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I am submitting herewith a dissertation written by Kathleen Warden entitled "Application of Stochastic Process Analysis to Initial Counseling Interviews." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Education.

Naomi M. Meara

Naomi M. Meara
Major Professor

We have read this dissertation
and recommend its acceptance:

Michael S. Johnson

Walter A. Hector

Lester J. Coleman

John R. Bay

Accepted for the Council:

C. W. Mink

Vice Provost and
Dean of The Graduate School

APPLICATION OF STOCHASTIC PROCESS ANALYSIS
TO INITIAL COUNSELING INTERVIEWS

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Kathleen Warden

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DEDICATION

To my parents,

Sara Buck Warden

Henry Fairbanks Warden, Jr.

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ABSTRACT

The purpose of this study was to investigate whether a finite, first-order Markov chain, provides an adequate model of how discourse is sequentially organized in twelve counseling interviews. Six counselors, two at each of three experience levels were randomly assigned a male and a female client from 12 student volunteers. The clients met with a leader for a guided fantasy experience which was followed by a session with the assigned counselor. Each speaker turn from each session was categorized according to the Discourse Activity Analysis System (DAAS). DAAS is a system of categories which describes the function of a speaking turn in initiating and sustaining a topic and in managing the flow of talk. The categories of turn-taking behavior of each client/counselor dyad were used to generate transitional probability matrices in order to test for the Markovian assumptions of stationarity and first-order dependence. All matrices met the Markovian assumption of stationarity. None of the matrices met the assumption of first-order dependence. The discussion focuses upon limitations and implications related to (a) use of the DAAS, (b) the nature of the specific interviews used in the study, and (c) the effects that different ways of sampling discourse may have upon classifying speaker turns. Suggestions for future research are made.

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CHAPTER 1

INTRODUCTION

Statement of Purpose

The purpose of this research was to investigate the language of counseling from a pragmatic point of view. Counseling process research focuses on counselor and client behaviors within sessions. The focus of this study is the verbal behavior of counselors and clients in counseling sessions. Counseling process studies in verbal behavior may be categorized in three ways: (a) content analysis, classifying utterances into response mode categories; (b) linguistic structure studies, analyzing the structural properties of discourse; and (c) relationship control studies, analyzing turn-taking behavior in interactive discourse (Highlen & Hill, 1984).

This study is of the third type mentioned above, relationship control. This study investigated whether a stochastic process model of analysis, specifically a finite, first-order Markov chain, would provide adequate representation of how interactive discourse is sequentially organized. To label a sequence as a finite, first-order Markov chain, that is, Markovian, the sequence must be stationary and first-order dependent. Stationary means that the probability of one type of turn following another type of

turn is not affected by its place in the series of turns (Lichtenberg & Hummel, 1976). First-order dependence means that an antecedent turn is the best predictor of its consequent turn (Lichtenberg & Hummel, 1976).

The Discourse Activity Analysis System, described below, (DAAS; Friedlander, 1984) was used to categorize the turn-taking behavior of counselors and clients in twelve counseling interviews. A speaking turn is defined as "the utterance by one speaker bound by those of the other speaker" (Friedlander & Phillips, 1984, p. 141). The speaking turns of counselor and client in twelve counseling interviews were categorized according to DAAS and analyzed to see if they fit the Markovian assumptions of stationarity and first-order dependence (Castellan, 1979; Hertel, 1972; Lichtenberg & Hummel, 1976). It is hoped that such analyses could provide information about how counselors and clients influence each other in the course of a counseling interview.

Review of Literature

The content analysis literature of psychotherapy process supports the hypothesis that clients and counselors influence each others verbal behavior (e.g., Bieber, Patton, & Fuhrman, 1977; Meara, Pepinsky, Shannon, & Murray, 1981; Meara, Shannon, & Pepinsky, 1979). In these studies stylistic (form) and semantic (content) measures were used

to analyze the language of counselors and clients and infer the presence of influence. It was found that in certain circumstances linguistic "concerted action," that is, clients and counselors speaking in concert (Pepinsky & Patton, 1971), could be demonstrated by these measures.

An analysis of psychotherapy process can also be done by studying how speakers use their speaking turns in the context of a counseling interview to accomplish some goal, for example, to maintain or introduce a new topic. This approach to language analysis is called pragmatics (Ochs, 1979). Viewed from a communicative purpose or pragmatic perspective the negotiation to achieve "concerted action" may be reflected in the patterns of speakers' successful shifts to a new topic. For example, if a speaker introduces a topic and the topic is adopted (i.e., there are several turns before a new topic is introduced) then the speaker who introduces the topic can be said to be influencing the interaction. If, on the other hand, a topic is introduced and not adopted by the other speaker, it can be said that the other speaker is challenging the first speaker's right to influence the dialogue in this manner.

Thus, when client and counselor agree on the ground rules, one might observe continuous, active dialogue after a topic initiation, and the number of shifts would be relatively limited. By contrast, topic shifts that occur frequently and in succession would reflect a continuous negotiation about who is to control the interaction. (Friedlander & Phillips, 1984, p. 140)

The questions then become how is interactive discourse sequentially organized, and what kind of analysis could demonstrate the temporal relationships among the functions of each speaker's turn. Assuming that topic shifts can be identified, it is a simple matter to count the number of times a client or counselor initiates a topic and sum the count over an interview to obtain a frequency magnitude. A frequency approach, however, gives no information about where the topic shifts occur in an interaction or their relationship, if any, to other speaking turns. On the other hand, a sequential strategy can display patterns of counselor-client topic shifts and other types of turns and can also show how the negotiation process unfolds over time (Friedlander & Phillips, 1984; Russell & Trull, 1986). Several studies have been done which suggest that a fruitful sequential strategy to study psychotherapeutic process is a type of stochastic process analysis known as a Markov chain (Benjamin, 1979; Friedlander & Phillips, 1984; Hertel, 1972; Lichtenberg & Hummel, 1976). The results of these studies which are reviewed in a later section form a basis for this work.

Discourse Activity Analysis System

The Discourse Activity Analysis System (DAAS) (Friedlander, 1984) is a system of ten mutually exclusive

categories which classifies turn-taking behavior in discourse. (For a complete description of the DAAS categories see Appendix A.) It is a revision of a system developed by Corsaro (1979) who studied the sociolinguistic patterns of adult-child interactions. A DAAS category is assigned to each speaker turn in a counseling session and the title of the assigned category indicates, for example, that a topic has been (a) introduced, (b) added to, (c) responded to, or (d) followed by another topic introduction.

The theory upon which the DAAS is based has its roots in linguistic theory. In general, the science of linguistics can be divided into three aspects: syntax, semantics, pragmatics (Kiesler, 1973). Syntactic theory examines the form of a language. Semantic theory examines the content of a language. That part of linguistic theory which examines the context and function of discourse is called pragmatics. Pragmatic theory tries to make evident the implicit structure people use and understand to accomplish some communicative purpose (Pratt, 1977). The communicative purpose examined in this study is how counselors and clients determine and sustain a topic of conversation and how they manage the flow of talk (Friedlander & Phillips, 1984).

Pragmatic theory holds that knowing the syntactic structure of an utterance and the semantic relationships in an utterance will not make evident the entire meaning of

that utterance. What must also be known is the context in which an utterance is made. For example, in the context of a counseling session, one intention of the counselor may be to encourage the client to continue talking. The counselor then formulates an utterance, which he or she hopes will function to accomplish that intention (Ochs, 1979; Patton, 1984). Thus pragmatics includes both context and function. For example, an utterance can convey information that might be specific to a counseling context because of its confidential nature. At the same time, that utterance can also change the topic of the conversation or add to an established topic.

For the purposes of this study the function of an utterance will be defined in terms of the DAAS, and the primary context will be the counseling interview. The notion of context, however, must be enlarged to include "the psychological world in which the language user operates" (Ochs, 1979, p. 2). It is assumed that part of this psychological world is shaped by the expectations counselors and clients bring to a therapeutic relationship. Meara, Pepinsky, Shannon, and Murray (1981) and Pepinsky and Patton (1971) view counseling as a process of social influence in that counselor and client bring to a counseling session the expectation that they will reach a common understanding of what needs to be changed and how they should proceed to

achieve changes. In other words, they expect to engage in negotiation to achieve a "therapeutic alliance" (Greenson, 1973) or "working relationship" (Patton, 1984). Thus Friedlander (1984) bases the DAAS on the pragmatic theory that utterances or turns in discourse perform a function beyond their semantic meaning. She further speculates that conversational patterns which emerge from a stochastic analysis of therapeutic discourse can demonstrate how counseling is progressing. For example, such an analysis might indicate whether social influence is present and whether it is bilateral or unilateral (Pepinsky & DeStefano, 1984).

In previous studies with DAAS categories as the dependent measure (Friedlander & Phillips, 1984; Friedlander, Thibodeau, & Ward, 1985), the researchers analyzed samples of verbal behavior. Friedlander and Phillips (1984) found that these samples fit a Markovian model.

In contrast, Lichtenberg and Hummel (1976) analyzed every speaker turn in six initial counseling sessions to test whether they fit a Markovian model. Four of these sessions did, two did not. They used a category system that categorized response styles. The categories were personal, descriptive, cognitive, or directive. For example, a "personal" response style could be affective or self-disclosing. A "directive" response might imply what the

other person should or should not be thinking or doing. These categories seemed to be based upon counseling techniques or, at least, a certain kind of interchange that is specific to counseling.

Categories, such as those used by Lichtenberg and Hummel (1976), based upon response styles categories require that the researcher take into account the semantic content of an utterance before that utterance can be assigned a label such as "personal" or "descriptive". While semantics cannot be completely separated from pragmatics, the emphasis of the DAAS is pragmatic. Unlike the response style categories, the DAAS claims to be "atheoretical, that is, it makes no reference to psychological states or therapeutic interventions" (Friedlander, 1984, p. 333) so it is considered "relatively content free" with respect to counseling (Friedlander et al., 1985, p. 631).

A stochastic process analysis of discourse (Hertel, 1972; Russell & Trull, 1986), specifically a finite, first-order Markov chain (Benjamin, 1979; Friedlander & Phillips, 1984; Lichtenberg & Hummel, 1976), may make evident a pattern of how counselors and clients manage the flow of talk through the time period of a counseling interview. If the data fit a Markovian model, a model of the probable sequences of specific kinds of turns can be constructed for each counseling interview.

