

72-15,978

DUNNING, Gail B., 1924-  
THE IDENTIFICATION AND MEASUREMENT OF NONVERBAL  
COMMUNICATION IN THE COUNSELING INTERVIEW.

The University of Nebraska, Ed.D., 1971  
Education, guidance and counseling

University Microfilms, A XEROX Company, Ann Arbor, Michigan

© 1972

Gail B. Dunning

ALL RIGHTS RESERVED

THIS DISSERTATION HAS BEEN MICROFILMED EXACTLY AS RECEIVED

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

THE IDENTIFICATION AND MEASUREMENT OF NONVERBAL  
COMMUNICATION IN THE COUNSELING INTERVIEW

by

Gail B. Dunning

A DISSERTATION

Presented to the Faculty of  
The Graduate College in the University of Nebraska  
In Partial Fulfillment of Requirements  
For the Degree of Doctor of Education  
Department of Educational Psychology and Measurements

Under the Supervision of Professor Howard E. Tempero

Lincoln, Nebraska

December, 1971

**TITLE**

## The Identification and Measurement of Nonverbal

## Communication in the Counseling Interview

**BY**

Gail B. Dunning

**APPROVED**

DATE \_\_\_\_\_

|                    |                   |
|--------------------|-------------------|
| Howard E. Tempero  | November 15, 1971 |
| Vernon G. Williams | November 15, 1971 |
| Norman F. Thorpe   | November 15, 1971 |
| Dewaine Alcorn     | November 15, 1971 |
|                    |                   |
|                    |                   |
|                    |                   |

**SUPERVISORY COMMITTEE**

GRADUATE COLLEGE

UNIVERSITY OF NEBRASKA

**PLEASE NOTE:**

**Some pages have indistinct  
print. Filmed as received.**

**University Microfilms, A Xerox Education Company**

## Acknowledgments

A philosopher once said, "No man is an island." Preparing an acknowledgments page brings into focus the dependence a researcher has on human cooperation. I must express thanks to Dr. Marshall Hiskey and his colleagues at the Special Education Center of the University of Nebraska for the use of facilities and audio-visual equipment. Thanks are also due to several members of a counseling practicum class who assisted in the preparation of counselor and client nonverbal behavior instruments: Carolea Adams, Phil Blakeley, Pat Jorn and Charlene Lee. Dr. Harry Canon and members of his staff at the University Counseling Center were supportive of my work and I am appreciative of this encouragement.

Dr. Howard E. Tempero, chairman of my committee, has provided helpful guidance and direction to me during every stage of my graduate program. Dr. Vernon G. Williams provided succinct criticisms of the text which were most helpful.

Most of all, I must thank my wife Carol. She has been patient, persistent, helpful and all the other descriptive adjectives which apply to a good woman who is helping her husband complete a longed-for educational objective. Finally, I thank my dear parents and my children: Guy, Mark,

David, Shari and J. B. They traded time with Dad now for time with Dad later since education for a family man has to be a family project.

PREVIEW

## TABLE OF CONTENTS

| CHAPTER |   | PAGE |
|---------|---|------|
| ONE     | INTRODUCTION . . . . .  | 1    |
|         | Rationale. . . . .  | 1    |
|         | Purpose. . . . .  | 3    |
| TWO     | THE USE OF VIDEOTAPE EQUIPMENT<br>IN COUNSELOR TRAINING. . . . .                                | 5    |
|         | The advantages of video tape<br>recording equipment. . . . .                                    | 5    |
|         | A review of the literature on<br>the use of VTR equipment . . . . .                             | 7    |
|         | An example of the use of video<br>tape equipment for research<br>and training purposes. . . . . | 11   |
|         | Methods of using video tape<br>equipment employed by<br>the writer . . . . .                    | 12   |
|         | A word of caution. . . . .  | 15   |
| THREE   | A REVIEW OF THE LITERATURE ON<br>NONVERBAL COMMUNICATION. . . . .                               | 17   |
|         | Early studies in nonverbal<br>communication. . . . .  | 18   |
|         | Research on facial affect. . . . .  | 19   |
|         | Consistency of nonverbal<br>behavior . . . . .  | 23   |
|         | Body movement, positions<br>and gestures . . . . .  | 25   |
|         | Proxemics. . . . .  | 28   |
|         | Attempts to systematize body<br>language . . . . .  | 29   |
|         | Gestural behaviors . . . . .  | 32   |
|         | Visual attention . . . . .  | 34   |
|         | Visual contact . . . . .  | 34   |
|         | Eye contact and verbal content . . . . .  | 36   |
|         | Eye contact and dominance. . . . .  | 36   |
|         | Eye contact and emotional<br>states . . . . .   | 37   |

