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ABSTRACT

This document contains six papers from a symposium on counseling process research which offer the application of multiple research perspectives and analysis of a common data set. Analyses of two interviews from a single counseling case include lag analysis of relational control, the investigation of topic control, discourse analysis of the interaction, information theory analysis of the structure of the interaction, and analysis of the attributional changes and interpersonal strategies occurring during the sessions. "A Structural Analysis of Counseling Interaction" by James W. Lichtenberg analyzes two sessions' talk with a coding scheme that orients the coder to locate evidence of relational control in the counselor and client utterances. "Interactive Counseling Discourse as Social Control: Stochastic Analysis and Microanalysis" by Myrna L. Friedlander and Susan D. Phillips analyzes the sessions' talk by administering some of the categories of the Discourse Activity Analysis System and the stochastic tests of stability and predictability of talk sequences. "An Examination of Topic Control in Counseling" by Terence J. Tracey analyzes the sessions by administering a coding scheme consisting of topic initiation and topic following. "A Descriptive and Lag Analysis of Relational Control in Counseling" by Laurie Heatherington analyzes the talk by using the coding scheme provided by the Relational Communication Control Coding System categories and the procedures of a lag sequential analysis. "Influence in Counseling: Content and Relationship" by Charles D. Claiborn analyzes the sessions by administering a modification of the Interpersonal Communication Rating Scale categories. The final paper "On Getting Closer to a Description of the Actual Events in Counseling: Discussant Remarks" by Michael J. Patton, provides a summary of the papers presented and poses some relevant questions for further consideration. (NRB)

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PERSPECTIVES ON PROCESS: THE MICROANALYSIS OF A
SINGLE COUNSELING SESSION

James W. Lichtenberg, Myrna L. Friedlander, Susan D. Phillips,
Terence J. Tracey, Laurie Heatherington, Charles D. Claiborn, and Michael J. Patton

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Paper presented at the Annual Convention of the American Psychological Association
93rd, Los Angeles, CA, August 23-27, 1985.

A Structural Analysis of Counseling Interaction

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Presented as part of a symposium on "Perspectives on Process" at the annual convention of the American Psychological Association, Los Angeles, CA: August, 1985.

A Structural Analysis of Counseling Interaction

Counseling, as social interaction, may be understood as a process that evidences both flexibility and constraint (Raush, 1965). It is flexible in the sense that the responses of the counselor and client do not, as a rule, invariably result in a particular response by the other. It is constrained in the sense that despite the probabilistic (flexible) nature of the responding, it nevertheless evidences some degree of orderliness to it, and does not, generally speaking, degenerate into chaos. The orderliness of the counseling interaction is the structure of the process; it is the regularities or response patterning which occur in the sequence of interaction between the counselor and the client (Duncan & Fiske, 1979; Lichtenberg & Heck, in press).

The structure of the interaction between the counselor and client is a function of the simple unconditional probabilities of occurrence of the various counselor and client responses; i.e., some counselor and/or client responses simply may occur more frequently than others. This differential in response distribution is itself a response pattern or structure.

Structure is also a function of the interactive or conditional responding of the counselor and the client;

i.e., the occurrence of particular responses by one of the interactants may affect the subsequent occurrence of particular responses by the other.

Individual differences may exist between the counselor and the client in terms of their contributions to the overall structural pattern of their interaction: Counselors may be more or less structured in their responding than their clients, and counselor's responding may be more or less structured by their clients than vice versa.

Drawing upon Shannon and Weaver's mathematical theory of communication (Shannon & Weaver, 1949; also see Attneave, 1959 and Losey, 1978) -- also called "information theory" -- this study was an attempt to investigate the structure of the social interaction between a counselor and a client in two therapy interviews. The data analyzed were the interactive verbal behaviors of the counselor and client, coded in terms of their relational control (Ericson & Rogers, 1973) -- more specifically, in terms of whether the verbal behaviors constituted interpersonal maneuvers toward dominance, submissiveness or the "neutralization" of relational positioning.

Method

Data

Data for analysis consisted of two complete therapy

interviews (Interview 1 and 18), each taken from the same therapy case (total number of sessions = 20). The therapist for the case was a male, clinical psychologist, age approximately 50, who described his therapeutic orientation as primarily "social learning." The client in the case was a female, age approximately 35, whose presenting concerns were anxiety and difficulty with interpersonal (male and female) relationships. Interview 1 lasted approximately 66 minutes; Interview 18 lasted approximately 48 minutes.

Response Coding

Audio recordings and prepared transcriptions of both interviews were used for coding the therapist-client interaction for subsequent analyses. The alternating verbal responses (utterances) of both the therapist and the client were coded in terms of their "relational control" using Ericson and Rogers' (1973) modification of Mark's (1971) response coding system. Following the procedures outlined by Ericson and Rogers, therapist and client responses were coded as to their "interpersonal control direction." Responses that suggested movement toward dominance (e.g., questions that demanded an answer, instructions, orders) were coded as "one-up." Responses that suggested movement toward being controlled by seeking or accepting the dominance of the other (e.g., questions that sought a supportive response) were coded as "one-down." And responses that were neither a move

toward control nor being controlled, or which suggested movement toward neutralizing control (e.g., statements of continuance, filler phrases, noncommittal responses to questions) were coded as "one-across." "Talk-overs" or interruptions by either interactant which, on review of the transcript and the audio recording, were judged not to involve "relational positioning" (one-up or one-down) or its neutralization (one-across)--responses such as "ahh," "umm," "ok," "uh-huh," "yah," etc. which appeared more like verbal mannerisms or habits than as relational maneuvers--were not coded.

