
3. Is there a relationship between productive self-inquiry and the relationship between the inquirer and recaller as rated by the recaller?
4. Is there a relationship between recaller ratings of both the interview and recall sessions and IPR self-inquiry behavior?

Summary and Overview

This chapter described both the purpose and need for this study which is to explore the relationship between the disposition of self-consciousness and self-inquiry behavior in the interpersonal process recall technique. Also, the interpersonal process recall model and a theoretical framework for the variables selected for study was described. Finally, specific terms were defined, and delimitations, assumptions, and research questions stated.

Chapter II is made up of two sections focusing on research and evaluation of the IPR model and experiments in self-focused attention respectively. Chapter III contains a description of the population sample, Education 414 (IPR) course format and lab procedure, course instructors, physical setting, data collection procedure, instrumentation, hypotheses and tape ratings. In Chapter IV the data analysis is presented. Chapter V contains a discussion of results, conclusions, implications of this study and recommendations for future research.

CHAPTER II

REVIEW OF THE LITERATURE

Interpersonal process recall and the construct of self-focused attention have been researched extensively in a variety of studies. As noted earlier, this research has emerged out of two distinctly different areas--counseling psychology and experimental social psychology. The integration of these traditions can enrich the theory and practice of interpersonal process recall. In this chapter the IPR and self-focused attention literature will be reviewed in two separate sections.

Interpersonal Process Recall - Research and Evaluation

The impact of the IPR training program has been evaluated in many experimental studies. It has also been reviewed (Lee, 1973) and compared with several other skills training models (Brammer and Allman, 1977). Most studies have been pre-, post-evaluations of the effect of all or major segments of the model. The literature can be roughly categorized into three major areas: (1) research on training applications, in which the impact of the entire model is measured, (2) acceleration of client progress in psychotherapy applications; and (3) intramodel studies. Several

representative studies from each area along with summary statements of relevant research will be cited here.

Research on Training Applications. Kagan, Krathwohl, et al. (1967), report a series of NIMH-supported studies conducted on the early version of the model, which did not include the affect simulation unit nor many of the recall films. Results produced preliminary data validating the efficacy of the recall technique in counselor education and supervision, and the elucidation of specific elements of effective communication leading to the development of the four response modes. In addition to the procedures for counselor education and for accelerating client progress in counseling, several other areas were studied. These include the measurement and characteristics of affective sensitivity, nonverbal behavior and the communication of affect, and studies in teaching-learning strategies. The affective sensitivity scale, further developed by Kagan, Schneider & Werner (1977) has been used to measure post-IPR training gains in numerous studies.

Using the Counselor Verbal Response Scale (CVRS) as a measure of therapist effectiveness, the initial research efforts focused on the validation of effective procedures in counselor education and supervision. One such study (Goldberg, 1967) compared IPR-based supervision with intensive, "traditional," audio-tape supervision. This study provided evidence that the methodology could be used to train counselors. Supervisors were either faculty

members or advanced doctoral students, trained by traditional supervisory methods, who assigned importance to "relationship factors" in client change. Several hours of training in the basic recall process was considered adequate for assigning supervisors to the treatment groups. Both groups of M.A.-degree candidates in counseling were exposed to the same conceptual framework for effective counseling, including the response modes in pre-treatment training.

In traditional supervision, the supervisors observed each of the trainees' interviews through a one-way mirror. This was followed by a one-hour immediate review of the session. An audio-tape recording of the counseling session was used whenever the supervisor or supervisee chose to do so. The IPR training model utilized the basic recall technique, in which the supervisor and student counselors conduct a recall session immediately following the counseling session. This occurred in three phases. In sessions 1 and 2 (phase 1) the counselor (trainee) observed a 15-minute client recall and participated in a 45-minute (counselor) recall. In sessions 3 and 4 (phase 2) the counselor was paired with a colleague, listened to his/her client recall with the colleague serving as inquirer, and then served as inquirer with his/her partner's client. In the final two supervisory sessions (phase 3), the supervisor acted as inquirer for a mutual recall session between counselor and client. Both groups received 10 hours of

supervision over an 8-week period. When the audiotapes were rated (double blind) by independent judges, statistically significant differences in counseling skills, as measured by the CVRS, favoring the IPR groups were found. This pattern of change was consistently observed in each of the three successive academic quarters in which the study was conducted.

Spivak (1970) compared IPR with a classroom approach in teaching basic interviewing skills to M.A. candidates in counseling. With some design modifications, this study replicated the positive results of the Goldberg study in comparing the IPR supervisory technique with a traditional classroom training experience using lectures, demonstrations, tape critiques and discussions. In the coached client situation, the IPR method produced significant differences on the understanding, specific, and exploratory subscales of the CVRS. When role-playing clients were used, significant differences favoring IPR were found on all four CVRS subscales. No significant differences were found on either the Affective Sensitivity Scale (ASS) or Carkhuff's accurate empathy scale.

Grzegorek (1970) compared IPR training methods with a didactic approach that he called "cognitive-intellectual." A group of prison counselors served as trainees. Trainees who used the IPR method made significantly greater gains on the understanding, specific and exploratory subscales of the CVRS and on a measure of empathic understanding. No

significant differences were found in affective sensitivity as measured by the ASS.

Following the early IPR research on the training of counselors, a number of studies were conducted on methods for training paraprofessionals. Scharf (1971) compared an intensified IPR format with a communications skills program to train undergraduate residence-hall advisors. The IPR format included the use of lectures on the facilitative conditions of counseling, tape ratings of pre-recorded helping interactions, helping skills training, role playing, and client, counselor, and mutual recalls. The communication skills program was based on Carkhuff's model of empathy training, discrimination training, role playing, group discussion, and interviewing practice. Both programs were offered for a total of 40 hours over 5 consecutive days. The Affective Sensitivity Scale, the Counselor Verbal Response Scale, and the Carkhuff Empathic Understanding in Interpersonal Processes Scale were used as outcome measures. While the results were inconclusive, Scharf did suggest that the intensified format was not as effective as weekly sessions over time with either model.

Dendy (1971) evaluated a 38-hour IPR training program for residence assistants. The program consisted of two 4-week training phases, 19 hours each. A 3-month period separated the two phases. The 22 RA's in this treatment group were compared with several other groups on the outcome measures employed in the Scharf study. The comparison

group included (1) a group receiving the same training without the affect simulation films, (2) the empathy training groups used by Scharf, and (3) 8 professional counselors at the Michigan State University Counseling Center. Dendy's treatment group was tested before and after each phase of training and showed significant gains in affective sensitivity and interviewing skills. The gains achieved in phase 1 were maintained over the three-month summer recess. When compared with Scharf's groups, significant differences were found on the CVRS favoring Dendy's extended training model. Finally, prior to IPR training there were large differences favoring professional over paraprofessional counselors. Following training, independent judges found no significant differences between these two groups on the outcome measures employed.

In a follow-up study, Archer and Kagan (1973) found that after training, these same undergraduate residence assistants could effectively train fellow students. The peer-instructed students scored significantly higher on measures of affective sensitivity and self-actualization than did other students who participated in an encounter group of similar duration. They also scored higher than a comparable no-treatment control group on these same measures, and on scales given to roommates and peers not in the study. Additionally, they were selected as "people I would be willing to talk to about a personal problem" by dormitory residents who were given lists of potential helpers. In evaluating this study, Kagan (1980) points out

that the students were carefully selected and were all highly motivated, and that the results must be considered in this light.

A recent study by Blair and Fretz (1980) examined pre-medical students' response to two programs of communication skills training: Interpersonal Process Recall and Human Relations Training. Eighty-eight males and 40 females volunteered to participate in one 3-hour orientation session to one of the training models. The subjects were assessed on a variety of personality characteristics before the orientation session. After the session they indicated perceived effectiveness and expected satisfaction for the two programs. As might be expected, both programs were positively evaluated by the subjects, but the IPR training was seen as potentially more effective and satisfying by anxious and defensive students. While this evidence is only suggestive, it points to the possibility that individual differences of participants may influence subjects' perceived effectiveness of IPR and performance on the various training experiences in the model.

Bedell (1976) conducted a study that bears directly on the research outlined in this dissertation. He compared two methods--the "outside" and "self-contained" version--for training students in the inquirer role. He taught two sections of the undergraduate IPR course using the traditional method, i.e., "outside" inquirers (graduate assistants for the course) came into the lab recall sessions

to train students in the inquirer role. These sections were compared with two additional sections where students acted as their own inquirers--the self-contained version. There were no differences in interviewer skill as measured by the Counselor Verbal Response Scale or the Discrimination Index. But the traditional group did report more satisfaction with the lab sessions and made greater gains on the Personal Orientation Inventory. Also an inquirer rating scale designed specifically for this study indicated no differences between the groups in inquirer skill level. This research is relevant here in that Bedell recorded and rated the recall sessions, a procedure used in this study. Apparently, the procedure had no adverse effect on the students in the IPR course.

Acceleration of Client Progress in Psychotherapy.

Kagan and McQuellon (1981) summarized the literature on the use of IPR in the second major area of research--acceleration of client progress in counseling and psychotherapy. The theoretical rationale for the process, like that in training applications, is on the study of self through observation and discussion of interpersonal behavior, and the exploration of concomitant covert processes. Representative experimental research (Hartson and Kuncze, 1973); Schauble, 1970; Tomory, 1979; Van Noord, 1973) and case studies (Kagan, Krathwohl, and Miller, 1963; Kagan, Krathwohl, and Miller, 1963; Kagan, Krathwohl, et al., 1967; Resnikoff, Kagan, and Schauble, 1970) are reviewed here.

Hartson and Kunce (1973) employed a combination of stimulus films, dyadic recall and group recall techniques in assessing the effectiveness of IPR in accelerating group psychotherapy with college students. In six sessions the IPR treatment clients showed significantly higher changes in self-disclosure and "readiness-for-group" behavior, and participated in more therapeutic interchanges than clients in traditional T-groups. However, the T-group clients did show significantly higher satisfaction scores. Differential treatment effects were observed in the separate sample groups. In the low self-esteem, socially inactive subjects (counseling center population) the IPR self-confrontation methods were helpful, while the direct confrontation methods of the T-group had an adverse effect. High self-esteem, socially active subjects (participants in a YMCA social skills training group) demonstrated no treatment differences. The authors concluded that direct confrontation by another person in the T-group method may have an adverse effect on those with inadequate social skills and low self-esteem. IPR videotape self-confrontation may provide a less threatening experience. This study provides evidence supporting the notion that subjects may respond differentially to the IPR technique.

Schauble (1970), Van Noord (1973), and Tomory (1979) conducted similar experimental studies attempting to evaluate the effects of IPR training on accelerating client progress in psychotherapy. All three studies were conducted

with college students in a university counseling center.

Schauble studied the responses to therapy of 12 clients. The IPR treatment, designed to facilitate therapy, included video-tape recall of the client's response to affect stimulation vignettes and recall of actual therapy sessions. When compared with the clients who did not receive the IPR treatment, significant gains were made on three of the five dependent measures used. Schauble concluded that the IPR training had accelerated client growth in therapy on the measures used.

Van Noord (1973) conducted a similar investigation with some design improvements, most notably adopting different outcome measures, increasing the sample size and using more sophisticated data analysis techniques. No significant differences were found between those who received traditional counseling and those who received the IPR treatment on the objective measures, although subjective comments by clients favored the IPR group.

Tomory (1979) built on these studies by introducing flexibility into the treatment design. He allowed therapists to introduce segments of the IPR model when they found it appropriate, with some guidelines; for example, he stipulated that they had to use the various components of the model a certain number of times in order to insure meaningful comparisons. He compared a group of traditionally counseled individuals with clients counseled with IPR plus traditional methods and found no significant differences

on a series of objective measures, even though both clients and therapists alike reported positive feedback on the IPR techniques.

Intensive case studies have generally yielded positive results in the application of recall techniques. However, it should be noted that in each of the case studies cited, variations of the recall process were introduced at different times in the counseling process by expert counselors familiar with IPR techniques. Kagan, Krathwohl and Miller (1963) report the first case study using IPR with a 38-year-old married female complaining of depression and an unsatisfactory marital relationship. She had been in treatment with one of the authors for five months prior to her exposure to one recall session. The client is described as " . . . rationalizing her behavior in long, cognitive monologues . . ." In the procedure utilized, both client and counselor simultaneously viewed the session with different inquirers (called interrogators in the early research) while in separate recall rooms. Any inquirer or recaller could stop the playback, and discuss recalled feelings and elaborate on meanings. Whenever the playback was stopped by one member of either team, it automatically stopped for the other team. The recall session seemed to help stimulate movement through a therapeutic impasse by helping the client recognize her excessive rationalizing, and facilitating affective exploration. Following this procedure, marked progress was noted, culminating in a

successful termination after a total of eight months and approximately twenty sessions.