Stochastic Process Analysis

Stochastic process analysis is a method to analyze how patterns of variables develop over time. Since counselors and clients discourse is conducted over time, such an analysis seems reasonable and holds promise for describing the interaction. A description of stochastic process is taken from Hertel (1972). Hertel (1972) quotes Parzen who defines a stochastic process as follows:

The theory of stochastic process is generally defined as the "dynamic" part of probability theory, in which one studies a collection of random variables (called a stochastic process) from the point of view of their interdependence and limiting behavior. One is observing a stochastic process whenever one examines a process developing in time in a manner controlled by probabilistic laws. (p. 423)

Stochastic process analysis focuses on the transitions between categories of behavior. The transition from one category to another is a contingency. The first category or event in a contingency is the antecedent event. The second category in a contingency is the consequent event. With the exception of the first and last event in a sequence, each event has the dual function of being both an antecedent and a consequent. "The probability with which a consequent event is expected to occur given its antecedent is labeled a contingency magnitude" (Hertel, 1972, p. 424). For example, if you describe "the process of walking" at a concrete level of abstraction you might represent the sequence like this:

$L \rightarrow R \rightarrow L \rightarrow R$ (L = left foot; R = right foot). On the other hand, if you represent "the process of walking" using contingency magnitudes the sequence would be represented like this: $L \rightarrow R = 1.00$, $R \rightarrow L = 1.00$, $L \rightarrow L = 0$, $R \rightarrow R = 0$. It can be seen that this type of analysis does not focus on how many times L and R occur, but on the probability of what happens after L and R occur (Hertel, 1972).

Contingency magnitudes are computed by constructing a transition probability matrix. The matrix summarizes the transition probabilities among the various categories.

Markovian Assumptions

A Markov chain is a specific type of stochastic process. Stationarity and first-order dependence must be present before an interaction sequence can be labelled a Markov chain (Lichtenberg & Hummel, 1976). If a transition probability is not affected by its place within the series of transitions, then the probabilities are considered "stationary". For example, in the first half of an interview the probability that turn B will follow turn A is .90. In the second half of the interview the probability that turn B will follow turn A is .10. Then the transition probability of B following A changes over time (from the first half of the interview to the second half) and the A to B transition probabilities are not stationary. On the other

hand, if the transition probabilities in the first half of the interview are not statistically different from the transition probabilities in the second half of the interview, then the interview is considered stationary. Transitions are considered "first-order dependent" if an antecedent event is the best predictor of its consequent, that is, "if the antecedent is known, no additional information is provided in the prediction by knowing the path of events leading to the antecedent" (Lichtenberg & Hummel, 1976, p. 311). For example, if in a series of turns labeled A B C D, the best predictor of turn D is turn C, not a combination of turns B and C or A, B, and C; and the best predictor of turn C is turn B, not a combination of turns A and B, and the best predictor of turn B is turn A, then the sequence is first-order dependent.

At a general level this study can be viewed as an analysis of twelve conversations. Two fundamental assumptions of conversational analysis that support the idea of first-order dependence are that (a) the interaction within a conversation is structurally organized, and that (b) each speaker's turn is oriented to the context of the discourse (Heritage, 1984). For example, counseling conversations are organized by turn-taking, a structure with which we are all familiar. A familiar context is responding to a question. In addition our conversational manner is governed

by a larger context, for instance, classroom interaction versus casual conversation.

Knowledge of how conversations are structured is part of the common sense knowledge that speakers bring to any conversation (Heritage, 1984; Ochs, 1979). The organization of a conversation is a structure in its own right because it is usually independent of a particular speaker's characteristics (Heritage, 1984). For example, the fact that speakers take turns in a conversation may have nothing to do with age, race, or other personal characteristics of the speaker. This is particularly true if the speakers accept turn-taking as a normal characteristic of human verbal interaction.

If a template to characterize the function of speaker turns in the organizational framework of a conversation is available, then a stochastic analysis could offer a picture of how conversational structure unfolds through time. The DAAS can serve as such a template. The theoretical strengths of the DAAS as it relates to this study are several. First, it glosses or deemphasizes the specific syntactic and semantic content of each speaker turn. Second, it names or describes the function a turn serves within the structural organization of a conversation. In addition, the DAAS categories make no reference to speaker characteristics (Friedlander, 1984).

Heritage (1984) reviewed and synthesized the conversational analysis work done by Garfinkel (1967), Goffman (1955, 1963, 1971, 1981), Schegloff and Sacks (1973). A finding common to all their work is that each speaker's turn is oriented to the context of the discourse. In fact a speaker's action has two contexts. A turn is "context-shaped" and "context-renewing" (Heritage, 1984, p. 242). Context-shaped means that a turn in a ongoing sequence of turns is understood only in reference to its context, especially its immediately preceding context (turn). Speakers/hearers use this contextualization to interpret a conversation. Context-renewing means that "every 'current' action will itself form the immediate context for some 'next' action in a sequence, and it will inevitably contribute to the framework in terms of which the next action will be understood" (Heritage, 1984, p. 242).

Thus the pragmatics of conversational structure might be described mathematically as first-order dependent if turns are understood in reference to their immediately preceding context. Each turn also forms the immediate context for some next action in the sequence.

Rationale for Current Research

There are several theories which have some research support and which have led to the hypothesis for the present

study. One of these is the theory of counseling as a social influence process (Friedlander & Phillips, 1984; Meara, Pepinsky, Shannon, & Murray, 1981; Pepinsky & Patton, 1971). Another theory is that counselors and clients influence each others verbal behavior (Bieber, Patton, & Fuhriman, 1977; Meara, Pepinsky, Shannon, & Murray, 1981; Meara, Shannon, & Pepinsky, 1979). The idea that conversations at a pragmatic level could be first-order dependent is based on the work of Heritage (1984). Finally, the methodological rationale for using stochastic analysis as a tool for analyzing counseling discourse is supported in studies by Benjamin (1979), Friedlander and Phillips (1984), Hertel (1972), and Lichtenberg and Hummel (1976). Based on these theories and research the following hypothesis is posed:

An adequate descriptive model of interactive discourse (as categorized by the Discourse Activity Analysis System) in initial counseling interviews is a finite, first-order Markov chain.

CHAPTER II

METHOD

Subjects

The participants were 6 male and 6 female students at the University of Tennessee, Knoxville, who volunteered to serve as clients, and 1 male and 1 female at each of three different levels of counseling experience who agreed to serve as counselors. Experience levels are defined as follows: low--master's counseling practicum students; medium--Ph.D. counseling practicum students; high--Ph.D. plus five years of counseling experience. The low and medium experience counselors were students in the Department of Educational and Counseling Psychology at the University of Tennessee. The high experience level counselors were staff members at the University of Tennessee Student Counseling Center. Each counselor ($N = 6$) conducted a counseling interview with one male and one female volunteer who were randomly assigned to that counselor. This produced a total of twelve interviews. (For a more detailed description of the subjects and procedures see Appendix B.)

The language data used in this study were collected for previous studies (Warden & Wycoff, 1984; Wycoff, 1986) and were analyzed syntactically and semantically for those studies using the Computer-Assisted Language Analysis System

(CALAS) (Rush, Pepinsky, Landry, Meara, Strong, Valley, & Young, 1974). In the present study the analysis was designed to investigate a more pragmatic level of discourse using the Discourse Activity Analysis System.

Classification of Discourse

The Discourse Activity Analysis System (DAAS; Friedlander, 1984) was used to categorize the turn-taking behavior of counselors and clients. The DAAS is made up of 10 mutually exclusive categories which describe the function of a speaking turn in initiating and sustaining a topic and managing the flow of talk (see Appendix A for complete definitions of all categories).

In actual use, however, Friedlander and Phillips (1984) found that some categories had such a low frequency of occurrence that it was appropriate to combine categories based on their similarity of function. The present study uses six categories. Three of the categories are not combinations of other categories. They are Initiating Turn (IT) and Terminating Turn (TT), which are automatically assigned to first turn and last turn. The third is Topic Shift Initiation (TSI), which introduces a new topic. The remaining three categories are combinations. They are Topic Relevant Act (TRA), Topic Relevant Response, and Passing Turn (PT).

The procedures for arriving at these combinations are as follows. Topic Relevant Acts (TRA) are defined as turns that add to a previous turn and relate to the established topic. TRA's were established by combining the original category of TRA and a category called Other Metacommunications. Other Metacommunications are active turns which (a) add to the topic by commenting on the speaker's reaction or (b) request information concerning the listener's reaction.

Topic Relevant Responses (TRR) are defined as turns that do not go beyond the previous turn in substance. TRR's were established by combining the original category of TRR and Repair Turns. Repair Turns stay on the topic but do not extend it. A repair turn might be, "I didn't hear you."

Passing Turns (PT), are defined as turns which relinquish the option to contribute to a topic. PT's were established by combining the original category of PT with Off-Topic Acts and Off-Topic Responses. An Off Topic Act might be, "Let's close the window." An Off Topic Response might be, "But I'm not cold." Off Topic Acts and Off Topic Responses are a rare occurrence, but it is assumed that they signal a refusal to continue with the established topic thus the combination with Passing Turns. For a complete definition of Topic Shift Initiation (TSI), Topic Relevant Act (TRA), Topic Relevant Response (TRR), and Passing Turn (PT), see Appendix C.

To summarize: Topic Shift Initiation (TSI) was used to label only topic introductions or topic shifts. Topic Relevant Act (TRA) was used to label TRA's and Other Meta-communications. Topic Relevant Response (TRR) was used to label TRR's and Repair Turns. Passing Turn (PT) was used to label PT's, Off-Topic Acts and Off-Topic Responses. The first turn of each interview was labelled Initiating Turn (IT) and the last turn of each interview was labelled Terminating Turn (TT). Every turn in all twelve interviews was classified using one of these six DAAS categories. IT's and TT's were not used in the data analysis. They are automatically assigned so they do not provide information about the nature of the interview.

The transition between two successive turns is the unit of focus for the stochastic process analysis. For example, in a series of turns $A_1, B_1, A_2, B_2, A_3, B_3$, where A is the counselor, B is the client, and the subscript represents the number of the turn, there are 5 transitions ($A_1 \rightarrow B_1$) ($B_1 \rightarrow A_2$) ($A_2 \rightarrow B_2$) ($B_2 \rightarrow A_3$) ($A_3 \rightarrow B_3$). See Appendix D for a summary table of the number of turns and number of transitions for each of twelve interviews.