| CHAPTER |  | PAGE |
|---------|--|------|
| FOUR    | METHODOLOGY. . . . .   | 38   |
|         | Instrumentation. . . . .   | 38   |
|         | The Dunning Metacommunication<br>Check Card Number One. . . . .  | 39   |
|         | The Dunning Metacommunication<br>Check Card Number Two<br>for clients. . . . .                               | 40   |
|         | Metacommunication definitions<br>and descriptions . . . . .  | 41   |
|         | Method . . . . .   | 45   |
|         | Environmental stimulus control . . . . .   | 45   |
|         | The simulated counseling<br>session. . . . .   | 47   |
|         | Measurement within interview<br>time . . . . .   | 48   |
|         | Placebo treatment group. . . . .   | 49   |
|         | Scheduling the videotaping<br>sessions and instruction . . . . .   | 50   |
| FIVE    | RESULTS. . . . .   | 52   |
|         | Nonverbal performance of<br>practicum students . . . . .   | 52   |
|         | Instrument reliability . . . . .   | 55   |
|         | Findings on student<br>self-rating. . . . .  | 58   |
|         | Differences between student<br>self-ratings and practiced<br>raters . . . . .                                | 59   |
|         | Differences in individual<br>student nonverbal<br>performances . . . . .                                     | 60   |
|         | Differences between experimental<br>and placebo groups . . . . .   | 68   |
| SIX     | IMPLICATIONS OF THE RESEARCH ON<br>NONVERBAL COMMUNICATION AND<br>SUGGESTIONS FOR FURTHER RESEARCH . . . . . | 72   |
|         | Implications of the research . . . . .   | 72   |
|         | Nonverbal behavior is<br>consistent . . . . .  | 72   |
|         | Measurement techniques have<br>been developed . . . . .  | 73   |
|         | People may be easily trained<br>to detect nonverbal cues<br>and signals. . . . .                             | 74   |



| CHAPTER                                       | PAGE |
|---|------|
| SIX (Continued)                               |      |
| Suggestions for further<br>research . . . . . | 76   |
| Electronic equipment . . . . .                | 76   |
| Determining validity . . . . .                | 77   |
| Areas for further research . . . . .          | 79   |
| APPENDIX A . . . . .                          | 85   |
| REFERENCES . . . . .                          | 86   |

PREVIEW

# TABLES

|  | PAGE |
|--|------|
| TABLE 1 Frequency of Nonverbal Behavior<br>of Students in the Experimental<br>Group. . . . .                               | 53   |
| TABLE 2 Frequency of Nonverbal Behavior<br>of Students in the Placebo<br>Group. . . . .                                    | 56   |
| TABLE 3 Reliability of Scoring<br>on DMCC-1. . . . .   | 57   |
| TABLE 4 Tests of Significance Between<br>Student and Practiced<br>Rater Scoring. . . . .                                   | 61   |
| TABLE 5 Tests of Significance for<br>Effects of Treatment on<br>Nonverbal Performance for<br>Experimental Group . . . . .  | 64   |
| TABLE 6 Tests of Significance for<br>Differences in Nonverbal<br>Performance for Placebo<br>Group on Two Tapings . . . . . | 65   |
| TABLE 7 Percent of Change from<br>Tape 1 to Tape 2 on<br>Four Classes of Nonverbal<br>Behavior . . . . .                   | 67   |
| TABLE 8 Mean Scores of Nonverbal<br>Behavior for Experimental<br>and Placebo Groups . . . . .                              | 69   |
| TABLE 9 Tests for Significant<br>Differences Between<br>Experimental and<br>Placebo Groups . . . . .                       | 71   |