Resnikoff, Kagan and Schauble (1970) report a case study with a highly intelligent, unmarried, 18-year-old male high school senior suffering from mild to acute psychotic reactions. A single IPR session was introduced at session 12 of a 20-week, twice/week session contract. The authors chose to utilize the IPR intervention when the client showed clear signs of depression in order to ". . . get at the dynamics underlying the depression" (p. 103). The client recall was used with both inquirer and client stopping the tape. The impact of the process was assessed on four broad characteristics of client growth. The client: (1) owns the discomfort--admits the feeling of discomfort and begins to specify the locus of concerns, fears, and discomfort; (2) is committed to change--cooperates rather than resists the efforts designed to help facilitate change; (3) differentiates stimuli--learns to perceive more and more of the external stimuli and reacts to these as discreet rather than stereotyped factors; (4) behaves differently--reporting new behaviors outside the counseling relationship, as well as trying out new behavior with respect to the counselor. The client's progress in each area was discussed and linked with the impact of the IPR session. The authors concluded that "This pattern of resulting gains suggests that this form of stimulus intervention has broad implication in the counseling and psychotherapeutic treatment of

clients experiencing a variety of personal difficulties with various degrees of severity" (p. 110).

Additional case studies have been reported (Woody, Kagan, Krathwohl, and Farquhar, 1965), and many have been conducted during the early research on the IPR method at Michigan State University. Also, Kingdon (1975) conducted a study exploring the cost/benefits of IPR in terms of the inhibitory effect of using videotape on client self-exploration (cost), and of added client satisfaction and increased counselor and supervisor empathy ratings (benefits). The clients treated by counselors using IPR supervisory methods, i.e., client, counselor, and mutual recall, increased their level of self-exploration over time, while demonstrating no inhibitory effects of videotape intervention.

In summary, the experimental research on IPR's effectiveness in accelerating client growth provides mixed results. The case study reports are generally supportive of IPR intervention, suggesting that individuals may benefit from the use of specific recall techniques at particular points in the counseling process. Efforts to apply structured programs without regard to the wide variety of client problems and the highly idiosyncratic nature of interaction with different therapists yield only suggestive evidence. More intensive case studies and research accounting for individual differences may yield clues to conditions under which clients respond favorably to IPR intervention.

Intra-Model Studies. Intra-model studies have focused on the effects of several major elements of the entire IPR program. Archer, et al. (1972) examined the impact of the affect simulation vignettes and found that they stimulate measurable physiological reactions in subjects. Grossman (1975) conducted another study supporting the basic premise that the affect simulation vignettes have an impact on viewers. Since the affect simulation component is not the central focus of this research, these studies will not be reviewed here. Only literature bearing directly on the recall process will be reviewed.

Katz and Resnikoff (1977) used a systematic, controlled method to test the basic validity of the recall process. They conducted two studies to test the extent to which individuals could recall feelings they experienced during a dyadic interaction when shown a videotape replay of that interaction. They trained pairs of subjects (counseling students and couples) to note on an event recorder the intensity of their feelings (comfort or discomfort) during dyadic interactions. They were then asked to repeat the process during a videotape recall of the recorded interaction. A push button recording system was used with the self-rating data from live and recall sessions. Results of the studies yielded moderate correlations between live self-ratings and those recalled with the aid of videotape stimulation.

Young (1981) attempted to build on methodological weakness in the Katz and Resnikoff (1977) study. He avoided the requirement that subjects make concurrent ratings of their experienced affect, i.e., comfort-discomfort, during the interactions, suggesting that this introduced an artificial factor into the subject's experience of the interaction. He placed 12 subjects in 20-minute pseudo counseling sessions with two counselors who were trained to emit two highly visible nonverbal gestures three times each in the session. The sessions were videotaped and shown to the subjects twice following the original interview. Subjects were asked to make two ratings at specific points on the tape, i.e., where the counselor exhibited the nonverbal gestures. The correlation between the first and second ratings range from .508 to .822. The author concluded that the videotape assisted recall method has at least moderate reliability and can stimulate the memory of previously experienced affect.

Summary and Discussion

Measurement of the qualities that the IPR program is designed to influence is a challenging, complex task. The instruments developed by Kagan and his associates (the Affective Sensitivity Scale & Counselor Verbal Response Scale), the Carkhuff Scales measuring accurate empathy and other measures (the Barrett-Lennard Relationship Inventory, Wisconsin Relationship Orientation Scale, and the Personal

Orientation Inventory) have been used alone or in combination in an effort to measure the effects of IPR training. Generally, following exposure to the IPR training program, subjects are better able to recognize and to report affect as shown in filmed vignettes, to use more affective responses in interviews, and to demonstrate increased levels of empathy in interaction. Anecdotal data supplied by some students taking the IPR course suggests increased capacity for self-focused attention.

The specific referents of these changes are difficult to isolate. What elements of the IPR program are linked with such changes? Is it the training in the response modes? The affect simulation? The basic recall process? How is recall influenced by the topic chosen, the skill of the inquirer or the previous experience of the recaller in reflective thinking and self-disclosure? It seems reasonable to conclude that the overall program produces a global impact on participants in the direction of increased self-awareness and sensitivity to the richness of interpersonal exchange, and an awareness that much more is experienced in human interaction than can ever be described. Further specification of how individual differences affect responsiveness to the overall training program and to the recall process specifically may result from research on cognitive styles and personality traits. One such trait is the personal disposition to focus attention on oneself.

Self-Focused Attention

Fenigstein (1979) has described several determinants of self-focused attention.² These may be termed situational and dispositional. Ganellen and Blaney (1981) have used this distinction to categorize the growing literature on this concept, suggesting that these categories roughly describe the two major methods for studying self-awareness. The first method involves manipulations thought to induce the state of self-awareness. This state can be brought about by the presence of others, and by exposing subjects to a reflective stimulus such as a mirror, camera, video images, or an audio recording of his/her voice. Such experimental conditions induce a heightened state of self-awareness. Buss (1980) differentiates state and dispositional self-awareness by using the term self-awareness to refer to a transient state and self-consciousness to refer to a habitual pattern of focusing attention on the self. The second method for studying self-awareness includes selecting for it with the use of the self-consciousness scale (Fenigstein, Scheier, and Buss, 1975).

To date, none of this literature has been directly linked to the interpersonal process recall technique, even though the IPR method induces a state of self-awareness,

²Wicklund (1978) has noted that the term self-focused attention (SFA) is nearly synonymous with the phrase objective self-awareness (OSA). Since SFA more accurately describes the process that is here linked to IPR training, it will be used for the most part when summarizing the following literature.

and the repeated exposure of subjects to the process may influence their basic disposition to self-focus. Representative studies from each area are selected for review here. The first section includes studies on induced self focus. The second section includes research on both induced and dispositional self-focus, since they are often studied together.

Self-Focused Attention - Induced. Geller and Shaver (1976) conducted two studies designed to discover whether a manipulation of self-awareness would activate self-relevant thoughts. In the first study 57 female college student volunteers were led to believe they were performing a series of tasks that would reflect their level of intelligence. The three tasks included: (1) naming the colors of rows of Xs (each row was printed in a different color), (2) reading a list of words printed in black ink--these were self-relevant or self-evaluative for half the subjects and neutral for the other half--, and (3) naming the colors of these same words that were printed in a variety of colors on a second list of words. (The authors drew on previous research suggesting that latency of color naming for a word increases whenever a subject has been thinking about something related to that word.) The third task was the focus for data collection. While naming the color of the print of certain words, subjects were faced with (1) a mirror and television camera, or (2) neither. The major dependent variable was change in color-naming latency

due to the independent variables (manipulation) of self-awareness (mirror and camera or none) and type of word (self-relevant vs. neutral). The mean change in the mirror and camera/self-relevant words condition was significantly higher than the other mean. However, the analysis of variance produced two significant main effects rather than the hypothesized interaction between the mirror/camera and self-relevant words. A second experiment was conducted deleting the second task of experiment one in order to refine the procedure for testing the interaction hypothesis. Under these conditions the hypothesized interaction occurred. The authors concluded that the presence of a mirror and a camera act as inducers of self-awareness and activate self-relevant or self-evaluative thoughts in memory.

Diener and Srull (1979) designed a study to assess whether subjects would be more likely to judge their behavior from a social perspective under induced self-aware vs. non-self-aware conditions. Twenty-four male and 24 female introductory psychology students made a series of 12 perceptual judgments and generated a standard of accuracy within which they would consider an individual's performance to be successful. Later they were given systematically varied bogus feedback concerning their own performance levels, their self-standards of success, and social standards of success ostensibly generated by their peers. This created conditions on which the subject surpassed both standards, one or the other standard, or neither standard.

Participants were allowed to reinforce themselves (give points that could later be converted to money) under self-aware and non-self-aware conditions (presence or absence of their image on a television screen) on the basis of social and self-standards and their own performance levels. The major finding was that subjects relied more on their personal standards of accuracy for evaluating their performance under the non-self-aware conditions; they relied more on the social standards of accuracy when they were self-aware. Self-aware subjects were more concerned with their social selves and felt more pressure to comply with the social standards. The authors speculated that self-aware persons take on a social perspective of themselves in a social situation and judge their performance from an external vantage point. They further suggest that the increased reliance on social standards may hold only for public self-awareness or self-awareness produced in a social situation.

Ickes, Wicklund and Ferris (1973) conducted three experiments to test the hypothesis that self-focused attention can alter self-esteem levels. In the first two experiments a modified version of the real-ideal self questionnaire served as the dependent measure. Self-awareness was the independent variable. It was manipulated by exposing subjects (male undergraduates) either to the sound of their own tape-recorded voices (self-aware) or a recording of another voice (non-self-aware). Subjects

whose attention was focused upon themselves showed lower self-esteem than subjects who heard another voice. This finding is consistent with the Duval & Wicklund (1972) theory of objective self-awareness that postulates initial self-evaluation in the form of self-criticism when subjects are exposed to self-reflective stimuli.

In the third experiment the variable of positive-negative feedback on a fictitious personality trait was added to the self-focused attention variable. The purpose of this study was to test the original theoretical statement of Duval and Wicklund (1972) which states that objective self-awareness is a state of self-criticism. The authors offer an alternative hypothesis, i.e., objective self-awareness is a state in which the individual's prevailing moods and self-evaluation are exaggerated. Thirty-two male undergraduates were given feedback on a trait (surgency) unfamiliar to them. They were rated either toward the top or bottom of the social hierarchy with regard to that trait. They then rated themselves on surgency and on several other traits for which no feedback had been given. These ratings were completed under conditions of low or high (mirror facing the subject) objective self-awareness. Self-ratings on surgency were higher under high OSA than low OSA, but only within the positive feedback condition. Also there was an interaction between feedback and OSA on the other combined ten traits. A component of this interaction was a tendency toward higher ratings under high OSA in the positive

feedback condition. OSA made no difference under the negative feedback condition. The authors suggest that there were some processes operating within the positive feedback condition that are not implied by the original statement of the objective self-awareness theory. Perhaps objective self-awareness is not always a self-critical state, and is influenced by other conditions. Objective self-awareness may operate to exaggerate the person's estimate of his real-ideal positive or negative discrepancies; or the positive feedback may have given subjects a set toward looking only for positive information about themselves; finally, the positive feedback on surgency may have created a state of elation which could not be explained by the subjects since the meaning of the trait had not been given. They may have then concluded that their general well-being and success was responsible for their present state and rated themselves accordingly, i.e., high on the self-esteem traits.

The authors concluded that these three experiments support the hypothesis that objective self-awareness is a variable basic to self-esteem. The relationship between OSA and self-esteem depends on the nature of the feedback given, but when there is no feedback or when feedback is negative, general estimates of self-esteem decline in the presence of self-reflective stimuli.

Duval and Wicklund (1973) conducted two experiments to test the effects of objective self-awareness on the attribution of causality. In the first experiment,

12 female and 21 male undergraduates responded to 10 hypothetical situations which presented the possibility that the subject or someone else was responsible for a negative consequence. After each situation was presented, the subject was asked to estimate the extent to which s/he caused the consequences. Half of the subjects engaged in a motor activity while replying to the situation. This condition served to reduce the degree of attention focused toward the self. In experiment two, 45 female undergraduates underwent the same procedure with several changes. First, there were five hypothetical situations with positive consequences and five with negative consequences. Second, half of the subjects were exposed to a stimulus (mirror) that directed their attention to themselves. Both experiments indicated that attribution of causality to the self was greater when attention was focused on the self. In the second experiment this effect was found to operate independently of good or bad consequences.