Procedure

From audio tapes the 12 interviews were transcribed into "sensible" text using "standard" punctuation. Two

judges, both doctoral students in Educational and Counseling Psychology were trained on practice transcripts provided by Friedlander (1984). After training, each judge classified the turns in the interviews used in this study. Each turn was classified independently using only transcripts. Interjudge agreement for each transcript was computed using the Kappa Statistic (Cohen, 1960). Because of low interjudge agreement six of the twelve interviews were independently categorized twice. In each of these six interviews, the interview with the higher percent agreement between judges was the interview used to compute the kappa. The kappas on all twelve interviews ranged from .49 to .72. For a list of kappas for each interview see Table 1.

TABLE 1
KAPPA STATISTIC FOR EACH OF TWELVE INTERVIEWS

Experience Level	Counselor	Interview	Kappa
Low	1	1	.72
	1	2	.59
	2	1	.58
	2	2	.59
Medium	3	1	.66
	3	2	.67
	4	1	.63
	4	2	.49
High	5	1	.56
	5	2	.60
	6	1	.57
	6	2	.66

Before transition probabilities were computed, judges were required to come to consensus on all disagreements. There were 369 disagreements on 1822 turns. Disagreements were negotiated by telling the raters which turns they disagreed on, but not telling them how they disagreed. The raters reached consensus on all turns where there was initial disagreement.

Data Analysis Prior to Tests of Markovian Assumptions

Before tests of Markovian assumptions can be conducted, it must be established that transition probabilities are not dependent on speaker's role. Two matrices for each interview can be constructed to display (a) counselor-to-client and (b) client-to-counselor transitions. The matrices are compared. If they are not different the transitions can be combined without regard to speaker's role, thus generating one transition matrix for each interview. A Markovian model is inappropriate for that interview if the counselor-to-client transitional probability matrix is statistically different from the client-to-counselor transitional probability matrix. First-order dependence of the speaker turns between client and counselor is also automatically ruled out. Interviews in which transition probabilities are not dependent on speaker's role are tested for Markovian assumptions.

Tests of Markovian Assumptions

In those dyads where transitions can be combined without regard to speaker's role, tests of Markovian assumptions are performed. To test stationarity, transition probability matrices are generated for the first and second halves of each interview. The transitional probability matrix for the first half of an interview is compared to the transitional probability matrix for the second half of the interview (cf. Friedlander & Phillips, 1984; Lichtenberg & Hummel, 1976) using a log-linear analysis (Goodman, 1978). If these matrices do not differ significantly, it is assumed that the process is stable over time (stationary).

To test order dependence of each interview three models of order dependence (zero-, first-, second-) are constructed using the observed transitional probabilities of each interview's matrix. The models are used as competing hypotheses about the order dependence of the observed data. Chi-square analysis (Chatfield, 1973) is used, and the models are tested as follows: Zero-order (random) dependence is set up as the null hypothesis. The null hypothesis is tested against the alternative hypothesis of first-order dependence. If a significant difference is found between the null hypothesis and the alternative hypothesis, the null hypothesis of zero-order dependence is rejected.

To determine whether first-order dependence or second-order dependence is the more accurate description of these data, a model of first-order dependence serves as a null hypothesis and a model of second-order dependence, as the alternative hypothesis. Failure to reject the null hypothesis of first-order dependence supports the conclusion that the data meet the Markovian assumption of first-order dependence. If the null hypothesis of first-order dependence is rejected, then the data are of order 2 or greater and the sequence cannot be labelled first-order Markovian (Chatfield, 1973).

An illustration may help here. Suppose:

H_0 : The sequence is zero-order (random).

H_1 : The sequence is first order.

If we fail to reject the null hypothesis, the sequence may be random. If we reject the null hypothesis, the sequence is probably not random. In the latter case the alternative hypothesis now becomes the null hypothesis, and the alternative hypothesis is second order dependence.

H_0 : The sequence is first order.

H_1 : The sequence is second order.

If we fail to reject the null hypothesis, the sequence may be first order. If we reject the null, the sequence may be second order or greater. Hypothesis testing does not proceed beyond this point because first-order dependence is

the hypothesis of interest in the present study. If the data analysis conforms to the assumptions of a first-order Markov chain, it is assumed that the hypothesis for this study is supported.

CHAPTER III

RESULTS

To determine if transition probabilities were dependent on speaker's role a transition probability matrix for counselor-to-client transitions was constructed and a matrix for client-to-counselor transitions was constructed. These were compared. This procedure was replicated for each of the twelve interviews. Log-linear analysis, a methodology which allows the comparison of matrices with the same number of rows and columns, was used. A computer program was written to perform this analysis (Norsus, 1985). (Further discussion of log-linear analysis may be found in Goodman, 1978; Knoke & Burke, 1980). This type of analysis uses the chi-square test as part of its overall structure. Of the twelve comparisons none of the chi-square values reached significance. Failure to reject the null hypothesis suggests that the matrices for each interview were not different and so could be combined.

A cautionary statement must be offered here. In each matrix more than 20 percent of the cells had an expected frequency of less than 5. This points to a possible violation of one of the assumptions of the chi-square test (Hays, 1981). Low cell frequencies may inflate the calculated value of a chi-square test and produce spuriously

significant results (Siegel, 1956). Since the results of these comparisons produced no significant chi-squares, even with the possibility of an inflated calculated value, it was decided to combine the matrices. This produces one composite matrix for each interview.

An alpha level of .05 was established for all tests in the present study. Although none of the probability levels for the comparisons of the transition probability matrices reached statistical significance, this does not necessarily mean that there are not some practical differences within interviews. To address this issue the probabilities obtained in the counselor-to-client and client-to-counselor comparisons are found in Appendix G, Table G-1. As one can note from this table the probabilities ranged from .91 to 1.00. Due to the high probabilities obtained one can be confident that there seem to be few practical differences, and that the decision to combine the matrices seems justified.

Tests of Markovian Assumptions

The composite matrix for each interview was tested for stationarity. Transition probabilities for the first half of an interview were compared to transition probabilities for the second half of that interview using log-linear analysis. Of the twelve comparisons none of the chi-square values reached significance.

Failure to reject the null hypothesis supports the Markovian assumption that the interviews are stationary. Again, low cell frequencies may have inflated the calculated value of the chi-square. Since the results of the comparisons produced no significant results, it was decided that the interviews probably are stationary.

The question of whether there are practical differences between these matrices was considered. Except for interview 9 the probability values ranged from .81 to 1.00. The values are found in Appendix G, Table G-2. In interview 9 the stationarity test produced a probability of .16. While this probability does not meet the statistical criterion of .05 it is close to that value. Thus there may be some practical differences between the first and second halves of interview 9 that are not reflected statistically. As a result, one has less confidence in the stationarity of interview 9 than in the stationarity of the other interviews.

Next, tests for order dependence were performed on each combined matrix using chi-square analysis (Chatfield, 1973) (Matrices used for analysis appear in Appendix H). A computer program was written to complete this analysis (SAS, 1985). One chi-square value was significant, $\chi^2(9) = 42.2$, $p < .05$. The remaining eleven chi-square values were not significant. See Table 2 for results.

TABLE 2
RESULTS OF ZERO-ORDER DEPENDENCE TESTS

Interview	df	χ^2	p
1	9	11.638	0.234
2	9	3.272	0.953
3	9	5.173	0.819
4	9	7.399	0.596
5	9	42.189*	0.000
6	9	3.186	0.956
7	4	4.497	0.343
8	4	3.202	0.525
9	9	15.301	0.083
10	9	13.706	0.133
11	4	1.301	0.861
12	4	3.123	0.537

Note: In interviews 7, 8, and 11, Row 4 and Column 4 in their matrices contained frequencies of zero. In interview 12, Row 1 and Column 1 in its matrix contained frequencies of zero. As a result the usual 4x4 matrices reduced to 3x3 matrices thus reducing the degrees of freedom for their tests.

Once again, more than 20 percent of the cells in each matrix had expected counts of less than 5. For the eleven non-significant chi-squares even the possibility of an inflated calculated value still did not produce significant results. Failure to reject the hypothesis of zero-order, in spite of the possible violation of a chi-square assumption, supports the notion that the turns in these eleven interviews are not predictable.

In the interview which produced the significant chi-square value, 62 percent of the cells had expected counts of

less than 5. The possibility of an inflated calculated value here requires that this significant result be questioned.

On the whole, it may be safe to assume that the turns in eleven of the interviews are not predictable. In contrast, the significant chi-square value could be spurious so the relationship among the turns in that interview remains unknown. Thus the hypothesis for this study was not supported.

CHAPTER IV

DISCUSSION

Limitations

There are several limitations of this study. These include: (a) the limitations inherent in the use of a category system and (b) the nature of the interviews which provided the data for analysis.

The use of any category system shapes a researcher's view of the data. A category system has a specific focus and it includes as well as excludes certain content. The focus of the DAAS is to examine how counselors and clients determine and sustain a topic of conversation and how they manage the flow of talk (Friedlander, 1984). While the DAAS takes into account the actual conversation of counselors and clients, it excludes information from the participants themselves about their intentions. For example, researchers do not inquire after the interviews what the participants thought about as they introduced a topic or managed the flow of talk. Judges had to infer how speakers intended their turns to function in order to assign DAAS categories. Assuming the inferences were correct, it must be remembered that a specific type of turn may not function the same way in every context. In one context a speaker could use a Passing Turn such as "Uh Huh" to mean "Go on. I'm

listening." In another context the speaker could mean "I'm not interested."

Judges' inferences were also limited because they made their decisions from transcripts. As a result they did not have access to the prosodic features of the interviews, such as tone of voice, stress on words, or speech rate. These features carry meaning which aids understanding and conveys emotional state (Calvert & Silverman, 1975). Thus, access to prosodic features might have provided more information about how speakers intended their turns to function. In fact, Friedlander (1984, August) found higher interjudge agreement when her judges listened to audiotapes as they were reading the transcripts of conversations.