## FIGURES

|                             | PAGE |
|-----------------------------|------|
| FIGURE ONE                  |      |
| Dunning Metacommunication   |      |
| Check Card Number One . . . | 39   |
| FIGURE TWO                  |      |
| Testing Facility Used       |      |
| for Videotaping . . . . .   | 46   |

## CHAPTER ONE

### INTRODUCTION

In recent years, nonverbal communication has received fresh and vigorous attention. While for years it seemed to be the sole province of psychotherapists as a field of investigation, in the last few years it has become a field of investigation for behavioral scientists in many fields. Quite recently, counseling psychology has begun to give serious attention to the therapeutic information conveyed by nonverbal communication. The writer's interest in counselor training led to the present research project.

Nonverbal behavior consists of such behaviors or events as facial expressions, gestures, posture or movements of the body, even the arrangement of space and objects. Broadly defined, such behavior involves the use of the body, the use of space and the use of time. Any action or arrangement which communicates in nonlexical form is considered a form of nonverbal communication.

#### Rationale

Nonverbal behavior exercises some control over the interaction between counselor and client. When an observer attends to a stimulus, he exercises some control over the stimulus (Skinner, 1963). Nonverbal attending behavior is assumed to communicate the counselor's attentiveness to the verbal and nonverbal cues being emitted by the client.

This attending behavior may be the initial step in establishing a relationship with a client.

Since nonverbal behavior conveys meaning without words, it may be a vital part of the counseling interview. Counselors are not uncommonly surprised by a client's leaving in spite of the counselor's verbal expressions of interest. In such instances, the client may well have read cues of disinterest in the counselor's nonverbal behavior. A client may be providing cues that he is reacting negatively to the counselor's approach without having said anything verbally to indicate rejection or hostility.

There is an absence of reliable criteria for the identification and interpretation of nonverbal behavior emitted either by the client or the counselor. The task of a counselor is to develop skill in assessing his own nonverbal behavior and that of his client and to become sensitive and receptive to client metacommunication cues.

Even though it may be difficult to judge accurately what is being conveyed, an individual does communicate some information by means of the other behavior accompanying a verbal statement. Nonverbal devices may supplement a message being given as can be seen when frequent shifting of the body complements the client's verbal expressions of anxiety. A wink of the eye may alter the threat of the lexical content of a statement. The counselor can inform his client he understands and sympathizes with the client's hesitation by lowering his

own voice and slowing down the speed of his own oral presentation.

Language itself is complicated, but verbal language does have rules of syntax. No specific rules of syntax exist for nonverbal language. The absence of general rules permits different meanings to be attached to the same gesture or cue in different locales and different cultures, making the interpretation of nonverbal cues difficult.

In spite of these complications, the counselor must attend to these cues as he does to any signals given to him by a client. When a certain level of rapport has been achieved, the counselor may inquire, verbally or nonverbally, into the meaning of signals which are not understood. Feelings conveyed to the counselor often provide the thrust for counselor responses or prescriptions. If the client expresses happiness, this may be the appropriate time for a particular exploration into the possibility of client change. If the client expresses depression, making suggestions for client change may be quite inappropriate since the overwhelming concern of the client may be in handling the state of depression.