Self-focused attention has been shown to have consequences for many different behaviors, including those noted in the previously cited literature. Inducers of self-awareness can activate self-relevant or self-evaluative thoughts, influence subjects to rely more on social standards of accuracy about a particular task, alter levels of self-esteem, and impact on attribution of causality toward the self. Almost all of these behaviors are non-social, involving little interaction with others. What is the impact of

self-awareness or self-focused attention on interpersonal behavior? This research, along with studies of dispositional self-consciousness, will be reviewed in the next section.

Self-Focused Attention--Dispositional and Induced.

Fenigstein (1979) conducted two experiments to test the effects of self-focused attention on positive and negative social interactions. These are the first efforts in the literature to extend the study of self-focused attention into the area of social interaction. His research examined the role of public self-consciousness in social interaction. In the first experiment it was hypothesized that subjects high in public self-consciousness would be more sensitive and react more negatively to rejection by a group. They would also hold themselves responsible for the rejection to a greater degree than those low in public self-consciousness. The study employed a 2 x 2 factorial design with one manipulated variable (rejection vs. acceptance) and one subject variable (high vs. low public self-consciousness). Eighty female undergraduates served as subjects in the study. They were selected on the basis of scoring in the upper and lower thirds of the distribution of public self-consciousness scores.

Following the experimental manipulation, i.e., acceptance or rejection by a peer group, subjects responded to a questionnaire measuring the dependent variables of affiliation and attraction for the group along with causal

attributions for the way the group behaved toward them. The primary findings were that individual differences in public self-consciousness had strong and consistent effects on reaction to interpersonal rejection. More specifically, after being shunned by a peer group, high publicly self-conscious women were less attracted to the group. They were also less likely to continue affiliating with that group than women low in public self-consciousness.

Experiment number two was designed to provide a test of the effects of both positive and negative interpersonal feedback under conditions of induced self-awareness. A total of 52 female undergraduates participated in this 2 x 2 factorial design with favorable and unfavorable interview content crossed with mirror or no mirror. The major dependent variables were affective responses to the interview and interviewer. The procedure consisted of conducting an interview with the subjects and giving them negative or positive feedback on 11 different personality characteristics. Subjects were told that the purpose of the interview was to get their intuitive reactions to recent findings on the effects of birth order and personality. When the interview was critical, subjects responded significantly more negatively in the presence of the mirror than in its absence; the effect for positive feedback was in the expected direction but was not significant.

These studies taken together indicate that there is an increased responsiveness to the evaluations of others when

persons become more aware of the self during social interaction because of either chronic disposition toward self-consciousness or the reflection of their images in a mirror. The author suggested that as we attend to ourselves in social situations, e.g., an interview, we become more aware of ourselves as objects of attention to others. Public self-consciousness rather than private self-consciousness is the crucial factor in how much the evaluations of others affect us. Raising or lowering attention toward oneself may heighten or diminish the impact of others' evaluations, and thus self-attention may have implications for the way people deal with everyday social feedback.

Scheier (1976) conducted research designed to study the effect of (1) the induced state of self-awareness, and (2) the disposition of private self-consciousness on the affective reaction of angry aggression. In a 2 x 2 x 2 factorial design he employed one subject variable (private self-consciousness) and two manipulated variables (mirror/no mirror and anger/no anger). The basic procedure entailed the subjects (undergraduate men) ostensibly "teaching" an experimental accomplice a particular task. The subjects were either angered or not angered by the accomplice and then told to administer a shock for each wrong response made by the accomplice on the learning task with or without a mirror present. The dependent variable was the mean intensity of the shocks delivered to the "victims."

Results confirmed the author's hypothesis that angry persons made self-aware by a mirror aggress more intensely than those not exposed to a mirror and that angry persons high in private self-consciousness aggress more intensely than those who are low in private self-consciousness. The author explained these results by suggesting that self-focus may simply increase the salience of a person's anger. Self-aware people are more cognizant of a given level of affect. An alternate explanation holds that self-directed attention provides the basis for a feedback cycle whereby the anger incubates and increases in intensity.

The author discussed dispositional-situational interactions. Dispositional tendencies might sensitize a person to the impact of environmental stimuli such that high self-conscious persons are more affected by self-awareness manipulations than low self-conscious persons. Or perhaps high self-conscious persons are at a ceiling and may be attending to themselves so much that manipulations do little to increase self-focus. If so, inducers of self-focused attention should affect the behavior of low but not of high self-conscious persons. Finally, there may be no dispositional-situational interactions. High and low self-conscious persons may be equally sensitive to self-awareness manipulations, but high self-conscious people may simply begin at a higher baseline.

Scheier and Carver (1977) conducted a series of four experiments to further study the effect of self-focused

attention on four affective states, i.e., attraction, repulsion, elation, and depression. In the first experiment undergraduate men viewed and rated slides of nude women in the presence of a mirror or with no mirror. The dependent measure was the mean pleasantness rating of the six stimulus slides following their presentation. In experiment three subjects were placed either in a mirror or no-mirror condition and read a set of mood statements which became either increasingly positive or increasingly negative. The dependent measure was the subject's average mood rating made after the experimental manipulation. Experiments two and four replicated experiments one and three by selecting subjects on the basis of private self-consciousness. In each study, self-focused attention (either induced or dispositional) increased the subject's response to his transient affective state. The authors concluded that self-focused attention heightens a person's awareness of and responsivity to affect.

The analysis of experiments two and four is particularly relevant to the research proposed here. In these experiments where subjects were selected on the basis of their scores on the private self-consciousness subscale, the authors conducted subsidiary analyses to determine the effect of public self-consciousness and social anxiety. Thus they examined the effects of all three subscales of the self-consciousness scale. This research proposes to analyze the data in like manner.

Summary and Discussion

The research on dispositional self-focused attention or self-awareness suggests that awareness of the self during social interaction can (1) heighten or diminish the impact of others' evaluation, (2) heighten the experience of a salient affect, i.e., anger, which in turn influences the tendency to aggress, and (3) generally increase a subject's response to his transient affective state.

The basic research on both induced and dispositional self-focused attention has implications for the applied technique of interpersonal process recall. IPR employs videotape playback and the presence of an inquirer as inducers of self-focused attention. Self-reflective stimuli have been shown to activate self-relevant thoughts and influence experimental subjects on a variety of other dimensions. Extensive exposure to self-reflective stimuli may influence a person's basic tendency to self-focus. More specifically subjects may increase their level of self-focus following repeated exposures to IPR lab sessions.

Also, subjects with differing levels of self-consciousness, i.e., high or low, have been shown to behave differently, e.g., high self-conscious subjects are more sensitive to their own experience of rejection from a peer group. Differences in dispositional level of self-consciousness may affect a person's behavior in the self-inquiry of interpersonal recall. This study addressed these questions in an effort to bridge the gap between the

theory of self-focused attention and the practice of interpersonal process recall.

CHAPTER III

METHODOLOGY

This chapter contains a description of the population, sample, Education 414 (IPR) course format and lab procedure, Education 414 (IPR) instructors, physical setting, data collection procedure, instrumentation, hypotheses, and tape ratings.

Population

The research subjects were drawn from a population of 79 students enrolled in Education 414, Interpersonal Process Recall, Spring Term 1982. This population consisted primarily of female, pre-nursing and dietetics majors with sophomore or junior standing.

Sample

The sample for this study consisted of 67 students who volunteered to participate by signing the ED 414 evaluation project consent form (see Appendix G). This number was further reduced to a final sample size of 51 when 16 students failed to complete all the data required.

Education 414 (IPR) Course Format and Lab Procedure

Education 414 is generally taught over the course of a nine or ten-week term. In the Spring Term of 1982 the Memorial Day holiday reduced the number of class meetings to eight for three sections, with the remaining section meeting for nine sessions. Each section met for one three-hour class period per week and followed the general class schedule found in Appendix B.

Classroom activities included short lectures, film presentations, discussions and skills practice. The five components in the IPR model, i.e., elements of effective communication, affect simulation, inquirer role and function, theoretical constructs, and recall sessions, were introduced and explained in the large class sessions. In addition to the classroom meetings, students were required to practice the IPR technique in four laboratory sessions. The lab sessions and inquiry process are the focus of this study.

Each lab was made up of three students who met for two hours in weeks 5-8 of the term.² Prior to meeting in labs students had become acquainted and practiced some of the IPR skills in the large class sessions. During the labs each student functioned in the role of interviewer,

²Two labs consisted of four people. In these labs an additional round of interview and interviewer recall was conducted.

recaller, interviewee, and inquirer. The labs proceeded as follows: Student A conducted a five-to ten-minute video-recorded interview with student B. After the interview, student B left the lab room and student C (the inquirer) entered and conducted a 10-20 minute recall session with student A, who now became the recaller. (Appendix B describes the inquirer's role.) This procedure was then repeated twice, so that every student conducted an interview, recalled that interview, served as inquirer, and acted as interviewee. There were two interviewer recall labs, one interviewee, and one mutual recall lab for a total of four labs. The interviewer and interviewee recall lab procedures were essentially the same, the only difference being the person, i.e., interviewer or interviewee, who functioned as the recaller. In mutual recall, the inquirer conducted a recall session with both the interviewer and interviewee viewing their previously recorded interaction.

Education 414 (IPR) Instructors

There were four IPR instructors including the researcher. Each was a doctoral student in counseling psychology with previous experience teaching the IPR class. One instructor had taught the course three times, a second six times, a third seven times, and the fourth nine times. The instructors followed the format described in Appendix B. The lab procedures and physical setting were identical for all instructors.

Physical Setting

The lab setting in two 6' x 10' rooms was identical. A Sony video camera was anchored on a wall near the ceiling, focused and set to record the interviewer and interviewee, who sat facing each other on a slight angle in two chairs directly across from the camera. The lab participants sat adjacent to a Sony VTR unit so they could stop and start it without moving. The 19-inch television monitor was located on a wall shelf next to the video camera. A third lab room was slightly larger (10 x 14) and contained identical equipment. Students were trained to use the equipment during the third class session. All labs were conducted in these three rooms.

Data Collection Procedure

The data collection procedures and lab schedule are summarized in Figure 3.1. At the first class session a letter introducing the research evaluation project (see Appendix H) along with a student consent form (see Appendix G) was distributed. The instructors then described the project and emphasized the fact that participation had no effect on the students' grade of pass (P) or no credit (NC). At the third class session the self-consciousness scale was administered. A second administration of the scale occurred at the fifth class session, prior to any video-taped lab sessions. This second administration served as the pretest for comparing pre- and post-IPR lab levels of self-consciousness. This procedure was used to

<u>Week</u>	<u>Procedure</u>
1	1. Course evaluation project described. Consent form signed.
3	2. SCS administration #1 (Pretest #1)
5	3. SCS administration #2 (Pretest #2) Lab #1
6	4. Lab #2 <ul style="list-style-type: none"> a. Interviewer recall audio recorded b. Students rate interview and lab recall experience c. Students (recaller) rate inquirer-recaller
7	5. Lab #3
8	6. Lab #4 <ul style="list-style-type: none"> a. SCS administration #3 (posttest)

Figure 3.1. Summary of Data Collection Procedures

control for regression toward the mean from the first to third administration which could produce invalid significant differences when high and low self-consciousness groups were compared. Also, during the fifth week of class, students conducted their first (interviewer) lab.

In the sixth week of the term students conducted their second (interviewer) lab. At this session the lab procedures outlined earlier were followed with one notable exception--

the recall session was audio-recorded. All students were provided with specific instructions for this lab (see Appendix I). Also, the experimenter was available to answer any questions and attend to any equipment problems. After each round of interviewing and interviewer recall, the interviewer (recaller) rated (1) the interview experience, (2) the recall experience (see Appendix E), and (3) the recaller-inquirer relationship (see Appendix D). Labs three and four were conducted in weeks seven and eight. Also during week eight the self-consciousness scale was administered for the final time. Students were invited to seek feedback on their SCS scores during the ninth week of the term.

Instrumentation

Self-Consciousness Scale (SCS). The Self-Consciousness Scale (see Appendix C) was developed by Fenigstein, Scheier, and Buss (1975) in order to assess individual differences in self-consciousness, i.e., the consistent tendency of a person to direct attention inward or outward. It yields a total self-consciousness score along with three subscale scores: (1) private self-consciousness, (2) public self-consciousness, and (3) social anxiety. The SCS consists of 23 items rated on a four-point Likert-type scale ranging from extremely uncharacteristic (1) to extremely characteristic (4). Previous research has established that the three subscales represent separate factors that can be reliably measured (Fenigstein, et al., 1975; Scheier, 1976) and that

the scale as a whole has considerable discriminant validity (Carver and Glass, 1976; Scheier and Carver, 1977).