Finally, an additional limitation in this study was that the data were generated from interviews where the participants were assigned specific tasks. They were assigned a topic to discuss. Counselors were given instructions to start their interviews by saying, "Tell me what you experienced in the fantasy using the first person, present tense as if it were happening now beginning with the words, 'I am . . .'." Clients were instructed to "meet with your counselor and tell him or her your experience [related to the guided fantasy] in the first person, present tense as if it were happening now." There may have been less need to negotiate topics since these instructions influenced what

was to be discussed and how it was to be discussed. A possible result was that the discourse was not as naturally occurring as a routinely scheduled counseling interview.

Implications

Although the nature of these interviews may limit generalizability, the analysis has provided a means to describe the data. This description in turn has implications for the use of the DAAS. For example, one notable feature of these interviews is that the number of Topic Shift Initiations ranged from 0 to 5. An average of 93% of turns were on-topic turns, both Topic Relevant Acts (TRA) and Topic Relevant Responses (TRR). This may reflect tacit understanding between participants to stay on assigned task or topic. Many of the TSI's that did occur were in the last 20 turns of an interview, which may indicate they were used to negotiate the closing of the conversations. This is in contrast to Friedlander and Phillips' (1984) subjects who were not assigned a topic and who may have negotiated topics throughout their conversations.

The context of an interview may influence how turns are assigned and how they function. Friedlander and Phillips (1984) analyzed 56 segments from 28 interviews using DAAS categories. Their judges determined the topic of a segment by listening to one minute of recorded dialogue that

occurred prior to the analyzed segment. Thus the context for these classifications was a small sample of the entire dialogue. In the present study entire interviews produced the context for classification. The judges classified every turn. The fact that Friedlander and Phillips (1984) found a higher percent of TSI's in their study than were found in the present study may be due to these different contexts.

For example, suppose an interview is directed toward a discussion of family relationships. The discussion includes comments about "mother" and "father", but "family" has been established as the common thread. Judges with access to the entire interview may deem "family" the topic and assign 1 TSI for that interview.

If a sample is taken from the same interview the judges may not have access to "family" as topic. As a result they assign 2 TSI's to reflect topic shifts from "mother" to "father". Thus, it is conceivable that TSI assignments, and other turn designations, can be influenced by sampling procedures. A turn, "mother", that functions as a Topic Relevant Act in the first context above may function as a Topic Shift Initiation in the second context.

The judges in the present study had entire task-oriented interviews available to them. Early in an interview a common thread or topic may have become apparent to the judges. This common thread was designated the topic.

If the turns that followed were relevant to the topic, they would not be categorized as a topic shift but as a TRA, TRR, or PT. This may account for the low frequency of topic shifts in the present study.

Since the notion of topic negotiation is a central issue in the DAAS, the assignment of TSI's must also become a central issue. As demonstrated above, sampling influences the notion of topic and needs to be considered carefully.

Future Research

Based on the findings in this study some suggestions for future research can be made. The DAAS coupled with some form of sequential analysis could be used to analyze entire naturally occurring counseling sessions at stages of interest in a course of therapy. Lack of assigned task might allow for a more naturally occurring interaction. If, in fact, topic negotiation occurs in these interviews, the frequencies of all types of turns may be high enough to allow a sequential analysis and a fuller description of conversational patterns.

Perhaps the most parsimonious explanation of these data is that the subjects were attempting to do what they had been instructed to do. Clients and counselors were asked to talk about their feelings related to the guided fantasy experience. High frequencies of TRA's and TRR's may reflect

subjects' tacit agreement to follow directions and as a result they seem to speak in concert. If this is true, then analysis of selected counseling sessions through a course of treatment may reflect if and/or when participants have established topics of concern and possibly achieved concerted action (Pepinsky & Patton, 1971). As noted above, on-topic interaction (possible concerted action) reflected in the present study may be a function of the assigned-task nature of the interviews.

Friedlander and Phillips (1984) suggest that DAAS and a stochastic analysis might show different patterns of topic negotiation among counselors of differing levels of experience. It was not possible to determine if there were differences as a function of experience level in the present study. Naturally occurring counseling sessions with counselors of varied experience remain to be analyzed in this manner.

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APPENDICES

APPENDIX A

TEN CATEGORIES COMPRISING THE DISCOURSE ACTIVITY ANALYSIS SYSTEM

TEN CATEGORIES COMPRISING THE DISCOURSE ACTIVITY ANALYSIS SYSTEM

Taken verbatim from:

Friedlander, M. L. (1984). Psychotherapy talk as social control. Psychotherapy: Theory, Research, and Practice, 21, 335-341.

Categories Comprising the Discourse Activity Analysis System

Category	Definition	Examples
Active Turns:		
Topic Shift Initiation (TSI)	Overt attempt to change the acknowledged topic to another. TSIs are usually formally marked by boundary cues. Topic shifts require the use of propositions not part of the previous turn and are not merely reactions or responses to something in the immediate setting, but represent, rather, a discontinuous shift from the previous focus.	<i>Let's talk about . . . By the way . . . Regarding . . . Remember when . . . That reminds me of . . .</i>
Topic Relevant Act (TRA)	These turns are relevant to the immediate topic and not simply a response to a TRA by the other party. Characterized by going beyond or adding to the previous turn in terms of relevance and require the use of propositions not part of the preceding turn. A TRA integrates or incorporates the claim or presupposition of the immediately prior turn and adds to it by expanding its domain or scope. These responses are relevant to the immediate topic, not simply summaries or restatements.	<i>Client: I'd like to stop feeling so depressed. Therapist: How would you characterize your depression? (TRA) Therapist: What made him say that? Client: He was so angry, I suppose. He always seems to get angry when . . . (TRA)</i>
Initiatory Turn (IT)	These turns either suggest or encourage focused interaction at a time when such interaction is not in progress.	<i>Hello. How are you? Where should we begin? I'd like to start by . . .</i>
Terminating Turn (TT)	Turns which cue the termination of a focused interaction.	<i>We're about out of time. That's all, I guess. When will we meet next?</i>
Other metacommunication (OM)	Turns used primarily to comment on the interaction (i.e., the process of the communication). No substantive information is added to the topic, but rather indicate the speaker's reaction to the other party or request the listener's reaction. These turns are ones which are not used to initiate, terminate the interaction, or clarify a preceding turn, nor are they used to relinquish a turn.	<i>You make me angry when you ask questions like that. When you talk like this, I feel distant from you. You asked me that last week too, didn't you? What did you think I meant by that?</i>

Category	Definition	Examples
Passive Turns:		
Topic Relevant Response (TRR)	Responses to TSIs or TRAs by the other speaker or to one's own preceding turns. Totally responsive, these turns do not go beyond the preceding turn in substance, although they may use propositions not part of the preceding set. Includes repetitions, restatements; may be answers to questions which do not go beyond the question by substantially diverting the topic. May be responses to <i>repair initiation</i> which are elaborations of previous turns.	Therapist: <i>When did it happen?</i> (TRA) Client: <i>It was last year.</i> (TRR) Client: <i>Well, it didn't seem like I was depressed, to me, I mean.</i> (TRA) Therapist: <i>It just didn't feel all that bad to you?</i> (TRR) Client: <i>No, I certainly didn't feel depressed.</i> (TRR)
Off-Topic Act (OTA)	Turns which are irrelevant to the acknowledged topic and are initiated without a formal shift attempt. However, they use propositions not part of the preceding turn. These are often reactions or responses to something occurring in the setting (other than reactions to the other party <i>per se</i>). OTAs are not used to divert the topic completely nor to initiate or terminate the interaction or clarify a preceding turn.	<i>It's cold in here.</i> <i>Is the tape recorder on?</i> <i>How much time do we have to do it in?</i>
Off-Topic Response (OTR)	Turns which are responsive to preceding OTAs. They may acknowledge, encourage, or discourage the off-topic remarks.	Therapist: <i>It's cold in here.</i> (OTA) Client: <i>Yes, it's cold. Do you suppose the heat is off?</i> (OTR) Therapist: <i>I think so.</i> (OTR)
Repair Initiation (RI)	Turns which signal a misunderstanding or mistake and are used either to request clarification or to check on the flow of dialogue. No attempt is made to divert the topic, only to correct the communication when one party appears to have misjudged the communication needs of the other. Interrogatory propositions requesting elaboration are coded TRA.	<i>Pardon me?</i> <i>It was where?</i> <i>Which one are you referring to?</i> <i>Are you listening?</i>
Passing Turn (PT)	Turns used to relinquish the option to contribute substantively to the topic. These turns' unique function is to indicate to the other party to continue. May be minimal repetitions in response to RI, or responses to IT or TT of the other party. May also be mere acknowledgment or disagreement following a TSI, TRA, or TRR.	<i>Yeah.</i> <i>I doubt it.</i> <i>Mhmm.</i> Therapist: <i>When did you feel like that?</i> (TRA) Client: <i>Yesterday.</i> (TRR) Therapist: <i>When, did you say?</i> (RI) Client: <i>Yesterday.</i> (PT) Client: <i>I'd like to begin by . . .</i> (IT) Therapist: <i>Go ahead.</i> (PT) Therapist: <i>Time's up.</i> (TT) Client: <i>Okay.</i> (PT)

APPENDIX B

DESCRIPTION OF SUBJECTS AND PROCEDURES

Taken verbatim from:

Warden, K. & Wycoff, J. (1984, April). A linguistic analysis of counselors' affect-oriented responses across three levels of counseling experience. In M. J. Patton (Chair), Research on language analysis in counseling. Symposium conducted at The American Educational Research Association annual meeting, New Orleans, LA.

METHOD

Subjects

Counselors were six volunteers, one female and one male at each of three levels of experience; (a) low experience level was defined as masters counseling practicum students, (b) medium experience level was defined as doctoral counseling psychology students who have completed one year of doctoral practicum, and (c) high experience level was defined as licensed counseling psychologists with at least five years of postdoctoral experience in counseling. Counselors were matched for theoretical orientation using Biskin's (Note 3) adaptation of Peterson's and Bradley's (1980) psychotherapy questionnaire.

Client's were six male and six female college student volunteers solicited from educational psychology classes. Clients were interviewed by an advanced counseling psychology student and selected for the study if they showed no signs of significant pathology, appeared willing to discuss personal material, and seemed to feel comfortable talking about their thoughts and feelings.

Procedures

Clients were solicited from educational psychology classes by the author [Wycoff]. They were screened by a confederate according to predetermined criteria discussed above.