#### Purpose

The purpose of the study was to design and test the first of a series of instruments identifying and measuring nonverbal communication for use in counselor training. To the writer's knowledge, no such instrument has ever been designed. Although traditionally psychotherapists have

conceded the vital importance of nonverbal cues and signals in the therapeutic process, no quantifiable method has been developed for identifying and measuring nonverbal cues which is appropriate to counselor training. Dr. Vernon G. Williams and this writer sent letters of inquiry in 1970 to about two dozen American Psychological Association approved counselor training university programs. Of those which responded to the inquiry, not one had a training sequence on nonverbal communication. This study, then, is partially an outgrowth of the attempt to design an instrument for training counseling practicum students in nonverbal communication.

PREVIEW

CHAPTER TWO  
THE USE OF VIDEO TAPE EQUIPMENT  
IN COUNSELOR TRAINING

In an article in the Counselor Education and Supervision magazine, Heinmann and Whittemore (1964) noted that "consultations with several audio-visual suppliers indicated that existing systems were too cumbersome and too costly" (for use in practicum supervision programs). For those interested in dating material by content alone, some precision could be reached in dating this material since it obviously antedated the development of portable and reasonably priced videotape recording (VTR) equipment. Since that time, there has been a proliferation of use, and therefore of published material, of VTR equipment in a wide variety of settings. VTR equipment has value as an instructional device through self-evaluation, as an electronic aid in the instruction of students in training programs and as a tool in psychotherapy.

The Advantages of Videotape Recording Equipment

The obvious advantages of a videotape recording system are:

1. Immediacy of use. A one-minute recording can be made of a classroom scene which can be replayed with a loss in time counted in seconds. Some learning theorists would be quick to point out such immediacy would lower contamination by interference learning or inhibition.
2. Selective recording. Feedback is provided by the viewfinder on a video camera so the operator has instantaneous review of both the area he has selected to photograph and the quality of this selection. If, for example, the operator



wishes to focus on the face of an instructor to the exclusion of any other visual stimulus, he may do so in an instant.

3. Almost permanent retrieval of material recorded. Certain brands of tape may be replayed roughly one thousand times.
4. Slow motion. The observer who is attempting to translate a record into data may study in more detail and precision during slow motion than in real time.

These advantages have encouraged innovative applications of VTR equipment in education, science, industry and government. Ekman and Friesen (1969) have summarized the conditions under which permanent visual records may be necessary.

Permanent visual records are necessary when (a) repeated direct observation or the use of multiple observers is not possible, either because the phenomenon is nonrecurrent (e.g., in a primitive society - Sorenson, 1967), or the phenomenon, though recurrent, is inaccessible to observers (e.g., in psychoanalytic sessions); (b) accurate or reliable observation requires slowed motion (e.g., of micro facial displays - Ekman & Friesen, 1969; Haggard & Isaacs, 1966) or fast motion (e.g., traffic patterns or very slow, small movements); (c) the phenomenon is difficult to describe in words, but can easily be defined with a visual example that allows observers to spot its occurrence in a record; (d) the research is exploratory, and the units of measurement or number of events to be measured cannot be specified without inspection of the record. Automated analysis of permanent visual records with an optical scanner is seldom feasible for records taken by behavioral scientists; either the scanner cannot discriminate the event to be measured from the visually complex environment, or the event, while easily recognizable by a human observer, is sufficiently complex in its pattern of variations to be prohibitively expensive to program for recognition by a scanner.

Consequently, if the investigator must look at his record in order to analyze it, he will need the following options: to view it at real, slowed, or fast time; automatically to retrieve events he has seen for comparison with new events; to assemble similar events or difficult-to-code events without destroying the original record; to store his measurements or observations in a manner that allows automatic retrieval of the visual phenomena they refer to; and, perhaps, to build a visual dictionary to which he has fast automated access for display of definitions.