Test-retest correlations for the subscales following a two-week interval between administrations have been reported as: private self-consciousness, .79; public self-consciousness, .84; social anxiety, .73; and total score, .80. Norms for the SCS have been established for college men and women and show no significant gender differences.

The Wisconsin-Relationship Orientation Scale (WROS). The WROS (see Appendix D) was originally developed as a measure of the relationship existing between the counselor and client as perceived by the client (Steph, 1963). The scale consists of five steps which range from total avoidance of the counselor to the feeling of being able to talk with the counselor about almost anything. It has been used in previous IPR research (Kagan, et al., 1967) and is adapted here as a measure of the relationship between the inquirer and recaller. As used in this study the inquirer is analogous to the counselor, while the recaller is analogous to the client. Thus, this is a measure of the relationship existing between the inquirer and the recaller as perceived by the recaller.

Lab Rating Form. These forms have been used as a regular part of the ongoing evaluation of Education 414 (see Appendix E). They measure the students' general satisfaction with the interview and recall segments of the IPR labs. The interview evaluation segment consists of four items

measuring degree of involvement, personal content discussed, relevance and threat experienced during the interview conducted by the subject. The recall evaluation segment consists of three items measuring relevance, personal involvement and threat perceived during the recall of the previously recorded interview. All items are rated on a 5-point Likert-type scale.

The Degree of Self-Exploration Scale (DX). The DX scale (see Appendix F) has been derived in part from the work of Truax and Carkhuff (1967) on the measurement of depth of intrapersonal exploration. It has been validated in extensive process and outcome research on counseling and psychotherapy as a measure of client self-exploration.

The DX scale has been adapted here as a measure of productive self-inquiry, i.e., self-exploration in an interpersonal process recall session. Used in this manner, the inquirer is analogous to the counselor, while the recaller is comparable to the client.

The DX scale consists of five levels, with level one being the lowest possible score and level five being the highest possible score. A rating of level one indicates that the recaller's behavior shows no evidence of self-exploration. At level two the recaller may respond to the introduction of personally relevant material by the inquirer, but does so in a remote and mechanical way. At level three, the recaller introduces personally relevant material but without inward probing to discover new feelings or

experiences. At level four, the recaller introduces personally relevant material but does so without a distinct tendency toward self-exploration. At level five the recaller is fully and actively self-exploring.

Hypotheses

The null hypotheses are presented here. The first set of hypotheses were derived from research question number one. This question asks if there is a relationship between the recaller disposition of self-consciousness and IPR self-inquiry behavior.

1. Self-Consciousness Scale Scores and Inquiry Behavior

Hypothesis 1: There is no relationship between overall self-consciousness scale (SCS) scores and IPR self-inquiry behavior.

Hypothesis 2: There is no relationship between private self-consciousness subscale scores and IPR self-inquiry behavior.

Hypothesis 3: There is no relationship between public self-consciousness subscale scores and IPR self-inquiry behavior.

Hypothesis 4: There is no relationship between social anxiety subscale scores and IPR self-inquiry behavior.

The second research question asks if there is a difference between pre- and post- overall and subscale self-consciousness scale scores.

2. Pre- and Post-Levels of Self-Consciousness

Hypothesis 5: There is no difference between pre- and post-IPR lab self-consciousness scale scores.

Hypothesis 6: There is no difference between pre- and post-IPR lab private self-consciousness subscale scores.

Hypothesis 7: There is no difference between pre- and post-IPR lab public self-consciousness subscale scores.

Hypothesis 8: There is no difference between pre- and post-IPR lab social anxiety subscale scores.

The third research question asks if the relationship between the recaller and inquirer as measured by the WROS is related to self-inquiry behavior.

3. Recaller-Inquirer Relationship

Hypothesis 9: There is no relationship between the rated recaller-inquirer relationship and productive self-inquiry behavior.

The fourth research question asks about the relationship between recaller ratings of the interview and recall and self-inquiry behavior.

4. Ratings of Interview and Recall Sessions and Self-Inquiry Behavior

Hypothesis 10: There is no relationship between recaller ratings of the interview and self-inquiry behavior.

Hypothesis 11: There is no relationship between recaller ratings of the inquiry session and self-inquiry behavior.

Tape Ratings

All 51 audio tapes were rated by two raters trained in the use of the Degree of Self-Exploration Scale (DX). Both raters were doctoral students in counseling psychology. The researcher served as one rater and had previously participated in a two-hour training session on the use of the scale.

The second rater was trained by the author in two, two-hour training sessions. At the first session, the scale was described, and five recaller self-inquiry episodes were rated. Each episode and reasons for rating it a particular way were discussed. Episodes were defined as the time periods when the recaller stopped and started the videotape player during the recorded interview. During the episode the highest rating achieved by the recaller was scored. The second training session consisted of independently rating seven tapes that included a total of 32 inquiry episodes.³ Again, ratings were compared and discrepancies discussed until a single rating could be agreed on. Ratings were recorded on the audio tape rating forms found in Appendix J.

Before the final ratings on all the tapes were made, four tapes with a total of 33 inquiry episodes were independently rated by each rater. These tapes were randomly selected from the sample of subjects. For the 33 ratings, 25 were identical, and eight differed by only one category. Thus, the raters agreed on 76% of their ratings for this subsample. While interobserver agreement percentage has been criticized by Mitchell (1979) it nevertheless remains one of the most widely used methods in research that requires human observation and judgment.

³The practice tapes were recordings of students who were from the same population as the subjects but were not included in the final sample because they failed to complete all the required data.

On the basis of 76% inter-observer agreement, the remaining tapes were rated. These tapes were rated randomly by the researcher who also designated the location of the inquiry segments on the audio tape counter, recorded the number of inquiry episodes and the amount of inquiry time. The second rater also randomly selected and rated the tapes, but only listened to the inquiry segments since they had been located by the researcher. A Pearson Product Moment correlation coefficient of .67 was calculated for the two raters based on 353 inquiry episodes.

Data Analysis and Design

The data from research question one were analyzed using a Pearson Product Moment Correlation. Correlation coefficients were calculated in order to determine the degree of relationship between the specified variables. For research question number two a t-test for dependent means was calculated for overall self-consciousness scores and each component of the self-consciousness scale, i.e., private and public self-consciousness and social anxiety. Borg and Gall (1971) state that the t-test for dependent means is the appropriate test statistic for comparing pretest-posttest scores on a single group. They caution that the one group pretest-posttest design should be used only when the dependent variable (i.e., self-consciousness in this study) is reasonably stable, when the interval between the pretest and posttest can be kept reasonably

short and when it is impossible to obtain a control group. These conditions were met for this study.

A one-group pretest-posttest design was used for the second research question, since no appropriate control group was available. The design is shown in Figure 3.2.

Following the t-test procedure, a multivariate repeated measures analysis of variance (MANOVA) was computed to test for changes in self-consciousness scale scores between groups designated as High or Low self-conscious on the three different administrations.

The dependent variable was the self-consciousness scale score achieved during the third, fifth, and eighth week of the term. The independent variable was the level of self-consciousness which was defined as the upper or lower 25% of the distribution of scores for the SCS pretest (#2) and designated as either the High and Low group. The design for the MANOVA is depicted in Figure 3.3.

Three hypotheses were tested in the MANOVA. The first hypothesis tested for an interaction; i.e., cell specific effects, over time. The second tested for the effect of time, while the third tested for the effect of self-consciousness group, i.e., High or Low, over time. The effect of group was not reported, since by definition the groups were significantly different. The multivariate repeated measures analysis was performed for the SCS and each subscale. The MANOVA subprogram of the Statistical Package for the Social Science (SPSS) (Nie, et al., 1975)

IPR LABS					
Pretest					Posttest
(SCS #2)	1	2	3	4	(SCS #3)

Figure 3.2. One Group Pretest-Posttest Design

SCS Administrations			
	1	2	3
High Self-Consciousness			
Low Self-Consciousness			

Figure 3.3. MANOVA Design

reported four tests: (1) Wilks Lambda, (2) Hotellings trace criterion, (3) Roy's largest root criterion, and (4) Pillai's trace criterion. Only one test result was reported, since all tests yielded the same value.

Harris (1975) indicates that univariate ANOVA's are appropriate follow-up tests to a statistically significant MANOVA. These tests were automatically conducted by the

SPSS MANOVA computer program and reported where appropriate.

Spearman rank order correlations were computed for research questions three and four. All computer programs were taken from the Statistical Programs for the Social Sciences.

Summary

The sample for this study consisted of 51 volunteer students enrolled in Education 414, Interpersonal Process Recall during Spring Term, 1982. Most of these students were female and majoring in nursing or dietetics, with sophomore or junior standing. The Education 414 classroom activities included short lectures, film presentations, discussion, and skills practice. The four class sections met for three hours weekly. Through the term students conducted four, two-hour video lab sessions which were the primary focus of this study.

The lab groups were made up of three or four students who each participated in video-recorded interviews that were played back for the interpersonal process recall session. Instructors for the course were doctoral students in counseling psychology with previous teaching experience in the course.

The data collected in this exploratory study included tape ratings of the depth of self-exploration (DX) in the audio-recorded recall sessions, time spent in self-inquiry and number of inquiry episodes. These were defined as measures of productive self-inquiry behavior. Also, recaller ratings of the recaller-inquirer relationship (WROS) and recaller ratings of the lab and recall session were recorded. These data were collected at the second lab session during the sixth week of class. Finally, a measure of self-consciousness (SCS) was administered at weeks three, six, and eight. All hypotheses were stated non-directionally in the null form. The data were analyzed using a Pearson Product Moment correlation computation, t-tests for dependent means, a multivariate repeated measures analysis of variance, and a Spearman rank order correlation computation.

CHAPTER IV

ANALYSIS OF RESULTS

An analysis of the data and a restatement of the problems are presented in this chapter. Research hypotheses are restated and data relevant to each are discussed.

Restatement of the Problem

This exploratory study was designed to investigate the role of self-consciousness or self-focused attention in interpersonal process recall self-inquiry behavior. Self-consciousness was defined as the general disposition to be attentive to the self. Two major research questions were formulated. The first focused on the relationship between self-consciousness and defined measures of productive interpersonal process recall self-inquiry behavior. Pearson product moment correlations were calculated to test this relationship. The second question focused on the impact of four IPR lab sessions on the disposition of self-consciousness. Pre- and post-lab self-consciousness scores were recorded and analyzed using t-tests for dependent means. The data of this question was further analyzed with a repeated measures MANOVA for designated

groups who scored in the upper and lower 25% of the distribution of SCS scores.

Several secondary questions were posed. The third question was formulated to explore the link between IPR self-inquiry behavior and the recaller-inquirer relationship. The final question focused on the relationship between IPR self-inquiry behavior and the recaller-rated lab experience. Spearman rank order correlations were computed for these data.

Self-Consciousness and Self-Inquiry Behavior Correlations

Pearson correlation coefficients for self-consciousness scores and measures of productive IPR self-inquiry behavior are presented in Table 4.1.⁴ SCS scores were correlated with video tape interview time, audio tape inquiry time, an inquiry/interview time ratio, number of self-inquiry episodes and the average scores of both raters on the depth of self-exploration score.⁵

⁴Videotape interview time is not a direct measure of productive self-inquiry. SCS correlations with interview time were reported since it represented the total video tape time available for recaller self-exploration. Interview time was also used to compute an inquiry time/interview time ratio to take account of the differences in students' interview time which could have affected inquiry time and number of inquiry episodes.

⁵The average overall rating of both raters was taken to be the most conservative estimate of subject depth of self-exploration.

Table 4.1. Correlation Matrix - Self-Consciousness and Measures of Self-Inquiry Behavior

	Videotape Interview Time	Audiotape Inquiry Time	Inquiry/ Interview Time Ratio	Number of Inquiry Episodes	Depth of Self-Exploration (Average Score)
SCS (overall)	-.338 p = .008**	-.302 p = .016 *	-.004 p = .490	-.290 p = .019*	.103 p = .235
PRSC	-.086 p = .274	-.028 p = .422	.092 p = .260	-.110 p = .221	.137 p = .168
PUSC	-.322 p = .011**	-.293 p = .018*	-.007 p = .481	-.208 p = .072	.038 p = .413
SAN	-.339 p = .007**	-.364 p = .004*	.111 p = .219	-.326 p = .010**	.031 p = .414

* p < .05

**p < .01

SCS = Self-Consciousness Scale

PRSC = Private Self-Consciousness Subscale

PUSC = Public Self-Consciousness Subscale

SAN = Social Anxiety Subscale

Four hypotheses were derived from the first research question--What is the relationship between self-consciousness and IPR self-inquiry behavior? The hypotheses were tested at the .05 level of significance. They are restated here in the null form.

Hypotheses 1: There is no relationship between overall self-consciousness and IPR self-inquiry behavior.