Counselors were solicited by the author [Wycoff] from the master's counseling students at a large southern university, doctoral counseling psychology students at the same university, and licensed counseling psychologists practicing at the university counseling center. Prospective counselors were administered a counseling orientation inventory (Biskin, Note 3; Peterson & Bradley, 1980). One female and one male counselor at each experience level whose highest score was on the client-centered or gestalt subscale and whose scores were above 3.5 on both subscales were selected from the available pool of volunteers to participate in the study.

One female and one male client were randomly assigned to each counselor. Each client-counselor dyad met at the student counseling center for a guided fantasy experience led by a counseling psychology graduate student at the post-internship level who is experienced in the use of guided fantasy. She first helped the subjects to relax using a standard relaxation script and then asked them to imagine a scene as she described it. Each dyad heard the

same fantasy so that there would be less variability in the issues discussed in the counseling sessions.

Following the fantasy experience, each dyad met separately in an office at the counseling center for about fifty minutes to process the fantasy experience. The counselors were instructed to facilitate the client's expression of feelings stimulated by the fantasy. All individual sessions were audiotaped. Following the counseling session, counselors and clients were asked to evaluate the counseling session in writing. The clients then met briefly with the fantasy leader for debriefing. Any client who wished to talk about the experience further was given an appointment with the fantasy leader or the author. If the client expressed the desire for on-going counseling during the follow-up appointment, a referral was made to a member of the counseling center staff.

The audio tapes were transcribed by persons familiar with working with confidential material. The transcripts were checked for accuracy by a confederate who listened to the tapes while reading the transcripts, made corrections, and disguised any identifying information.

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APPENDIX C

DEFINITIONS OF THE DAAS CATEGORIES USED IN THIS STUDY

DEFINITIONS OF THE DAAS CATEGORIES USED IN THIS STUDY

Taken verbatim from:

Friedlander, M. L., & Phillips, S. D. (1984). Stochastic process analysis of interactive discourse in early counseling interviews. Journal of Counseling Psychology, 31, 139-148.

DAAS Categories Used in the Stochastic Process Analysis

Category	Definition	Hypothetical examples
Active turns Topic shift initiation (TSI)	TSIs constitute an overt attempt to change the acknowledged topic to another and are usually formally marked by boundary cues. Topic shifts require the use of propositions not part of the previous turn. They are not merely reactions or responses to an event in the immediate setting but represent, rather, a discontinuous shift from the immediate focus.	A: By the way, I wondered ... have you moved yet? (TSI) B: No, at the end of the month. (TRR) A: How do your parents feel about the move? (TRA) B: My father's not too pleased. He never approves of anything I do. We don't get along too well ... (TRA).
Topic relevant act (TRA)	TRAS go beyond or add to the previous turn in terms of relevance and require the use of propositions not part of the preceding turn. A TRA integrates or incorporates the claim or presupposition of the prior turn(s) and adds to it by expanding its domain or scope. These responses are relevant to the immediate topic, not simply a restatement.	A: Oh? (PT) B: We've never really gotten along. (TRR) A: Why's that, do you suppose? (B: I don't know ...) What do you think that's all about? I mean ... (TRA) B: I wish I knew! (TRR)
Passive turns Topic relevant response (TRR)	TRRs are totally responsive. They do not go beyond the preceding turn(s) in substance, although they may use propositions not part of the preceding set. TRRs include repetitions, restatements, and summaries; they may answer a question without elaborating or diverting the topic. TRRs may also be used to clarify a misunderstanding.	A: Mmhmm. (PT) B: You know, I've been thinking a lot about what you said last week about my career goals. (TSI) A: I don't mean to minimize the importance of your career plans, but how are you going to handle your father when you do finally move out? (TSI)
Passing turn (PT)	PTs function to relinquish the speaker's option to contribute to the topic. Their unique function is to signal the other party to continue speaking. PTs are usually minimal responses to preceding turns or simple acknowledgment or disagreement.	B: I guess I'm avoiding thinking about it somewhat. (TRA) A: I see. (PT)

Note. DAAS = Discourse Activity Analysis System.

APPENDIX D

SUMMARY TABLE FOR NUMBER OF TURNS
AND NUMBER OF TRANSITIONS FOR
EACH OF TWELVE INTERVIEWS

TABLE D-1

SUMMARY TABLE FOR NUMBER OF TURNS
AND NUMBER OF TRANSITIONS FOR EACH OF
TWELVE INTERVIEWS

Counselor's Experience Level	Sex of Counselor	Sex of Client	No. of Turns	No. of Transitions
Low	Male	Female	108	107
		Male	151	150
Low	Female	Male	282	281
		Female	153	152
Medium	Male	Female	177	176
		Male	88	87
Medium	Female	Female	101	100
		Male	122	121
High	Male	Female	290	289
		Male	153	152
High	Female	Male	106	105
		Female	91	90

APPENDIX E

DAAS CATEGORY ASSIGNMENTS FOR EACH
OF TWELVE INTERVIEWS

INTERVIEW 1

1. IT	28. TRA	55. TRA	82. TRA
2. PT	29. TRR	56. PT	83. PT
3. TRA	30. TRA	57. TRR	84. TRA
4. TRA	31. PT	58. TRA	85. TRR
5. TRR	32. TRA	59. TRR	86. TRA
6. TRA	33. TRA	60. TRR	87. TRR
7. TRA	34. TRA	61. TRR	88. TRA
8. TRA	35. TSI	62. TRA	89. TRR
9. TRR	36. TRA	63. TRA	90. TRA
10. TRA	37. TRR	64. TRA	91. TRR
11. TRR	38. TRA	65. TRR	92. TRA
12. TRA	39. TRA	66. TRR	93. TSI
13. TRR	40. PT	67. TRR	94. TRA
14. TRA	41. TRA	68. PT	95. TRR
15. TRA	42. PT	69. TRA	96. TRR
16. TRA	43. TRA	70. TRA	97. TRA
17. TRR	44. TRA	71. TRR	98. PT
18. TRA	45. TRA	72. TRR	99. TRR
19. TRR	46. TRA	73. TRR	100. TRR
20. TRA	47. TRR	74. TRA	101. TSI
21. PT	48. TRR	75. TRA	102. TRA
22. TRA	49. TRR	76. TRA	103. TRR
23. TRR	50. TRA	77. TRA	104. TRR
24. TRA	51. TRA	78. TRR	105. TRR
25. TRR	52. TRA	79. TSI	106. TRR
26. TRA	53. TRA	80. TRR	107. TSI
27. TRR	54. TRR	81. TRR	108. TT

INTERVIEW 2

1. IT	28. TRR	55. TRA	82. TRR	109. TRA	136. TRR
2. TRA	29. TRR	56. TRA	83. TRR	110. TRA	137. TRA
3. TRR	30. TRR	57. TRR	84. TRA	111. TRA	138. TSI
4. TRA	31. TRR	58. TRR	85. TRA	112. TRR	139. TRA
5. TRR	32. TRR	59. TRR	86. TRA	113. TRR	140. TRA
6. TRR	33. TRA	60. TRR	87. TRR	114. TRR	141. TRR
7. TRR	34. TRA	61. TRA	88. TRA	115. TSI	142. TRA
8. TRA	35. TRA	62. TRR	89. TRA	116. TRA	143. TRR
9. TRR	36. TRR	63. TRR	90. TRR	117. TRR	144. TRA
10. TRA	37. TRA	64. TRA	91. TRR	118. TRA	145. TRR
11. TRA	38. TRA	65. TRR	92. TRA	119. TRR	146. PT
12. TRA	39. TRR	66. TRA	93. TRR	120. TRR	147. TRR
13. TRR	40. TRA	67. TRA	94. TRA	121. TRR	148. TRA
14. TRA	41. TRA	68. TRA	95. TRA	122. TRA	149. TRA
15. TRA	42. TRA	69. TRR	96. TRA	123. TRR	150. TRA
16. TRR	43. TRA	70. TRA	97. TRA	124. TRA	151. TT
17. TRR	44. TRR	71. TRR	98. TRA	125. TRR	
18. TRR	45. TRR	72. TRA	99. TRA	126. TRA	
19. TRR	46. TRR	73. TRA	100. TRR	127. TRR	
20. TRA	47. TRA	74. TRA	101. TRR	128. TRA	
21. TRR	48. TRA	75. TRA	102. TRA	129. TRA	
22. TRA	49. TRR	76. TRA	103. TRA	130. TRA	
23. TRA	50. TRR	77. TRA	104. TRA	131. TSI	
24. TRA	51. TRA	78. TRA	105. TRA	132. TRR	
25. TRR	52. TRA	79. TRA	106. TRA	133. TRR	
26. TRA	53. TRR	80. TRA	107. TRA	134. TRA	
27. TRR	54. TRA	81. TRR	108. TRA	135. TRR	

INTERVIEW 3

1. IT	28. TRA	55. TRR	82. TRR	109. TSI	136. TRA
2. TRR	29. TRA	56. TRR	83. TRA	110. TRA	137. TRA
3. TRR	30. TRA	57. TRA	84. TRR	111. TRA	138. TRA
4. TRR	31. TRR	58. TRR	85. TRA	112. TRR	139. TRA
5. TRR	32. TRR	59. TRA	86. TRA	113. TRA	140. TRA
6. TRA	33. TRR	60. TRR	87. TRR	114. TRR	141. TRR
7. TRR	34. TRR	61. TRA	88. TRA	115. TRA	142. TRA
8. TRA	35. TRR	62. TRR	89. TRR	116. TRR	143. TRA
9. PT	36. TRR	63. TRR	90. TRR	117. TRA	144. TRA
10. TRA	37. TRA	64. TRR	91. TRA	118. TRA	145. TRR
11. TRA	38. TRR	65. TRR	92. TRR	119. TRA	146. TRR
12. TRA	39. TRA	66. TRA	93. TRR	120. TRR	147. TRR
13. TRA	40. TRR	67. TRA	94. TRR	121. TRA	148. TRR
14. TRR	41. TRA	68. TRA	95. TRA	122. TRR	149. TRA
15. TRA	42. TRA	69. TRR	96. TRR	123. TRA	150. TRA
16. TRA	43. TRA	70. TRR	97. TRA	124. TRR	151. TRA
17. TRA	44. TRA	71. TRA	98. TRA	125. TRA	152. TRA
18. TRA	45. TRA	72. TRR	99. TRR	126. TRR	153. TRA
19. TRA	46. TRR	73. TRA	100. TRR	127. TRA	154. TRR
20. TRR	47. TRA	74. TRA	101. TRA	128. TRR	155. TRR
21. TRR	48. TRA	75. TRA	102. TRA	129. TRR	156. TRA
22. TRA	49. PT	76. TRA	103. TRR	130. TRR	157. TRR
23. TRA	50. TRR	77. TRA	104. TRR	131. TRA	158. TRA
24. TRR	51. TRA	78. TRR	105. TRA	132. TRR	159. TRA
25. TRA	52. TRR	79. TRA	106. TRA	133. TRA	160. TRA
26. TRR	53. TRA	80. TRA	107. TRA	134. TRR	161. TRA
27. TRA	54. TRR	81. TRR	108. TRA	135. TRA	162. TRA