#### A Review of the Literature on the Use of VTR Equipment

The writer some years ago served as a classroom instructor and simultaneously as a coordinator of the audio-visual program for a secondary public school. Such an assignment rapidly acquaints one with mechanical deficiencies and advantages of A-V media and it also exposes the limitations of the use of electronic equipment because of human exigency and vicissitude. Equipment would be checked out improperly or not at all; it would be kept overtime; it would be returned inoperative without notification of damage or it would be improperly used as an instructional tool just to take up time or to "keep the gang quiet on flick day." However, the abuse of a tool is not necessarily a valid argument for its disuse and the writer is a committed believer in the value of multimedia in instruction.

The literature reviewed for this chapter is essentially that of the use made of videotape recording equipment in the behavioral sciences, particularly within the guidance and counseling movement. This movement, relatively new to the public school scene, is facing demands which cannot be

met solely by the traditional one-to-one counseling paradigm, if, for no other reason, because of the impossible logistics of one counselor for several hundred students. As Magoon (1964) has suggested, the utilization of other media can provide some solution for meeting the expectations of those who seek the services of a counselor. If counseling groups prove as effective under particular conditions as counseling in a one-to-one situation, it obviously would help to solve the problem of an unrealistically high counselor-to-client ratio.

A number of studies have been completed which illustrate the utility of counseling in groups (Gysbers & Moore, 1970, and Borow, 1966). In an experiment conducted by Thoresen, seven college history instructors were videotaped during discussion classes. Using a counseling psychologist as a "learning consultant," the videotapes were viewed with the psychologist providing modeling and verbally and nonverbally reinforcing certain instructor behaviors. The results reported that the instructors considered this type of intervention in behavior analysis helpful in changing behavior in the classroom and they became increasingly aware of cues, verbal and nonverbal, which influence student behavior. Of added significance was the finding that small group playbacks of the tapes seemed as effective as individual playback procedure (Thoresen, 1966). Another study, conducted by Poling, supported the conclusion of Thoresen regarding the effectiveness of small group playbacks of tapes. This experiment

involved students in a first-level counseling practicum who were videotaped in counseling sessions. One of the purposes of the study was to determine which was more beneficial; individual, small group or total group critique sessions. No significant differences between methods were found (Poland, 1968).

What these studies suggest is that self-evaluation and analysis of behavior, certainly a necessary part of the learning process, may be implemented and enhanced through the use of audio-visual retrieval systems. The studies cited further suggest that self-evaluation may be conducted just as effectively in groups as on an individual basis.

There is a rapidly growing body of literature on the use of videotape playbacks in the context of student-teacher training. Teacher college programs almost universally use a "cadet" or practice teaching program to provide actual classroom experience for students who are about to be graduated from a teacher education program. In a similar vein, most graduate level guidance and counseling programs provide for a practicum where counseling trainees have experience in interviews with clients under careful supervision by professional counselors or doctoral-level instructors. Early studies of the use of VTR equipment include Olivero's (1964) video playbacks and verbal reinforcers to effectively modify teacher behaviors and Acheson's (1964) altering the ratio of instructor-student verbal participation by video playbacks.

Medley and Mitzel (1963) have observed that this type of accurate retrieval (VTR) makes consistent content analysis possible. Further, VTR systems also permit the careful study of the multicomplexities of large classroom behaviors (Schueler & Gold, 1964).

In the context of counselor or therapist-client interaction and counselor education and supervision, many studies have been reported indicating the effectiveness of VTR techniques (Berger, 1970; Danet, 1968, Kagan, Krathwohl & Miller, 1963; Moore, Chernall & West, 1965; Nielsen, 1962; Stoller, 1967; Paredes & Cornelison, 1968; Suess, 1966).