Significant negative correlations were found between overall self-consciousness and (1) videotape interview time ($r = -.338$), (2) audio tape self-inquiry time ($r = -.302$), and (3) number of self-inquiry episodes ($r = -.290$). Therefore, the null hypothesis was rejected. Subjects high in overall self-consciousness spent less time conducting IPR lab interviews, less time in self-inquiry, and have fewer inquiry episodes. The inquiry/interview time ratio and depth of self-exploration ratings did not correlate significantly with overall self-consciousness scores.

Hypothesis 2: There is no relationship between private self-consciousness scores and IPR self-inquiry behavior.

No significant correlations were found. These results indicated a failure to reject the null hypothesis. Private self-consciousness did not correlate significantly with measures of IPR self-inquiry behavior.

Hypothesis 3: There is no relationship between public self-consciousness scores and IPR self-inquiry behavior.

Significant negative results were found between public self-consciousness and (1) videotape interview time ($r = -.322$) and (2) audio tape inquiry time ($r = -.293$). Therefore, the null hypothesis was rejected. This pattern was similar to that observed in overall SCS scores except that the correlation between PUSC and number of inquiry episodes only approaches statistical significance ($r = -.208$; $p = .072$). This was a logical finding since the overall SCS score included the PUSC subscale.

The inquiry/interview time ratio, number of inquiry episodes and depth of self-exploration ratings did not correlate significantly with PUSC.

Hypothesis 4: There is no relationship between social anxiety scores and IPR self-inquiry behavior.

Significant negative correlations were found between social anxiety subscale scores and (1) video interview time ($r = -.339$), (2) audio tape inquiry time ($r = -.364$), and (3) number of inquiry episodes ($-.326$). Therefore, the null hypothesis was rejected. This result was similar to the pattern noted with overall SCS and PUSC scores. High levels of social anxiety were associated with shorter interviews, less time spent in self-inquiry and fewer inquiry episodes. The inquiry/interview ratio, and depth of self-exploration ratings did not correlate significantly with the social anxiety subscale of the self-consciousness scale.

Taken together the negative correlation for all four hypotheses formed a distinct pattern with video tape interview time, audio tape inquiry time, and number of inquiry episodes varying indirectly with overall self-consciousness scores, public self-consciousness and social anxiety. The correlations between these variables were all statistically significant with the exception of public self-consciousness and number of inquiry episodes which approached significance at the .05 level. The same direction of the relationship, as indicated above for PUSC, also held for private self-consciousness, but the correlations were not statistically

significant. While there were no statistically significant findings between the depth of self-exploration and self-consciousness, the correlations were all positive.

The data shows that high levels of public self-consciousness and social anxiety were negatively correlated with lab video tape interview time, IPR self-inquiry time and number of inquiry episodes. This relationship is more clearly understood when the link between public self-consciousness and social anxiety is described. The social anxiety subscale does not measure a tendency to focus on some aspect of the self, but rather a particular kind of reaction to self-focus, especially public self-focus. Carver and Scheier (1981) suggest that social anxiety derives from public self-consciousness, since social anxiety presumes the existence of focus on the public self along with apprehensiveness about being evaluated by others. Students who were highly aware of the publicly displayed aspects of the self (public self-consciousness) and apprehensive over being evaluated (social anxiety) were likely to spend less time in the video taped interview, have fewer self-inquiry episodes, and take less time in those inquiry episodes.

The Impact of IPR Labs on Self-Consciousness

The second research question focused on the difference between pre- and post-IPR session score on the self-consciousness scale. The four hypotheses derived from this

question are restated here in null form. Two-tailed tests of significance were used for these non-directional hypotheses.

A significance level of .10 was selected in this exploratory study for the four t-tests taken together; however, since more than one test was conducted on the same data, the .10 level was divided by four and the alpha level for each test was set at .025.

Hypothesis 5: There is no difference between pre- and post-IPR lab self-consciousness scale scores.

The results of the t-test reported in Table 4.2 indicated a failure to reject the null hypothesis. No significant differences in pre- and post-scores on the self-consciousness scale were found. Students' SCS scores were not affected by the self-focus inducing properties of the four interviewing IPR lab sessions.

Hypothesis 6: There is no difference between pre- and post-IPR lab private self-consciousness subscale scores.

The results of the t-test reported in Table 4.3 indicated a failure to reject the null hypothesis. No significant differences in pre- and post-scores on the private self-consciousness subscale were found. PRSC was not affected significantly by the self-focus inducing properties of the four IPR lab sessions.

Table 4.2. Analysis of Pre- to Post-Differences on the Self-Consciousness Scale using the t-test for Dependent Means⁶

Pretest		Posttest		df	t	p (2 tail)
M	SD	M	SD			
2.77	.364	2.79	.348	50	-.71	.480

Table 4.3. Analysis of Pre- to Post-Differences on the Private Self-Consciousness Subscale using the t-test for Dependent Means

Pretest		Posttest		df	t	p (2 tail)
M	SD	M	SD			
2.77	.461	2.78	.438	50	-.11	.915

Hypothesis 7: There is no difference between pre- and post-IPR lab public self-consciousness subscale scores.

The results of the t-test reported in Table 4.4 indicated a failure to reject the null hypothesis. No significant differences in pre- and post-scores on the PUSC

⁶SCS scores were converted from raw scores with a possible range of 23-96 to a possible range of 1-4. Thus, the mean scores were reported along a range of extremely uncharacteristic (1) to extremely characteristic (4).

subscale were found. The self-focus inducing properties of the IPR lab did not significantly affect the disposition of PUSC.

Table 4.4. Analysis of Pre- to Post-Differences on the Public Self-Consciousness Subscale using the t-test for Dependent Means

Pretest		Posttest		df	t	p (2 tail)
M	SD	M	SD			
2.96	.584	3.01	.570	50	-1.39	.169

Hypothesis 8: There is no difference between pre- and post-IPR lab social anxiety subscale scores.

The results of the t-test reported in Table 4.5 indicated a failure to reject the null hypothesis. No significant differences in pre- and post-SAN subscale scores were found. The self-focus inducing properties of the IPR labs did not significantly affect the social anxiety level of subjects.

In summary, the results of the t-tests computed for research question number two indicated a failure to reject the null hypothesis in each case. There was no evidence to support the assumption that IPR labs change the disposition of subjects to self-focus. An additional analysis was conducted to test the informal hypothesis that groups of high and low self-consciousness subjects might respond

Table 4.5. Analysis of Pre- to Post-Differences on the Social Anxiety Subscale using the t-test for Dependent Means

Pretest		Posttest		df	t	P (2 tail)
M	SD	M	SD			
2.53	.548	2.54	.548	50	-.13	.898

differentially to the IPR labs. The results are reported in the next section.

Multivariate Analysis

A multivariate repeated measures analysis of variance (MANOVA) was conducted to test whether groups designated as high (upper 25% of the distribution) or low (lower 25% of the distribution) in self-consciousness responded differentially to the four IPR lab sessions. Two basic questions were addressed. First, did the difference between the mean scores of the two groups change over the three administrations of the SCS - interaction effect. Second, were there any changes in the mean scores of the two groups over time - time effect. The MANOVA was performed for the two groups on (1) overall SCS score, (2) PRSC scores, (3) PUSC scores, and (4) SAN scores. Results of each multivariate analysis are reported in Tables 4.6 through 4.9. No statistically significant findings were reported for

overall SCS, PRSC, or PUSC scores. A significant interaction effect ($p = .004$) was reported for the multivariate analysis of social anxiety.

When the multivariate test yields statistically significant results, it is appropriate to examine the univariate F-tests. The results are reported in Table 4.10 and show that a statistically significant change ($p = .002$) in mean social anxiety scores occurred between the first and second administration of the SAN subscale. The change cannot be attributed to the IPR lab sessions since they occurred between the second and third SAN administration. This finding is difficult to interpret without further analysis. It may be the result of regression toward the mean, some non-specific effect of the Education 414 class, or simply a chance event.

Table 4.6. Summary of Multivariate Analysis for High & Low Groups over Three SCS Administrations on Total Self-Consciousness

Effects	Degrees of Freedom (Hypotheses, error)	F-Value	p
Interaction	(2, 20)	.302	.743
Time	(2, 20)	.399	.676

Table 4.7. Summary of Multivariate Analysis for High and Low Groups over Three SCS Administrations on Private Self-Consciousness

Effects	Degrees of Freedom (Hypotheses, Error)	F-Value	p
Interaction	(2, 22)	1.431	.260
Time	(2, 22)	2.471	.107

Table 4.8. Summary of Multivariate Analysis for High and Low Groups over Three SCS Administrations on Public Self-Consciousness

Effects	Degrees of Freedom (Hypotheses, Error)	F-Value	p
Interaction	(2, 25)	2.005	.155
Time	(2, 25)	1.319	.285

Table 4.9. Summary of Multivariate Analysis for High and Low Groups over Three SCS Administrations on Social Anxiety

Effects	Degrees of Freedom (Hypotheses, Error)	F-Value	p
Interaction	(2, 25)	6.912	.004 [*]
Time	(2, 25)	1.62	.218

^{*}p < .01

Table 4.10. Summary of Univariate F-Tests for Social Anxiety

Variate	Degrees of Freedom (Hypotheses, Error)	F-Value	p
SAN 1 vs SAN 2	(1, 26)	12.15	.002
SAN 2 vs SAN 3	(1, 26)	.360	.553

Recaller Ratings of the IPR Session

Research questions three and four were formulated to explore the relationship between self-inquiry behavior and (1) the recaller rated recaller-inquirer relationship, and (2) the recaller rated experience of the interview and recall session. The Wisconsin Relationship Orientation Scale (Appendix D) and the IPR Lab rating forms (Appendix E) were used to quantify the data of questions three and four respectively. The hypotheses derived from these questions are restated here in the null form. The four items for the interview section on the lab rating sheet were combined to form a single rating that was correlated with the measures of self-inquiry behavior. The three items for the recall section were analyzed in the same manner. High ratings are indicative of a more favorable experience of the interview and recall sessions in terms of interest, personal content discussed, degree of

of threat experienced, amount of learning that occurred, relevance, and personal involvement.

Hypothesis 9: There is no relationship between the rated recaller-inquirer relationship and self-inquiry behavior.

The results are reported in Table 4.11. A significant positive correlation ($r = .321$) was found between the recaller-inquirer relationship as measured by the WROS and the inquiry/interview time ratio. Therefore the null hypothesis was rejected. Subjects who rated their inquirer as someone they could talk with were more likely to spend more time in self-inquiry relative to overall interview time. These data provide some support for the common sense notion that the relationship formed between the recaller and inquirer is related to the time spent in self-inquiry.

Table 4.11. Spearman Correlation Coefficients for Wisconsin Relationship Orientation Scale (WROS) and Measures of Self-Inquiry

	Video tape Interview Time	Audio tape Inquiry Time	Inquiry/ Interview Time Ratio	Number of Inquiry Episodes	Depth of Self- Exploration (Average Score)
WROS	-.035	.147	.321	.022	-.01
	p = .403	p = .152	p = .011*	p = .438	p = .472

*
p < .01

Hypothesis 10: There is no relationship between recaller rating of the interview and self-inquiry behavior.

The results are reported in Table 4.12. No significant results were found indicating a failure to reject the null hypothesis. Thus, the rating of the interview conducted by the recaller was not related to recaller self-inquiry behavior.

Hypothesis 11: There is no relationship between recaller ratings of the recall session and self-inquiry behavior.

The results are reported in Table 4.12. A significant positive correlation ($r = .292$) was found between recaller ratings of the recall session and time spent in self-inquiry. Students who spent more time in self-inquiry also rated their experience of inquiry more favorably. No other significant relationships were found.

Table 4.12. Spearman Correlation Coefficients for Lab Ratings and Measures of Self-Inquiry

	Video tape Interview Time	Audio tape Inquiry Time	Inquiry/ Interview Time Ratio	Number of Inquiry Episodes	Depth of Self- Exploration (Average Score)
Interview Ratings	.118 p=.206	-.003 p=.490	.191 p=.091	-.024 p=.433	.079 p=.291
Recall Ratings	.191 p=.090	.292 p=.019*	.180 p=.103	.179 p=.104	.153 p=.142

* $p < .05$

Summary

There were two major research questions in this study. The first focused on the relationship between the disposition of self-consciousness and self-inquiry behavior in interpersonal process recall sessions. Pearson product moment correlation coefficients were calculated and yielded negative relationships between self-consciousness scores (overall self-consciousness, public self-consciousness, and social anxiety) and self-inquiry behavior (inquiry time and number of inquiry episodes). All correlations were statistically significant ($p < .05$) with the exception of the relationship between public self-consciousness and number of inquiry episodes which was approaching significance ($p = .072$). Also, overall self-consciousness scale scores and all SCS subscales with the exception of private self-consciousness correlated negatively ($p < .01$) with total interview time. No other statistically significant correlations were reported.