INTERVIEW 3 (continued)

163. TRA	191. TRR	219. TRA	247. TRA	275. TRR
164. TRA	192. TRA	220. TRA	248. TRA	276. TRR
165. TRR	193. TRA	221. TRA	249. TRR	277. TSI
166. TRA	194. TRR	222. TRR	250. TRA	278. TRR
167. TRA	195. TRA	223. TRA	251. TRA	279. TRA
168. TRA	196. TRR	224. TRA	252. TRR	280. TRR
169. TRR	197. TRA	225. TRA	253. TRR	281. TRA
170. TRR	198. TRA	226. TRA	254. TRA	282. TT
171. TRA	199. TRA	227. TRA	255. TRA	
172. TRA	200. TRR	228. TRA	256. TRA	
173. TRR	201. TRA	229. TRA	257. TRR	
174. TRA	202. TRR	230. TRR	258. TRR	
175. TRA	203. TRA	231. TRR	259. TRA	
176. TRA	204. PT	232. TRA	260. TRR	
177. TRR	205. TRA	233. TRR	261. TRA	
178. TRR	206. TRA	234. TRA	262. TRA	
179. TRR	207. TRR	235. TRA	263. TRR	
180. TRR	208. TRR	236. TRR	264. TRA	
181. TRA	209. TRA	237. TRA	265. TRR	
182. TRR	210. TRA	238. TRA	266. TRA	
183. TRA	211. TRR	239. TRA	267. PT	
184. TRR	212. TRA	240. TRA	268. TRA	
185. TRA	213. TRA	241. TRR	269. TRA	
186. TRR	214. TRA	242. TRR	270. TRA	
187. TRA	215. TRR	243. TRA	271. TRA	
188. TRA	216. TRA	244. TRA	272. TRR	
189. TRA	217. TRA	245. TRA	273. TRR	
190. TRR	218. TRR	246. TRR	274. TRR	

INTERVIEW 4

1. IT	28. TRA	55. TRR	82. TRA	109. TRA	136. TRR
2. TRA	29. TRR	56. TRR	83. TRR	110. TRR	137. TRA
3. TRR	30. TRR	57. TRA	84. TRA	111. TSI	138. TRA
4. TRA	31. TRA	58. TRA	85. TRR	112. TRR	139. TRA
5. TRA	32. TRR	59. TRR	86. TRR	113. TRR	140. TRA
6. TRA	33. TRR	60. TRR	87. TRA	114. TRA	141. TRA
7. TRA	34. TRA	61. TRR	88. TRA	115. TRA	142. TRA
8. TRA	35. TRA	62. TRA	89. PT	116. TRA	143. TRR
9. TRA	36. TRR	63. TRR	90. TRA	117. TRA	144. TRR
10. TRR	37. TRA	64. TRA	91. TRR	118. TRA	145. TSI
11. TRA	38. TRR	65. TRR	92. TRA	119. TRA	146. TRR
12. TRR	39. TRA	66. TRR	93. TRR	120. TRA	147. TRA
13. TRR	40. TRA	67. TRA	94. TRA	121. TSI	148. TRR
14. TRA	41. TRR	68. TRA	95. TRR	122. TRR	149. TRA
15. TRR	42. TRR	69. TRA	96. TRR	123. TRR	150. TRA
16. TRA	43. TRR	70. TRA	97. TRA	124. TRR	151. TRA
17. TRA	44. TRA	71. TRR	98. TRA	125. TRA	152. TRR
18. TRA	45. TRA	72. TRA	99. TRA	126. TRR	153. TT
19. TRR	46. TRR	73. TRA	100. TRA	127. TRR	
20. TRA	47. TRR	74. TRA	101. TRA	128. TRA	
21. TRA	48. TRA	75. TRA	102. TRA	129. TRA	
22. TRA	49. TRR	76. TRA	103. TRA	130. TRA	
23. TRA	50. TRA	77. TRR	104. TRA	131. TRA	
24. TRA	51. TRR	78. TRA	105. TRA	132. TRR	
25. TRA	52. TRA	79. TRR	106. TRR	133. TRR	
26. TRA	53. TRR	80. TRA	107. TRR	134. TRR	
27. TRA	54. TRA	81. TRA	108. TRR	135. TRA	

INTERVIEW 5

1. IT	28. TRA	55. TRA	82. TRA	109. TRA	136. TRR
2. TRR	29. TRA	56. TRA	83. TRR	110. TRA	137. TRR
3. TRR	30. TRA	57. TRA	84. TRR	111. PT	138. TRR
4. TRR	31. TRR	58. TRA	85. TRA	112. TRA	139. TRA
5. TRR	32. TRA	59. TRA	86. TRA	113. TRA	140. TRA
6. TRA	33. TRA	60. TRR	87. TRA	114. PT	141. TRA
7. PT	34. TRR	61. TRR	88. TRA	115. TRR	142. TRR
8. TRA	35. TRA	62. TRA	89. TRA	116. TRA	143. TRA
9. TRR	36. TRA	63. TRA	90. TRA	117. TRR	144. TRA
10. TRR	37. TRA	64. TRR	91. TRA	118. TRA	145. PT
11. TRA	38. TRR	65. TRR	92. TRR	119. TRR	146. TRA
12. TRA	39. TRR	66. TRA	93. TRR	120. TRA	147. TRA
13. TRR	40. TRR	67. TRA	94. TRA	121. PT	148. TRR
14. TRA	41. TRA	68. TRA	95. TRA	122. TRA	149. PT
15. TRA	42. TRA	69. TRR	96. TRA	123. TRR	150. TRR
16. TRA	43. TRR	70. TRA	97. TRR	124. TRR	151. TRR
17. TRA	44. TRR	71. TRR	98. TRA	125. TRR	152. TRR
18. TRA	45. TRA	72. TRA	99. TRR	126. TRA	153. PT
19. TRA	46. TRA	73. TRA	100. TRR	127. TRR	154. TRA
20. TRA	47. TRA	74. TRA	101. TRR	128. TRR	155. TRA
21. TRA	48. TRA	75. TRA	102. TRA	129. TRA	156. TRA
22. TRA	49. TRA	76. TRA	103. TRR	130. TRA	157. TRR
23. TRA	50. TRA	77. TRA	104. TRR	131. TRR	158. TRA
24. TRA	51. TRR	78. TRR	105. TRR	132. TSI	159. TRA
25. TRR	52. TRA	79. TRA	106. TRA	133. TRR	160. TRR
26. TRR	53. TRR	80. TRA	107. PT	134. TRA	161. TRR
27. TRR	54. TRA	81. TRA	108. TRA	135. TRA	162. TRA

INTERVIEW 5 (continued)

163. TRA

164. TRR

165. TRR

166. TRA

167. TRR

168. TRA

169. PT

170. TSI

171. TRR

172. TRA

173. TRR

174. TRR

175. TRA

176. TRR

177. TT

INTERVIEW 6

1. IT	28. TRA	55. TRR	82. TRA
2. TRA	29. TRA	56. TRA	83. TRA
3. TRR	30. TRA	57. TRA	84. TRA
4. TRA	31. TSI	58. TRR	85. TRA
5. TRA	32. TRA	59. TRR	86. TRA
6. TRA	33. TRR	60. TRA	87. TRA
7. TRR	34. TRA	61. TRA	88. TT
8. TRA	35. TRA	62. TRA	
9. TRR	36. PT	63. TRA	
10. TRR	37. TRR	64. TRA	
11. TRA	38. TRR	65. TRA	
12. TRA	39. TRR	66. TRA	
13. TRR	40. TRA	67. TRR	
14. TRA	41. TRA	68. TRA	
15. TRA	42. TRA	69. TRA	
16. TRR	43. PT	70. TRA	
17. TRR	44. TRA	71. TRA	
18. TRA	45. TRR	72. TRA	
19. TRR	46. TRA	73. TRR	
20. TRA	47. TRA	74. TRA	
21. TRA	48. TRR	75. TRA	
22. TRA	49. TRA	76. TRA	
23. TRA	50. TRA	77. TRA	
24. TRA	51. TRA	78. TRA	
25. TRR	52. TRR	79. TSI	
26. TRA	53. TRR	80. TRA	
27. TRA	54. TRA	81. TRA	

INTERVIEW 7

1. IT	28. TRA	55. TRR	82. TRA
2. TRA	29. TRA	56. TRA	83. TRA
3. TRR	30. TRA	57. TRR	84. TRA
4. TRA	31. TRA	58. TRR	85. TRA
5. TRA	32. TRR	59. TRR	86. TRR
6. TRR	33. TRR	60. TRA	87. TRR
7. TRR	34. TRA	61. TRR	88. TRR
8. TRA	35. TRR	62. TRA	89. TRR
9. TRA	36. TRA	63. TRA	90. TRA
10. TRA	37. TRR	64. TRA	91. TRA
11. TRR	38. TRR	65. TRA	92. TRA
12. TRA	39. TRR	66. TRA	93. TRR
13. TRA	40. TRA	67. TRR	94. TRA
14. TRA	41. TRR	68. TRA	95. TRA
15. TRA	42. TRR	69. TRA	96. TRA
16. TRA	43. TRR	70. TRA	97. TRA
17. TRA	44. TRA	71. TRA	98. TRA
18. TRA	45. TRR	72. TRA	99. TSI
19. TRR	46. TRA	73. TRA	100. TRR
20. TRA	47. TRA	74. TRA	101. TT
21. TRA	48. TRR	75. TRA	
22. TRA	49. TRR	76. TRA	
23. TRA	50. TRA	77. TRR	
24. TRA	51. TRA	78. TRA	
25. TRA	52. TRR	79. TRA	
26. TRA	53. TRA	80. TRA	
27. TRR	54. TRA	81. TRA	