Haggard, Hiken and Isaacs (1965) have summarized the research findings of the relationship of recordings and filming to the psychotherapeutic process:

Four general findings have been reported more or less consistently by these investigators. First, the therapists who have conducted interviews or therapy in a research setting characteristically experience anxiety, especially at first, and their stated concern usually centers around questions of their professional competence and others' evaluation of it. Second, the patients usually tend to be less disturbed than the therapists and, more often than not, appear to adapt more easily and quickly to the research context than the therapists do. Third, the therapists' own doubts or anxieties may be disturbing to the patient, and anxious therapists tend to exaggerate the extent to which their patients are anxious. Fourth, the various aspects of the setting which are associated with the research (like all of the other characteristics of the therapist, the patient, and the therapeutic milieu) enter into the therapy and become potential material for therapeutic work. A fifth, and rather more controversial, finding has

to do with the extent to which the recording of the therapy sessions interferes with the progress and outcome of the therapy. Some investigators have reported little if any interference with the process of therapy during or subsequent to recorded sessions, whereas others have reported that the recording introduced a contaminant of sufficient importance to preclude the therapy from being properly termed 'psychoanalytic.'

Kagan summarized the utility of multimedia in guidance into three categories:

Multimedia, then, can be very useful in the hands of guidance workers. It can serve the guidance worker as an effective extension of himself, as a creative device in guidance consultation, and as a means, at last, to significantly help us achieve the noble traditional counseling goals of improving personal satisfaction and effectiveness in human interaction (Kagan, 1970).

#### An Example of the Use of Videotape Equipment for Research and Training Purposes

A storm broke in the field of psychology, particularly within the psychoanalytic camp, with the publication by Eysenck (1952) of a study challenging the effectiveness of psychotherapy. This was followed by Leavitt (1957) with a similar charge of undemonstrated effectiveness of therapeutic processes with children. The challenge was not left unanswered, however, and extensive research was undertaken to determine the sources of gain in psychotherapy. Berenson & Carkhuff (1967) collected in a book much of the research which had been done in analyzing the ingredients which are effective in stimulating therapeutic recovery. Such characteristics have been described by different terms and

several studies have been deliberately designed, using videotape analysis, to teach specific counselor characteristics. Studies by Truax, reported by Rogers (1962), suggest that three therapist characteristics of accurate empathy, unconditional positive regard and therapist genuineness were related to favorable client outcomes. Using videotape analysis and microteaching, trainees can be brought to function at levels of effective therapy. (Truax & Carkhuff, 1967; Kagan, Krathwohl & Farquhar, 1965)

Methods of Using Videotape Equipment Employed by the Writer

The writer has made use of videotape equipment in a number of different ways in counseling, classroom instruction and in the instruction of counselor-trainees. Depending on the purposes in mind (and sometimes the orientation of a counselor or therapist), several methods may be employed and the methods noted here are just suggestive of the uses which may be made of videotape equipment.

Probably the most common method of using videotape equipment is to videotape a short classroom segment or interview session and replay this segment immediately. Here the emphasis is on the behavior of the individual or the class and any interaction which takes place between persons is of particular importance. Quite often the effect of this method is to glean information which is new to the interactants. An example of this might be the information that a teacher was ignoring frequent attempts by a particular pupil to gain

her attention or the reaction of a client to particular types of verbal or nonverbal behavior emitted by the counselor. The basic advantage of this type of method is in providing an objective means of determining what is going on in human interaction.

A second way of using videotape material is to play the tape until any participant wishes to halt the taping and investigate the dynamics of any part of the interaction. Here, the question may not be what is happening as much as it is why it is happening and behavior, rather than being just observed, is challenged as to the reason for its occurrence. This is a particularly fruitful method in psychotherapy where the purpose of videotaping has the intention of learning the etiology of particular problems of behavior. The dimension which is introduced in this method is the interpretation of behavioral interaction.

A third method of using videotape looks at changes which have occurred over time in behavior, a serial viewing of segments separated by some particular amount of time. Videotaping the same group of individuals a number of times over several weeks of interaction reveals changes in leadership, attitudes and many other factors of group or individual dynamics. Videotaping a beginning counselor at the first and last parts of practicum training provides dramatic evidence of gains in poise and competencies.