The second research question focused on the impact of the self-focus inducing properties of the four IPR lab sessions. Pre- and post-lab measures of self-consciousness were analyzed with t-tests. No statistically significant results were reported. An additional analysis (MANOVA) was performed to test for differential change over time. The level of self-consciousness (High or Low) served as the independent variable with analysis being performed on the three measures over time.

The only statistically significant findings were reported for the multivariate test of the social anxiety subscale. The univariate F-test results showed a significant change between the first and second administrations of the SAN subscale.

The third research question focused on the recaller-inquirer relationship and self-inquiry behavior. A statistically significant ($p = .011$) Spearman correlation coefficient was reported for the WROS (a measure of the recaller-inquirer relationship) and the inquiry/interview time ratio.

The fourth research question focused on the recaller rated experience of the interview and recall session. A significant ($p = .020$) Spearman correlation coefficient was reported for the recall ratings and amount of time spent in inquiry.

The summary and conclusions of this investigation are presented in Chapter V.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

This investigation was an attempt to explore the role of self-consciousness, sometimes referred to as self-focused attention, in a communications skills training course called Interpersonal Process Recall (IPR). The need for this study came from the fact that no research existed on how individual differences in self-consciousness affected the basic component in IPR--the self-inquiry session. It was suggested that individual differences generally and the disposition of self-consciousness in particular could have an important role in IPR.

The literature on the IPR training model supplies evidence that the overall program provides participants with an opportunity for developing increased self-awareness and sensitivity to interpersonal exchange. The general disposition to be attentive to the self was considered to be a key variable in productive involvement in the basic IPR component--the recall session. (Productive involvement was defined as amount of time spent in self-inquiry, number of self-inquiry episodes, and participant depth of self-exploration during the episodes.) Self-consciousness is a

construct that has considerable predictive utility in experimental settings (Carver and Scheier, 1981). This study attempted to integrate the assumptions and structure of the interpersonal process recall technique with the theoretical foundations of self-focused attention in a field (classroom) setting.

A sample of 51 volunteers was drawn from a population of 79 students who enrolled in four sections of Education 414 (IPR) at Michigan State University during Spring Term, 1982. All sections were taught by Counseling Psychology doctoral students familiar with the course format. Since this study was an attempt to apply the theoretical construct of self-consciousness in a field setting, the basic course structure was altered as little as possible. Part of that structure included four, two-hour lab sessions where groups of three or four students video-recorded interviews and conducted interpersonal process recall sessions. These sessions were conducted in the following manner: After an interview had been recorded, one of the participants (the recaller) watched the interaction in the presence of a third person (inquirer) who facilitated the recaller's self-exploration of his/her reactions to the interaction.

The second lab served as the major data collection point for the first question: Is there a relationship between the disposition of self-consciousness and self-inquiry behavior? The recall session was audio-taped and measures of productive inquiry were recorded from it. These measures were

correlated with pre-lab self-consciousness scale scores and yielded negative relationships between (1) overall self-consciousness, (2) public self-consciousness, (3) social anxiety and self-inquiry behavior (inquiry time and number of inquiry episodes). All Pearson product moment correlations were statistically significant with the exception of the correlation between public self-consciousness and number of inquiry episodes. Also, all self-consciousness scores with the exception of private self-consciousness correlated negatively with total interview time. Generally, high levels of public self-consciousness and social anxiety were associated with less time in self-inquiry, fewer self-inquiry episodes and a shorter initial interview.

Pre- and post-lab measures of self-consciousness provided the data for the second research question: What is the impact of the IPR labs on the disposition of self-consciousness? No statistically significant results were reported for the t-tests. An additional analysis was conducted using a repeated measures MANOVA to determine differential change over time for High vs. Low self-consciousness students. It produced no significant findings.

The third research question was: Is there a link between the recaller-inquirer relationship and self-inquiry behavior? A statistically significant positive correlation between the rated recaller-inquirer relationship and an inquiry/interview time ratio was reported.

The final research question posed was: Is there a relationship between general satisfaction with the interview and recall session and self-inquiry behavior? A statistically significant positive relationship was reported for the recall ratings and amount of time spent in inquiry.

Discussion

The results of the study are discussed in this section. These are presented in three subsections that include issues raised by the data of each research question.

Self-Consciousness Scores and IPR Self-Inquiry Behavior

All four hypotheses derived from the first research question were stated in the non-directional form. This was to allow for the possibility that relationships between the relevant variables could be positive or negative. Even though both possibilities were considered it was implicitly assumed in the theoretical rationale of Chapter One that subjects who score high on self-consciousness would also score high on measures of productive self-inquiry. The underlying assumption was that subjects who were accustomed to attending to the self would notice more about their video-recorded interaction and therefore have more material to report in greater depth and detail. The data reflect a negative relationship between overall self-consciousness and self-inquiry behavior. The capacity for self focus was

not associated with more active involvement in the self-inquiry process as defined in this study. The data show self-consciousness to be an important individual difference in the self-inquiry process, but for reasons other than what was originally suspected. What might account for this finding?

First, being attentive to the public and/or private self was not associated with productive self-inquiry. Recall that the defined measures of productive self-inquiry in this study relied on verbal reports of subjects. Subjects had to stop the videotape recorder and spend time talking about themselves in some depth in order to score high on the measures of self-inquiry. Perhaps individual differences in verbal ability, or experience in self-disclosure were more directly related to the verbal disclosure of what was recalled and observed in the videotaped interview. It has proven to be an erroneous leap of logic to assume that focusing on the self is directly related to reporting what was noticed in the presence of the inquirer.

Second, the negative relationship becomes more understandable when the SCS subscales are examined more closely. Previous research has shown public self-consciousness to correlate moderately ($r \approx .20$) with both private self-consciousness and social anxiety, while the correlation of private self-consciousness with social anxiety fluctuates around zero (Fenigstein, Scheier and Buss, 1975). In this sample these correlations were somewhat different, namely,

public-private self-consciousness, $r = .086$; public self-consciousness - social anxiety, $r = .439$; private self-consciousness-social anxiety, $r = .209$. (See Appendix K for the table of SCS correlations.) Public self-consciousness and social anxiety were not only highly related with measures of productive inquiry in this sample, they were highly related to each other.

Carver and Scheier (1981) have clearly defined public self-consciousness and social anxiety.

Public self-consciousness is the tendency to be aware of the publicly displayed aspects of the self, the self as social object that creates impacts on other people. People who are high on this dimension tend to be cognizant of how they are viewed by others. (p. 46)

The social anxiety subscale measures a sense of apprehensiveness over being evaluated by others, a discomfort in the presence of others. It is a reaction to self-focus, particularly public self-focus. The relationship between these two subscales has been described by Fenigstein, Scheier, and Buss (1975).

First a person becomes aware of himself as a social object. Given this public self-consciousness, he may then evaluate himself and become apprehensive; that is, public self-consciousness may be a necessary antecedent of social anxiety. (p. 525)

Perhaps students were uncomfortable in the presence of the inquirer and videotape replay and were thus less inclined to stop the tape and talk about their own interview performance and possible evaluation by the inquirer. To stop the tape and spend time talking about their

observations may have prolonged their discomfort. This finding and interpretation is consistent with the results of the Fenigstein (1979) experiment where PUSC was the crucial factor in how much the evaluation of others affected subjects.

Another related explanation for these negative correlations is applicable. Perhaps the students simply had less video interview time to view and consequently fewer opportunities to engage in productive self-inquiry. There was a highly significant correlation between both public self-consciousness and social anxiety and videotape interview time. This factor may have heavily influenced the correlations reported for the self-inquiry measures. It is likely that the public self-consciousness - social anxiety relationship described by Fenigstein, Scheier, and Buss (1975) operated in both the video-taped interview and the recall session. Under the scrutiny of the camera, publicly self-conscious subjects became anxious and responded by minimizing their exposure to the situation, i.e., spending less time in the interview and the self-inquiry sessions.

The relationship between private self-consciousness and self-inquiry behavior is difficult to interpret since no significant correlation emerged. A simple explanation is that there is no relationship between the tendency to pay attention to internal states and self-inquiry behavior. Reflective people may not necessarily be inclined to verbally report their reflections.

An alternative hypothesis might account for this finding. Perhaps there is a curvilinear relationship between private self-consciousness and self-inquiry. Both low and high levels of private self-consciousness may be associated with low scores on productive self-inquiry behavior, much like low and high levels of anxiety are associated with poor performance on a number of tasks (Sarason, 1972). This would result in a negligible correlation and obscure what might be a clear but nonlinear relationship. Of course this raises the question of why public self-consciousness and social anxiety would not relate to inquiry behavior in a similar fashion. It may simply be that since both public and private self-consciousness are theoretically and empirically distinct from each other, their relationship with self-inquiry in IPR is different also.

The Impact of IPR Labs on Self-Consciousness

Four hypotheses were derived from the second research question to test whether the self-focus inducing properties of the IPR labs had any impact on post-lab self-consciousness scores. If the lab sessions induced the process of self-focused attention, why were no changes in the disposition recorded?

One explanation may be found in the distinction between self-awareness and self-consciousness. The early research on self-awareness or self-attention grew out of

Duval and Wicklund's (1972) theory of objective self-awareness. The research was conducted primarily by social psychologists who induced self-awareness and observed the consequences on particular behavior. Eventually personality psychologists reconceptualized the self-attention construct as a dispositional rather than a situational variable. They labeled this personality construct "self-consciousness" in order to distinguish it from the manipulated transient state of "self-awareness." Thus the SCS measures a disposition, a relatively stable trait. It is unlikely that exposure to the labs over such a short period of time could alter an enduring disposition. The labs may have induced a transient state of self-awareness rather than impacting on the disposition of self-consciousness. It is possible that a series of self-focus inducing experiences over a longer period of time could have altered the basic tendency to self-attend. There was not enough time spent in the IPR labs and they did not occur over a long enough period to alter a basic personality trait.

A crucial assumption made in this research was that the video-taped interview and presence of the inquirer during the inquiry session would induce a general state of self-focused attention. This assumption was based on experimental research where a theoretical case had been made for the self-focus inducing properties of any symbol of the self. More recently, researchers have begun to

argue that some manipulations such as video cameras, people and voice recordings induce an awareness of the public self while other manipulations such as mirrors stimulate an awareness of the private self (cf. Carver and Scheier, 1981). The IPR labs were clearly manipulations of public self-awareness, so it is likely that any pre- to post-changes would occur on this scale. (In fact, there was a slight but not statistically significant gain in posttest public self-consciousness scores.) In this light, it is not surprising that overall self-consciousness, private self-consciousness and social anxiety scores were not affected by the IPR labs.

There may be another very important distinction that is important here--that is the differences between self-awareness as a process variable or an enduring way of behaving and self-awareness as a content variable, i.e., knowledge of facts about oneself. Self-awareness as a process refers to the transient state of focusing on public or private aspects of the self. It is a state of self-focus that allows people to learn about themselves. For example, following the IPR labs, students often comment about their facial expression, hand gestures, voice tone and general physical appearance--all public aspects of the self. The process of self-focus induced by the video camera calls these self-observations into awareness. These then become the content or facts of self-awareness.

Students may be said to have increased their self-awareness in terms of learning about unknown aspects of self, but they have not necessarily changed their basic disposition to self-focus. Thus, the transient state of self-awareness has increased self-knowledge but has not affected the basic disposition to self focus.

Since no significant pre- to post-differences in SCS scores were found, further analysis was conducted to see if high and low self-conscious groups responded differently to the IPR labs. A multivariate repeated measures ANOVA was used to test for any effects of the lab and also to check on the possibility of regression toward the mean between the first and second administration of the SCS (labs occurred between the second and third administration of the SCS). The only significant finding occurred between the first and second administration on the SAN subscale. Regression toward the mean or some chance event may have accounted for these results. The lack of significant findings here is not surprising for two previously cited reasons. First, the disposition to self-focus is a stable trait and most likely resistant to short-term influence. Second, the self-focus inducing properties of the IPR labs may be relevant only to public self-consciousness.

Recaller Ratings of the IPR Lab Sessions

The third and fourth research questions were designed to record the recaller's perspective on two key variables

of the IPR lab session (1) the recaller-inquirer relationship, and (2) the experience of the interview and recall session.