INTERVIEW 8

1. IT	28. TRR	55. TRA	82. TRA	109. TRA
2. TRA	29. TRR	56. TRA	83. TRA	110. TRR
3. TRA	30. TRA	57. TRA	84. TRA	111. TRA
4. TRR	31. TRA	58. TRA	85. TRA	112. TRA
5. TRR	32. TRA	59. TRA	86. TRA	113. TRA
6. TRA	33. TRA	60. TRR	87. TRA	114. TRA
7. TRA	34. TRA	61. TRR	88. TSI	115. TRA
8. TRA	35. TRA	62. TRR	89. TRA	116. TRA
9. TRR	36. TRA	63. TRA	90. TRA	117. TRA
10. TRA	37. TRA	64. TRA	91. TRR	118. TRA
11. TRA	38. TRA	65. TRA	92. TRA	119. TRR
12. TRA	39. TRA	66. TRA	93. TRR	120. TRA
13. TRA	40. TRR	67. TRR	94. TRR	121. TRA
14. TRR	41. TRR	68. TRA	95. TRR	122. TT
15. TRA	42. TRA	69. TRA	96. TRA	
16. TRA	43. TRA	70. TRA	97. TRR	
17. TRA	44. TRA	71. TRR	98. TRA	
18. TRR	45. TRR	72. TRR	99. TRR	
19. TRA	46. TRA	73. TRA	100. TRA	
20. TRA	47. TRA	74. TRA	101. TRA	
21. TRA	48. TRR	75. TRA	102. TRA	
22. TRA	49. TRR	76. TRA	103. TRA	
23. TRA	50. TRA	77. TRA	104. TRA	
24. TRA	51. TRA	78. TRA	105. TRA	
25. TRA	52. TRA	79. TRA	106. TRR	
26. TRA	53. TRA	80. TRA	107. TRR	
27. TRR	54. TRR	81. TRA	108. TRR	

INTERVIEW 9

1. IT	28. TRR	55. TRR	82. TRA	109. TRR	136. TRA
2. TRA	29. PT	56. TRR	83. TRA	110. TRR	137. TRR
3. PT	30. TRR	57. TRA	84. TRA	111. TRA	138. TRR
4. TRA	31. PT	58. TRR	85. PT	112. TRR	139. TRR
5. TRA	32. TRA	59. TRR	86. TRR	113. TRR	140. TRR
6. PT	33. TRA	60. TRR	87. TRR	114. TRR	141. TRR
7. TRA	34. TRR	61. PT	88. TRR	115. TRR	142. TRA
8. TRA	35. TRA	62. TRR	89. TRR	116. TRA	143. TRR
9. TRR	36. TRA	63. PT	90. TRR	117. TRA	144. TRR
10. TRR	37. TRR	64. TRR	91. TRA	118. TRR	145. TRR
11. TRA	38. TRA	65. TRA	92. PT	119. TRR	146. TRR
12. TRA	39. PT	66. TRA	93. TRR	120. TRA	147. TRR
13. TRR	40. TRR	67. PT	94. TRR	121. TRA	148. TRR
14. TRR	41. TRR	68. TRR	95. TRR	122. TRR	149. PT
15. TRR	42. TRR	69. TRR	96. PT	123. PT	150. TRA
16. TRR	43. TRR	70. TRR	97. TRR	124. TRR	151. TRA
17. TRR	44. TRR	71. TRR	98. TRA	125. TRA	152. TRR
18. TRR	45. TRA	72. TRR	99. TRA	126. TRR	153. TRR
19. TRR	46. TRR	73. TRR	100. TRA	127. PT	154. TRR
20. TRA	47. PT	74. TRA	101. PT	128. TRR	155. TRR
21. TRA	48. TRA	75. TRR	102. TRR	129. PT	156. TRA
22. TRR	49. TRA	76. TRR	103. TRA	130. TRA	157. TRR
23. TRA	50. TRR	77. TRR	104. TRA	131. PT	158. TRR
24. TRR	51. TRR	78. TRR	105. TRA	132. TRA	159. TRA
25. TRR	52. TRR	79. TRR	106. TRR	133. TRR	160. TRR
26. TRA	53. TRA	80. TRR	107. TRR	134. TRR	161. TRR
27. TRR	54. PT	81. TRR	108. TRA	135. TRA	162. TRA

INTERVIEW 9 (continued)

163. TRR	191. PT	219. TRA	247. PT	275. TRA
164. TRA	192. TRR	220. TRR	248. TRR	276. TRR
165. PT	193. TRR	221. TRA	249. TRA	277. TRR
166. TRA	194. TRR	222. TRR	250. PT	278. TRA
167. TRR	195. TRR	223. TRR	251. TRA	279. TRR
168. TRR	196. TRR	224. TRA	252. TRR	280. TRR
169. TRR	197. TRR	225. TRA	253. TRR	281. TRR
170. PT	198. TRA	226. TRR	254. TRA	282. PT
171. TRR	199. PT	227. TRA	255. PT	283. TRR
172. PT	200. TRA	228. TRR	256. TRA	284. TRA
173. TRA	201. TRR	229. TRR	257. TRR	285. PT
174. TRR	202. TRR	230. TRR	258. TRA	286. TRR
175. TRR	203. PT	231. TRR	259. TRR	287. TSI
176. TRR	204. TRR	232. TRR	260. TRR	288. TRR
177. TRA	205. TRA	233. TRR	261. TRA	289. TRR
178. TRA	206. TRA	234. TRA	262. TRR	290. TT
179. TRR	207. PT	235. TRA	263. TRA	
180. TRA	208. TRR	236. PT	264. TRR	
181. PT	209. PT	237. TRR	265. TRR	
182. TRA	210. TRR	238. PT	266. TRA	
183. TRR	211. TRR	239. TRA	267. TRR	
184. TRA	212. TRR	240. TRR	268. TRR	
185. TRR	213. TRA	241. TRA	269. TRR	
186. TRR	214. TRA	242. TRR	270. TRR	
187. TRA	215. TRA	243. TRR	271. TRR	
188. TRR	216. PT	244. TRR	272. TRR	
189. TRA	217. TRA	245. TRA	273. TRR	
190. TRA	218. PT	246. TRR	274. TRR	

INTERVIEW 10

1. IT	28. TRA	55. TRA	82. TRA	109. TRA	136. TRR
2. TRA	29. TRA	56. TRA	83. TRA	110. TRA	137. TRR
3. PT	30. TRA	57. TRR	84. TRR	111. TRR	138. TRA
4. TRA	31. TRA	58. TRR	85. TRR	112. TRR	139. TRR
5. TRA	32. TRR	59. TRA	86. TRA	113. TRR	140. TRR
6. PT	33. TRR	60. TRR	87. TRR	114. TRA	141. TRA
7. TRR	34. TRR	61. TRR	88. TRA	115. TRR	142. PT
8. TRR	35. TRR	62. TRA	89. TRA	116. TRR	143. TRA
9. TRR	36. TRA	63. TRA	90. TRA	117. TRR	144. TRA
10. TRR	37. TRA	64. TRR	91. TRA	118. TRA	145. TRA
11. TRA	38. TRR	65. TRR	92. TRR	119. PT	146. PT
12. TRA	39. TRA	66. TRR	93. TRR	120. TRA	147. TRR
13. TRR	40. TRA	67. PT	94. TRR	121. TRR	148. TSI
14. TRR	41. TRA	68. TRR	95. TRR	122. TRA	149. TRR
15. TRA	42. TRA	69. TRR	96. TRR	123. TRR	150. TRR
16. TRA	43. TRR	70. TRR	97. TRA	124. TRR	151. TRR
17. TRR	44. TRA	71. TRR	98. TRA	125. TRR	152. TRR
18. TRA	45. TRA	72. TRR	99. TRR	126. TRA	153. TT
19. TRR	46. TRR	73. TRR	100. TRR	127. TRA	
20. TRR	47. TRR	74. TRA	101. TRR	128. TRA	
21. TRA	48. TRR	75. TRR	102. TRA	129. TRA	
22. TRR	49. TRA	76. TRR	103. TRA	130. TRR	
23. TRA	50. PT	77. TRR	104. PT	131. TRR	
24. TRR	51. PT	78. TRA	105. PT	132. TRR	
25. TRR	52. TRA	79. TRA	106. TRR	133. TRA	
26. TRA	53. TRR	80. TRR	107. TRR	134. TRR	
27. TRA	54. TRR	81. TRR	108. TRR	135. TRR	

INTERVIEW 11

1. IT	28. TRR	55. TRR	82. TRR
2. TRR	29. TRR	56. TRA	83. TRR
3. TRR	30. TRA	57. TRA	84. TRA
4. TRA	31. TRA	58. TRR	85. TRR
5. TRR	32. TRR	59. TRA	86. TRR
6. TRA	33. TRR	60. TRA	87. TRR
7. TRR	34. TRA	61. TRA	88. TRA
8. TRA	35. TSI	62. TRA	89. TRA
9. TRA	36. TRA	63. TRR	90. TRA
10. TRA	37. TRA	64. TRA	91. TRR
11. TRR	38. TRA	65. TRA	92. TRA
12. TRA	39. TRR	66. TRR	93. TRR
13. TRA	40. TRA	67. TRR	94. TRA
14. TRA	41. TRA	68. TRA	95. TRA
15. TRA	42. TRA	69. TRA	96. TRA
16. TRA	43. TRA	70. TRR	97. TRA
17. TRR	44. TRA	71. TRR	98. TRA
18. TRA	45. TRR	72. TRR	99. TRA
19. TRA	46. TRA	73. TRA	100. TRR
20. TRA	47. TRR	74. TRA	101. TRA
21. TRR	48. TRR	75. TRA	102. TRR
22. TRA	49. TRR	76. TRR	103. TRR
23. TRR	50. TRA	77. TRR	104. TRR
24. TRA	51. TRA	78. TRA	105. TRR
25. TRA	52. TRA	79. TRA	106. TT
26. TRA	53. TRA	80. TRR	
27. TRA	54. TRA	81. TRA	

INTERVIEW 12

1. IT	28. TRA	55. TRA	82. TRA
2. TRA	29. TRA	56. TRA	83. TRA
3. TRR	30. TRA	57. TRR	84. TRA
4. TRA	31. TRA	58. TRA	85. TRA
5. TRR	32. TRA	59. TRA	86. TRA
6. TRR	33. TRA	60. TRA	87. TRA
7. TRR	34. TRA	61. TRA	88. TRR
8. TRR	35. TRR	62. TRA	89. TRA
9. TRR	36. TRA	63. TRA	90. TRA
10. TRA	37. TRA	64. TRA	91. TT
11. TRR	38. TRA	65. TRA	
12. TRA	39. TRA	66. TRA	
13. PT	40. TRA	67. TRA	
14. TRA	41. TRR	68. TRA	
15. TRA	42. TRR	69. TRR	
16. TRA	43. TRA	70. TRA	
17. TRR	44. TRA	71. TRA	
18. TRA	45. TRA	72. TRA	
19. TRA	46. TRA	73. TRA	
20. TRR	47. TRA	74. TRA	
21. TRA	48. TRA	75. TRR	
22. TRA	49. TRA	76. TRR	
23. TRR	50. TRR	77. TRR	
24. TRA	51. TRR	78. TRR	
25. TRA	52. TRA	79. TRA	
26. TRA	53. TRA	80. TRA	
27. TRR	54. TRA	81. TRA	

APPENDIX F

DIRECTIONS GIVEN TO COUNSELORS
AND CLIENTS PRIOR TO INTERVIEWS

Taken verbatim from:

Wycoff, J. P. (1986). Affectively oriented counselors at three levels of experience: A linguistic analysis. Unpublished doctoral dissertation, University of Tennessee, Knoxville.