The assumption underlying the single hypothesis derived from the third research question was that the recaller would be more likely to engage in productive self-inquiry behavior if s/he were positively oriented to the recaller-inquirer relationship as measured by the WROS. In other words, if the recaller endorsed the item that reads, " . . . I could probably talk with this person about almost anything," s/he would be more likely to stop the videotape and spend time self-exploring, i.e., talking with the inquirer. Inquiry time relative to overall time, i.e., the inquiry/interview time ratio, did vary directly with the WROS ratings. The relationship between the ratio and WROS ratings is difficult to interpret since neither number of inquiry episodes nor inquiry were significantly correlated with the WROS ratings. The ratio was intended as a correction factor for the varying interview times. While a logical case can be made for the importance of the recaller-inquirer relationship in facilitating interpersonal process recall, the data to support this argument was only minimal.

The assumption underlying the final research question was that a positive rating of the separate experiences of interview and recall would be associated with more productive self-inquiry. No significant relationships

emerged between the interview ratings and self-inquiry behavior. Perhaps the major issue for the interviewer was practicing the interviewing skills. (Following the interview, the interviewer became the recaller.) The ratings could have been directly related to perceived competence in that area and unrelated to self-inquiry. In fact, a poor interview could be associated with productive self-inquiry if the recaller chose to fully examine the areas of critical self-evaluation. S/he may very well rate the interview experience as uninteresting, impersonal, threatening, and generally a poor learning experience, and yet spend a good deal of time exploring these areas of dissatisfaction during the recall. It seems likely that this relationship could go either way depending on a host of other variables. It is less likely that an unfavorable rating of the recall itself would be associated with the measures of productive self-inquiry. The final research hypothesis examined this possibility.

The overall satisfaction rating of the recall session was significantly related to the amount of audiotape inquiry time. Students who said they were involved in the inquiry and found it a personally relevant and relaxed experience were likely to spend more time in self-inquiry.

The simplest explanation of this finding is that students who found the self-inquiry worthwhile tended to engage in it. The direction of the relationship is unclear and impossible to determine from the data. Were students

involved in personally relevant inquiry because they spent time self-inquiring? Did they spend increasing amounts of time inquiring because they were involved in personally relevant self-inquiry? It seems likely that a reciprocal relationship is involved. Students spend time in self-inquiry as it becomes relevant to them, and it became relevant as they engage in it.

Conclusions

This study was designed to explore the relationship between the disposition of self-consciousness and the complex behavior of interpersonal process recall. Based on the literature review, the analysis, the discussion of results and the limitations of this research, the following conclusions are presented.

The relationship between self-consciousness and IPR self-inquiry behavior is more accurately conceptualized as a relationship between each subscale of the SCS and IPR. Each component of the SCS may have a different relationship with self-inquiry behavior. Some researchers have suggested that even further differentiations within the public and private domains of the self can be made (Miller, Murphy, and Buss, 1981). The only clear relationship that emerged suggests that high levels of public self-consciousness and social anxiety are negatively correlated with self-inquiry behavior. The videotape and recall

experience may be an uncomfortable experience for students who tend to be acutely aware of how they are viewed by others. It is important to underscore here that high levels of public self-consciousness may be maladaptive and that PUSC is not synonymous with self-awareness. In fact, PUSC is probably a measure of shyness or embarrassment rather than self-awareness.

Exposure to the self-focus inducing properties of the four IPR labs did not result in statistically significant changes on any of the SCS subscales. Public self-consciousness, private self-consciousness and social anxiety are theoretically and empirically distinct dispositions. They are relatively enduring traits that are unlikely to change over a short period of time. The lab experience most likely induced the transient state of public self-awareness which did not have a measurable effect on the enduring disposition of self-consciousness. It is possible that repeated exposure to transient states of public and private self-awareness over a long period of time could have a lasting effect on the trait of self-consciousness.

Even though statistically significant correlations were reported between public self-consciousness and self-inquiry behavior, level of self-consciousness does not cause specific inquiry behavior. Correlation does not imply causation. Also the correlation coefficients are low and account for only a small percentage of the variance.

Therefore they should be evaluated cautiously in light of the many other variables that may affect IPR self-inquiry behavior. These variables include previous experience with videotape, skill level of the inquirer, ability to use the elements of communication, the topic chosen by the interviewee for discussion, other course demands that could result in students hurrying through their labs, etc.

The definition of productive inquiry used in this study has not been used in any other IPR research. Even though a reasoned argument based on the theoretical foundation of IPR was made, these measures, i.e., number of inquiry episodes and amount of time spent in self-inquiry, may not be valid measures of the learning that occurred during the inquiry episodes. This observation also holds for a third measure of productive inquiry, the depth of self-exploration scale, which is discussed next.

The question of validity of the measures used in this research tempers any conclusions that can be made. This is particularly true for the use of the Depth of Self-Exploration Scale (DX) and the Wisconsin Relationship Orientation Scale. Both have been used in psychotherapy and counseling research and were adapted here from their original use. (The DX scale was not significantly correlated with any self-consciousness subscales.) Perhaps it is not a valid measure of recaller self-exploration, since its original application occurred in a counselor-client context. The differences between self-exploration in a

counseling and recall session may be qualitatively different. The same argument can be made against the WROS as a measure of the relationship between recaller and inquirer. Lack of significant finding certainly does not rule out the possibility that the quality of the recaller-inquirer relationship is related to productive self-inquiry or that self-exploration is an important aspect of self-inquiry. Valid and reliable instruments are needed to measure these variables, as well as productive self-inquiry.

The question of validity also arises in the application of the SCS scale in this study. This is particularly important in the hypothesized link between the self-awareness inducing properties of the IPR labs and the construct of self-consciousness. The second major research question asked if the IPR labs had any impact on the disposition of self-consciousness. The logic underlying this question was developed as follows: IPR labs induce self-awareness. The SCS scale is an indirect measure of self-awareness. Therefore, the SCS could be a measure of change in level of self-awareness induced by the labs.

The SCS may be valid for the purpose of measuring the relatively enduring trait of self-consciousness, but it may not be useful for evaluating the tendency to objectively introspect about oneself. In other words, the SCS may be of questionable value in measuring the global quality of self-awareness.

There is another related point. The term self-awareness is defined differently in the experimental social psychology and counseling psychology literature. Duvall and Wicklund's (1972) experimental research in social psychology used the precise definition evolving from their theory of objective self-awareness. It holds that a person's attention or objective self-awareness at any given moment is directed either wholly toward the self or wholly toward external events. This is a form of objective self-awareness. Counselors in practice typically use a broader definition that includes increased understanding of thoughts, feelings, and experience (Patterson, 1974, p. 128). The IPR process may in fact impact on these dimensions of self-awareness, but it is unlikely that the SCS would measure them. The SCS may simply be an instrument that does not measure self-awareness as the term is typically defined in counseling psychology.

Finally, any conclusions drawn from this study must be considered in light of numerous uncontrolled variables that may have acted systematically to influence the results. The research strategy was to study a theoretical construct in an applied (classroom) setting. There are limitations to such an approach, especially the many extraneous variables that can jeopardize internal validity in the one group pretest-posttest design used for the second research question (cf. Campbell and Stanley, 1963).

Implications for Further Research

The results of this study raise several questions for further research. The implications of these questions along with recommendations for future research are presented in this section.

The tendency to focus attention on the self, particularly the public self, was negatively correlated with productive self-inquiry behavior. This has clear implications for the initial experience of high publicly self-consciousness students in the IPR labs. They may be uncomfortable with the basic process and anxious about having their behavior videotaped and viewed by the inquirer. This individual disposition may operate in spite of the structure of IPR which stresses a non-evaluative, non-judgmental stance by the inquirer. In fact, a skilled inquirer may reduce but not completely eliminate discomfort felt by the recaller. The apprehensiveness about evaluation may come largely from the recaller him/herself and/or from what Orne (1963) had called demand characteristics of the situation, particularly the presence of the videotape camera. Anecdotal evidence suggests that students become more comfortable with the videotape process in successive labs. The data on self-inquiry behavior in this study was collected at the second lab. Further research could focus on the self-inquiry behavior of subjects high in PUSC at later labs. Does their comfort and inquiry behavior increase with repeated exposure to the lab experience?

There are broader implications. The interpersonal process recall session is largely controlled by the recaller and whatever perceptions, feelings, or reactions/he brings to the lab. The recaller takes full responsibility for stopping the videotape and initiating the self-inquiry session. At least one group of students, i.e., high public self-conscious, becomes uncomfortable with the process. Perhaps individual differences on other traits are associated with less involvement in the self-inquiry process. Conversely, there may be factors such as a tendency to self-disclose that are associated with productive self-inquiry. A host of individual differences may influence student response to the IPR process.

The relationship between social anxiety and interpersonal process recall could be further explored. Buss (1980) has defined public self-consciousness as the link integrating four kinds of social anxiety--embarrassment, shame, audience anxiety, and shyness. What impact do these variables have on self-inquiry behavior? Could IPR be used as a low-threat tool to reduce some of the various forms of social anxiety? This question might be particularly relevant for those who describe themselves as shy. Zimbardo (1977) has described shyness as common and widespread, and its effect on college students can be particularly debilitating.

The possibility of a curvilinear relationship between IPR self-inquiry behavior and private self-consciousness

could be investigated. The items on the PRSC subscale are more clearly related to the process of self-exploration stimulated by the video playback and inquirer. Perhaps moderate levels of private self-consciousness facilitate the self-inquiry process, whereas low or high levels inhibit it.

The effects of the IPR labs could be evaluated with a more appropriate instrument for measuring self-awareness. Self-awareness could be operationalized in terms of increased knowledge of internal states and interpersonal behavior. Such a measure of self-awareness would more accurately reflect the areas that IPR training can influence.

The relationship between the inquirer and recaller could be a crucial variable in recaller self-exploration. What are the specific skills of the inquirer that foster the development of a relationship where the recaller would actively self-explore the previously recorded interview? And, further, how do the time limitations of a ten-week term affect the development of a trusting relationship where significant self-exploration and self-awareness could develop?

Self-inquiry in interpersonal process recall is a complex behavior pattern that is influenced by numerous factors. These include the many interacting variables that operate in any face-to-face interaction, e.g., needs, fears, personal history, expectations, motives, attitudes, perceptions, etc., along with the impact of videotape

technology and other characteristics of the physical setting. Further research under more controlled conditions could identify what external stimulus factors and personal dispositions affect the active self-inquiry of participants.

APPENDICES

APPENDIX A
ED 414 COURSE OUTLINE

ED 414 General Class Schedule

- Week 1: Introduction to IPR; elements of communication--exploratory and listening response modes. Complete lab schedule forms. Reading assignment: student manual, pp. 1-11.
- Week 2: Elements of communication continued--affective and honest labeling response modes. Reading assignment: student manual, pp. 14-25.
- Week 3: Affective stimulation--the study of self. Preparation for self-disclosure in labs. Individual recall film--the recall process demonstrated. Reading assignment: student manual, pp. 26-33; inquirer appendix, pp. 50-53.
- Week 4: Inquirer training; demonstration of inquirer role. Reading assignment: student manual, pp. 34-49.
- Week 5: Individual recall film--interviewer recall. Lab demonstration; description of lab roles; i.e., interviewer, interviewee, inquirer. Lab #1: Interviewer Recall.
- Week 6: Lab discussion, interviewer recall. Individual recall film--interviewee recall. Interviewee recall--the study of others. Lab #2: Interviewer Recall.
- Week 7: Lab discussion, interviewer recall. Mutual recall film--the study of interactions. Lab #3: Interviewee Recall.
- Week 8: Lab discussion, interviewee recall. Theory discussion, interviewee recall. Theory discussion and wrap-up. Reading assignment: The Nature of Loss. Lab #4: Mutual Recall.

APPENDIX B

INQUIRER'S MANUAL:

A GUIDE FOR THE INQUIRER ROLE IN THE
INTERPERSONAL PROCESS RECALL (IPR) METHOD
OF INTERPERSONAL COMMUNICATION

THE INQUIRER ROLE

The inquirer's objective is to facilitate and encourage self-discovery by the participant. The inquirer must come to believe that, with the help of the videotape playback, the participant is entirely capable of learning about her/his inner processes. The inquirer must also believe that the participant is the only real authority on what was going on inside her/him. In the inquirer role, a person must learn to get their satisfaction from the participant's self-discovery. The inquirer's expertise is at facilitating these discoveries.

The inquirer's first task is to explain clearly to the participant what the recall process involves. An example of this introduction is as follows:

"The mind, we know, operates much faster than the voice. So, during the interview you had, there were many things going through your mind that there wasn't time to tell or say. We also know that there probably were things that you may have decided you didn't want to tell. There may have been some feelings that you had that were only vague and you couldn't find words for them, but perhaps you'll be able to describe them now. There were impressions that you wanted the other person to have and there were impressions that you didn't want the other to have of you. Now, when you see yourself on videotape, you will find that you will remember in amazing detail all of these kinds of things--images, how your body felt, ideas you had, and so on. All of these things will go through your mind. We want you to stop the tape as often as you can and tell me about the things you were thinking and feeling and what you wanted the other person to think and feel."