COUNSELOR DIRECTIONS

Thank you for agreeing to participate in this study of the counseling process. As you remember, your task will be to talk with two clients individually about their experience of a guided fantasy and then to fill out a brief evaluation of the counseling sessions. You will audio tape each of these sessions.

Before the guided fantasy, you will talk briefly with your client so that you can introduce yourselves to each other before the counseling session. Your purpose is to make contact briefly with your client. The usual things you might ask any new person you meet would be appropriate to talk about, for example, major, career, reason for or feelings about participating in the study. The client will then hear a guided fantasy experience. You will not be present during the fantasy, but a copy of the fantasy text is attached to these directions.

Following the fantasy, take your client to your assigned office to talk about the experience. The client is aware that the session will be taped and the necessary permission forms have already been obtained. Please start

the tape when you enter the office and begin the counseling session by saying, "Tell me what you experienced in the fantasy using the first person, present tense as if it were happening now, beginning with the words, 'I am . . .'" If the client starts speaking in the third person or past tense, prompt him or her once by repeating his/her statement in the first person, present tense. After that, you may continue to prompt or not, as you wish. Your clients are coming to talk about the feeling stimulated by the fantasy experience. Please interact with them for about fifty minutes to help them do this.

At the end of the counseling session, walk back with the client to the room where the fantasy experience was conducted. The client will then be debriefed and you will each fill out brief evaluation forms which you will get from the person that led the fantasy.

Taken verbatim from:

Wycoff, J. P. (1986). Affectively oriented counselors at three levels of experience: A linguistic analysis. Unpublished doctoral dissertation, University of Tennessee, Knoxville.

CLIENT DIRECTIONS

Thank you for agreeing to participate in this study of the counseling process. As you recall, you will participate in a guided fantasy experience, talk with a counselor about your experience, and fill out a brief evaluation of the counseling session. The counselor will audio tape the counseling session.

Before the guided fantasy, you will talk briefly with your counselor so that you can introduce yourselves to each other. You will then participate in the guided fantasy experience, in which you will be helped to relax and to imagine a situation that will be described to you. Following the fantasy, you will meet with your counselor for about fifty minutes to talk about the feelings stimulated by the fantasy experience. Then you will return to the room in which the fantasy was led and fill out the evaluation form.

At the close of the fantasy, the fantasy leader said:
"Now meet with your counselor and tell him or her your experience in the first person, present tense, as if it were happening now. . . ."

APPENDIX G

RESULTS OF COMPARISONS OF COUNSELOR-TO-CLIENT
AND CLIENT-TO-COUNSELOR TRANSITIONAL PROBABILITY
MATRICES AND RESULTS OF STATIONARITY TESTS

TABLE G-1
RESULTS OF COMPARISONS OF COUNSELOR-TO-CLIENT AND
CLIENT-TO-COUNSELOR TRANSITIONAL PROBABILITY MATRICES

Interview	df	χ^2	p
1	1	.000	1.000
2	1	.000	.994
3	1	.004	.952
4	1	.000	1.000
5	1	.000	.992
6	1	.012	.913
7	1	.000	1.000
8	1	.008	.927
9	1	.003	.953
10	1	.000	1.000
11	1	.010	.922
12	1	.000	1.000

TABLE G-2
RESULTS OF STATIONARITY TESTS

Interview	df	χ^2	p
1	1	.010	.922
2	1	.000	.996
3	1	.003	.953
4	1	.000	.993
5	1	.006	.939
6	1	.012	.913
7	1	.000	1.000
8	1	.000	1.000
9	1	2.016	.156
10	1	.060	.806
11	1	.000	1.000
12	1	.012	.915

APPENDIX H

COMPOSITE TRANSITIONAL PROBABILITY MATRICES USED IN ORDER-DEPENDENCE TESTS

Interview 1

Antecedent	Consequent			
	TSI	TRA	TRR	PT
TSI	0	.03 (3)	.01 (1)	0
TRA	.02 (2)	.19 (20)	.23 (24)	.06 (6)
TRR	.03 (3)	.21 (22)	.14 (15)	.01 (1)
PT	0	.07 (7)	.01 (1)	0

Interview 2

Antecedent	Consequent			
	TSI	TRA	TRR	PT
TSI	0	.01 (2)	.007 (1)	0
TRA	.01 (2)	.32 (47)	.22 (33)	0
TRR	.007 (1)	.22 (33)	.18 (27)	.007 (1)
PT	0	0	.007 (1)	0

Interview 3

Antecedent	Consequent			
	TSI	TRA	TRR	PT
TSI	0	.004 (1)	.004 (1)	0
TRA	.004 (1)	.30 (84)	.25 (70)	.01 (4)
TRR	.004 (1)	.25 (70)	.15 (43)	0
PT	0	.01 (3)	.004 (1)	0

Note: TSI = Topic Shift Initiation; TRA = Topic Relevant Act; TRR = Topic Relevant Response; PT = Passing Turn. Frequencies used to compute probabilities appear in parentheses.

Figure H-1. Composite Transitional Probability Matrices Used for Order-Dependent Tests

Interview 4

Antecedent	Consequent			
	TSI	TRA	TRR	PT
TSI	0	0	.02 (3)	0
TRA	.007 (1)	.35 (53)	.23 (34)	.007 (1)
TRR	.01 (2)	.23 (35)	.13 (20)	0
PT	0	.007 (1)	0	0

Interview 5

Antecedent	Consequent			
	TSI	TRA	TRR	PT
TSI	.006 (1)	0	.01 (2)	0
TRA	0	.33 (57)	.20 (34)	.04 (7)
TRR	0	.20 (34)	.16 (27)	.01 (2)
PT	.006 (1)	.03 (6)	.01 (2)	0

Interview 6

Antecedent	Consequent			
	TSI	TRA	TRR	PT
TSI	0	.02 (2)	0	0
TRA	.02 (2)	.47 (40)	.18 (15)	.02 (2)
TRR	0	.19 (16)	.07 (6)	0
PT	0	.01 (1)	.01 (1)	0

Figure H-1 (continued)

Interview 7

Antecedent	Consequent			
	TSI	TRA	TRR	PT
TSI	0	0	.01 (1)	0
TRA	.01 (1)	.48 (47)	.18 (18)	0
TRR	0	.18 (18)	.13 (13)	0
PT	0	0	0	0

Interview 8

Antecedent	Consequent			
	TSI	TRA	TRR	PT
TSI	0	.01 (1)	0	0
TRA	.01 (1)	.57 (67)	.16 (19)	0
TRR	0	.16 (19)	.09 (11)	0
PT	0	0	0	0

Interview 9

Antecedent	Consequent			
	TSI	TRA	TRR	PT
TSI	0	0	.004 (1)	0
TRA	0	.09 (25)	.16 (46)	.07 (20)
TRR	.004 (1)	.17 (49)	.31 (90)	.06 (17)
PT	0	.06 (16)	.07 (21)	0

Figure H-1 (continued)

Interview 10

Antecedent	Consequent			
	TSI	TRA	TRR	PT
TSI	0	0	.007 (1)	0
TRA	0	.19 (28)	.17 (26)	.05 (7)
TRR	.007 (1)	.18 (27)	.32 (48)	.007 (1)
PT	0	.03 (4)	.03 (4)	.01 (2)

Interview 11

Antecedent	Consequent			
	TSI	TRA	TRR	PT
TSI	0	.01 (1)	0	0
TRA	.01 (1)	.36 (37)	.24 (24)	0
TRR	0	.24 (24)	.15 (15)	0
PT	0	0	0	0

Interview 12

Antecedent	Consequent			
	TSI	TRA	TRR	PT
TSI	0	0	0	0
TRA	0	.55 (48)	.16 (14)	.01 (1)
TRR	0	.16 (14)	.10 (9)	0
PT	0	.01 (1)	0	0

Figure H-1 (continued)

VITA

Kathleen Warden was born in San Antonio, Texas, on May 21, 1946. She attended elementary schools in Bluefield, West Virginia and received her high school diploma from Salem Academy, Winston-Salem, North Carolina, in June 1964. The following September she entered Randolph-Macon Woman's College, Lynchburg, Virginia, and in 1967 transferred to The University of Tennessee, Knoxville, where she received a Bachelor of Arts degree in history in 1969. In the fall of 1969 she began study toward a Master's degree in special education with an emphasis in education of the hearing-impaired. This degree was awarded in 1972.

After teaching hearing impaired children at The Tennessee School for the Deaf, Knoxville, and at The Institute for the Deaf, Beirut, Lebanon, she reentered The Graduate School of The University of Tennessee, Knoxville, in 1978. She received a Doctor of Philosophy degree with a major in education in June 1986.

The author is a member of the Council on Education of the Deaf, Alexander Graham Bell Association for the Deaf, American Educational Research Association, and the American Psychological Association. Ms. Warden will be employed by The University of Tennessee, Knoxville, as an Assistant Professor in the Department of Special Education and Rehabilitation.