Each inquirer should find words in their own vocabulary to express to participants these same ideas.

Following this introduction, the inquirer must try to get the participant to stop the videotape by her/himself; encourage her/him to talk

openly and freely (while also keeping questions brief); and keep the participant's attention focused on reliving the experience on the video-tape.

Inquirer leads should focus on the following:

1. Feelings?
2. Thoughts?
3. Body?
4. Where?
5. Pictures?
6. Words?
7. Fantasies?
8. Want from other?
9. Want to say?
- Etc.

In addition to the actual leads used, the inquirer should have a basic attitude during the recall session which consists of the following:

1. Patience
2. Interest - excitement
3. Non-interpretation
4. Asking - not telling
5. Not counseling
6. Keep focus on tape

The following steps can aid the inquirer to conduct a smooth and efficient recall session:

1. Please try to be at the lab room a few minutes early.
2. Have students "sign-in".
3. Don't view the tapes made by previous lab groups. Make sure that your students know their tapes will also be confidential and that no one will see them.
4. Rewind the tapes made in your lab group so that they will be erased as the next group tapes over them.
5. Turn off all equipment before you leave.
6. Contact your instructor if there are equipment problems that you can't correct, or students who don't show.

7. Give each lab participant an "Inquirer Feedback" form and encourage them to fill it out right there.
8. Please make sure the room is left neat and clean.
9. Lock the door and return key to designated place.

Confusing, rigid, dull and uneventful recall sessions can be avoided by noting the following:

1. Make sure that all lab participants know what is expected of them during the lab period.
2. If lab participants do not know each other, allow them to spend a few minutes getting to know each other before taping, if they so desire.
3. If time permits (when the participants and the inquirer do not have time limitations and when the lab room is not being used right after your lab period), allow them to spend more than the regular 5 to 7 minutes for the interview. The entire interview need not be recalled, but the extra time may give the participants more meaningful interviews.
4. Before the taping begins, check to see if the individual who is to share a concern has something real and meaningful. If this seems to be a problem (coming up with a real concern), you may give some possible areas to talk about:
 - Suggest that they talk about something that has been on their mind lately.
 - Suggest that they talk about the impact their interviewer has on them with the interviewer.
 - Suggest that they talk about not wanting to talk about something meaningful and close.
5. Keep in mind that everyone is starting from a different place and learning at a different pace.

APPENDIX C
SELF-CONSCIOUSNESS SCALE (SCS)

SELF-CONSCIOUSNESS SCALE

Please answer the following questions as accurately as possible as they apply to you. Circle the number that best describes your response. A score of 1 indicates that the statement is extremely uncharacteristic of you. A score of 4 indicates that the statement is extremely characteristic of you. Your responses will be kept confidential.

	Extremely Uncharacteristic		Extremely Characteristic	
	1	2	3	4
1. I'm always trying to figure myself out.	1	2	3	4
2. I'm concerned about my style of doing things.	1	2	3	4
3. Generally, I'm not very aware of myself.	1	2	3	4
4. It takes me time to overcome my shyness in new situations.	1	2	3	4
5. I reflect about myself a lot.	1	2	3	4
6. I'm concerned about the way I present myself.	1	2	3	4
7. I'm often the subject of my own fantasies.	1	2	3	4
8. I have trouble working when someone is watching me.	1	2	3	4
9. I never scrutinize myself.	1	2	3	4
10. I get embarrassed very easily.	1	2	3	4
11. I'm self-consciousness about the way I look.	1	2	3	4
12. I don't find it hard to talk to strangers.	1	2	3	4
13. I'm generally attentive to my inner feelings.	1	2	3	4
14. I usually worry about making a good impression.	1	2	3	4
15. I'm constantly examining my motives.	1	2	3	4
16. I feel anxious when I speak in front of a group.	1	2	3	4
17. One of the last things I do before I leave the house is look in the mirror.	1	2	3	4
18. I sometimes have a feeling that I'm off somewhere watching myself.	1	2	3	4
19. I'm concerned about what other people think of me.	1	2	3	4
20. I'm alert to changes in my mood.	1	2	3	4
21. I'm usually aware of my appearance.	1	2	3	4
22. I'm aware of the way my mind works when I work through a problem.	1	2	3	4
23. Large groups make me nervous.	1	2	3	4

APPENDIX D

WISCONSIN RELATIONSHIP ORIENTATION SCALE (WROS)

WISCONSIN RELATIONSHIP ORIENTATION SCALE

DIRECTIONS: Check the item which best describes your feelings toward the inquirer.

- _____ 1. I would attempt to avoid any kind of interaction or relationship with this person.
- _____ 2. If no one else were available, I might consult this person for specific information of a factual, e.g., educational or vocational nature, but I would avoid any personal exposure.
- _____ 3. I would be willing to talk with this person about factual, e.g., educational or vocational concerns, and some of the personal meanings connected with these.
- _____ 4. I would be willing to talk with this person about many of my personal concerns.
- _____ 5. I have the feeling that I could probably talk with this person about almost anything.

APPENDIX E
LAB SESSION RATING FORM

Laboratory Rating Form

To help you summarize your feedback about your experience in this lab the following scales have been devised. Please circle the number on each of the following scales which best indicates the quality of your experience during this laboratory session.

I INTERVIEW

You were not at all
interested or involved
in the interview

1 2 3 4 5

You were highly interested
and involved in the inter-
view

The content of the
interview was highly
impersonal

1 2 3 4 5

The content of the inter-
view was highly personal

You felt highly
threatened or anxious
during the interview

1 2 3 4 5

You felt completely at
ease during the interview

You learned nothing
from the interview

1 2 3 4 5

The interview was highly
relevant and you learned
a great deal from it

II RECALL

Recall was not at all
helpful to you

1 2 3 4 5

Recall was extremely
valuable and personally
relevant

You were bored and
uninvolved in recall
session

1 2 3 4 5

You were highly personally
involved in recall session

Recall was a highly
threatening experience

1 2 3 4 5

Recall was a highly relaxed
experience

APPENDIX F

THE DEPTH OF CLIENT SELF-EXPLORATION SCALE (DX)

HELPEE SELF-EXPLORATION IN INTERPERSONAL PROCESSES, II

A Scale for Measurement

Level 1

The second person¹ does not discuss personally relevant material, either because he has had no opportunity to do such or because he is actively evading the discussion even when it is introduced.

Example: The second person avoids any self-descriptions or direct expression of feelings that would lead him to reveal himself.

In summary, for a variety of possible reasons, the second person does not give any evidence of self-exploration.

Level 2

The second person responds with discussion to the introduction of personally relevant material by the first person but does so in a mechanical manner and without the demonstration of emotional feeling.

Example: The second person simply discusses the material without exploring the significance or meaning of the material or attempting further exploration of the feeling in our effort to uncover related feelings or material.

In summary, the second person responds mechanically and remotely to the introduction of personally relevant material by the first person.²

Level 3

The second person voluntarily introduces discussions of personally relevant material but does so in a mechanical manner and without the demonstration of emotional feeling.

Example: The emotional remoteness and mechanical manner of the discussion give the discussion a quality of being rehearsed.

In summary, the second person introduces personally relevant material but does so without spontaneity or emotional proximity and without an inward probing to newly discover feelings and experiences.

Level 4

The second person voluntarily introduces discussions of personally relevant material with both spontaneity and emotional proximity.

Example: The voice quality and other characteristics of the second person are very much "with" the feelings and other personal materials which are being verbalized.

In summary, the second person introduces personally relevant discussions with spontaneity and emotional proximity but without a distinct tendency toward inward probing to newly discover feelings and experiences.

Level 5

The second person actively and spontaneously engages in an inward probing to newly discover feelings and experiences about himself and his world.

Example: The second person is searching to discover new feelings concerning himself and his world even though at the moment he may be doing so, perhaps, fearfully and tentatively.

In summary, the second person is fully and actively focusing upon himself and exploring himself and his world.

¹Second person = inquiree

²First person = inquirer

APPENDIX G

EDUCATION 414 EVALUATION PROJECT CONSENT FORM

Consent Form for ED 414 Evaluation Project

I have been informed to my satisfaction of the evaluation project being conducted in Education 414 and agree to participate. I understand that the general purpose of this project is to learn more about Interpersonal Process Recall and improve this course.

I have been assured that the information to be collected during the course is essential to the evaluation project, and will be kept confidential. I understand that I am free to discontinue my participation at any time, and that involvement in this project is in no way related to my final course grade.

I have been informed that any research report which may be made on this project will not identify participants individually.

Signed _____ Date: _____

APPENDIX H
PROJECT INTRODUCTORY LETTER TO STUDENTS

TEACHER EDUCATION CENTER

April 5, 1982

Dear Education 414 Student,

Education 414, Influencing Human Interaction with Interpersonal Process Recall, is designed to help you be a better listener and communicator. The course involves a series of integrated experiences where you will study films of skilled communicators, practice specific interpersonal skills and view your own interpersonal style on video tape. In an effort to improve the course we invite you to participate in an evaluation project being conducted this term. The project in no way alters the basic course structure, and in fact may help you increase your interpersonal skills.

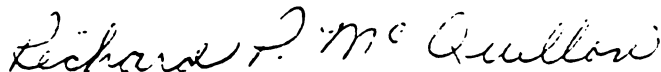
We are asking that you do the following during class time:

- (1) Complete a 23 item questionnaire early in the term and at the last class.
- (2) Fill out several rating forms following your second video taped lab.
- (3) Audio record a segment of your video taped lab. (audio tapes and instructions for this portion will be provided)

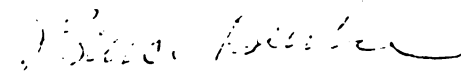
Confidentiality will be honored. You will not be identified by name on the questionnaire, rating forms or, audio recording. Also, participation in this project will in no way affect your final course grade of P (pass) or N (no credit).

At the final class session we will describe the project in more detail and provide you with feedback which you may find personally helpful.

Please complete the attached form indicating your interest in this project. Good luck and thank you for your participation.



Richard P. McQuellon, M.A.
Project Director



J. Bruce Burke, Ph.D.
ED 414 Course Coordinator

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APPENDIX I

PROCEDURE FOR AUDIO RECORDING
LAB #2 - INTERVIEWER RECALL

Instructions for Second Lab - Interviewer Recall

Please read through these instructions before beginning your second lab. This lab will proceed in the same manner as your first lab with some minor exceptions. Each of you will conduct an interview followed by an interviewer recall. Additional procedures include 1) audio tape recording your interviewer recall session and 2) completing the two rating forms. These procedures will help us evaluate this course and make changes where necessary.

Audio Tape Recording Procedure

The object of this procedure is to record your 20 minute recall session. Here's how:

Step 1: After completing your interview, rewind the video tape recorder back to where you began. (This is made easier by setting the counter on the VTR at zero before you begin your interview).

Step 2: There will be one audio recorder and tapes in a brown envelope marked BLANK TAPES in your lab room. Select a tape and record your student number and section number on side A.

Step 3: Begin audio recording on side A of your tape when you start the videotape playback of your interview.

To Record: Press the button marked Play and Record simultaneously.

To Stop: Press the Stop-Eject button.

To Rewind: Press the button marked Review .

Step 4: Return your tapes to the envelope marked Recorded Tapes.

Step 5: Following each Round of interviewing and interviewer recall, take a few minutes to complete the two rating forms titled WROS and LAB RATING FORMS. After each interview and recall, only the recaller completes the forms. These forms are located in the envelope marked Rating Forms. When you finish, place the rating forms in the envelope marked Rating Forms - Completed.

Repeat this procedure for each "round" of the interview and interviewer recall.

The project coordinator will be available in room 245 during the first part of your lab. If you have questions about the procedure or equipment problems, please contact him.

You may listen to your tape during the last week of classes if you choose to do so.

APPENDIX J
AUDIO TAPE RATING FORM

APPENDIX J. Audio Tape Rating Form: Interviewer Recall

Tape I.D. Number _____
 Section Number _____

<u>Inquiry Episode</u>	<u>Tape Segment</u>	<u>Tape Length/ Episode</u>	<u>DX Rating</u> 1 2
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

Totals _____ _____ _____

1. Number of inquiry Episodes _____
2. Total Inquiry Time _____
3. Total Interview Time _____
4. Interview/Recall Time _____
5. Mean DX Score _____

APPENDIX K
SELF-CONSCIOUSNESS SUBSCALE PEARSON CORRELATIONS

APPENDIX K. SCS Subscale Pearson Correlations
(Second Administration)

	PRSC	PUSC	SAN
PRSC	1.00	.086 p=.274	.209 p=.070
PUSC	--	1.00	.439 p=.001
SAN	--	--	1.00

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