The two interviews were coded by two independent raters, previously trained to a high level of interrater agreement on similar material. Interrater agreement (Kappa; see Cohen, 1960) for the two raters was $K = .90$ across both interviews. The level of interrater agreement was statistically significant ($p < .01$) and suggested very acceptable interrater agreement. Discrepancies in response code assignments which did occur were resolved through negotiation by the two raters.

Analysis

Each interview was analyzed separately in the following manner:

The unconditional probabilities of occurrence of each of the various therapist and client responses were calculated by dividing the frequency of occurrence of

each response by the total number of therapist and client responses for that interview. The response probabilities for each interactant were calculated by dividing the frequency of occurrence of each of the interactant's responses by his or her own response total.

Conditional response probabilities, i.e., the probability of occurrence of each response when the immediately antecedent response is given, were derived by dividing the frequencies of the various therapist-client and client-therapist response contingencies by the frequency of occurrence of the antecedent response in those contingencies. [NOTE: Given the "utterance" as the unit of analysis for response coding, therapist responses could only follow client responses, and client responses could only follow therapist responses.]

Conditional probabilities were organized into a contingency matrix (sometimes referred to as a "transition matrix" in that it summarizes the probabilities of transition from each of the various therapist responses to each of the possible client responses, and from each of the various client responses to each of the possible client responses). The rows and columns of the matrix corresponded to the response contingency antecedents and consequents respectively.

A series of information theory measures were then computed on these conditional and unconditional probabilities. The measures included:

- (a) Entropy. Entropy is a measure of the degree

of randomness or disorganization of the interaction sequence (i.e., the therapy process). The more random the occurrence of the interactive behaviors (i.e., the greater the entropy), the less organized and therefore the less structured is the process. Entropy may be thought of as associated with the amount of "freedom of choice" participants have in emitting their responses. Under high structure (low entropy), participants have limited "choice" in which responses will be emitted.

Entropy is calculated as

$$H_x = - \sum p_i \log_2 p_i \quad \text{where } p_i = \begin{array}{l} \text{the probability} \\ \text{of occurrence} \\ \text{of response} \\ \text{category } \underline{i} \\ \text{(i.e., the} \\ \text{marginal row} \\ \text{probability for} \\ \text{response} \\ \text{category } \underline{i}) \end{array}$$

[NOTE: It is convention in information theory to express values terms of "binary digits" or "bits." Consequently, computations of information theory measures are carried-out using base-2 logarithms. Since most calculators and computers do not have such logarithms available in their languages, the following conversions may be used: (a) base-10 logarithms may be converted to base-2 logs by multiplying by 3.3219; (b) natural logarithms convert to base-2 logs by multiplying by 1.4427. In all calculations it is important to adopt the convention that the log of zero is zero. One should also note the minus

sign in the above formula for calculating entropy. Since logarithms of numbers less than 1.0 are always negative, and since any probability is a number less than or equal to 1.0, the minus sign is necessary in order that entropy be a positive value.]

(b) Maximum entropy. Maximum entropy is the entropy value for the interaction sequence when the various responses were all equally likely; i.e., if the unconditional probabilities of occurrence of the various therapist and client responses were all equal and disorganization were maximal. Maximum entropy is calculated as

$$H_{\max} = -\log_2 m \quad \text{where } m = \begin{array}{l} \text{the number of} \\ \text{response} \\ \text{categories} \end{array}$$

(c) Relative entropy. Relative entropy is computed as the ratio of the actual entropy (H_x) of the interaction sequence (i.e., the actual degree of disorganization of the process) to the maximum possible degree of disorganization for the process (H_{\max}).

Relative entropy is calculated as

$$\text{Rel. entropy} = \frac{\text{entropy}}{\text{max. entropy}}$$

This measure provides an index of the degree of response freedom in the process, relative to the maximum response freedom that could exist. For example, if the relative entropy of the interaction process were .90, this would

suggest that within the process the responses of the participants were about 80% as free to vary as they could be.

(d) Redundancy. Redundancy is a measure of the fraction of the structure of the process that is determined not by the "free choice" of the participants, but rather by the constraint inherent in their interaction (i.e., the conditional responding of the participants). Redundancy is calculated as

$$\text{Redundancy} = (1 - \text{relative entropy})$$

(e) Ambiguity. The ambiguity measure is an index of the uncertainty of a response (consequent), given knowledge of the prior (antecedent) response. (See Attneave, 1957, for the computational formula for this measure.)

(f) Equivocation. The equivocation measure is the converse of the ambiguity measure. It is an index of the uncertainty of an antecedent response when knowledge of its consequent is given. (See Attneave, 1957, for the computational formula for this measure.)

The above information theory measures were calculated for the entire response contingency matrix. It should be noted that interpretation of these measures must be made with some degree of caution. Given the nature of the unit of analysis used in this study (the "utterance"),

speaker-switching (i.e., alternation of therapist and client responses) became an "imposed structure" upon the therapy interaction. Client responses never immediately followed (or immediately preceded) other client responses, and therapist responses never followed (or preceded) other therapist responses. As such, although serving as accurate indices of the the interactional structure of the therapy process (as defined), the information theory measures are "inflated." Within the process, therapist and client responses are not as free to vary in their occurrence as they might be; therapist responses can only follow client responses, and client responses can only follow therapist responses. Likewise, knowledge of preceding and following responses (the equivocation and ambiguity measures, respectively) is also enhanced since each interactant's response can only be preceded (or followed) by a response (one-up, one-down, one-across) by the other person.

For this reason, the same information theory measures were also computed separately for (a) the section of the contingency matrix in which the therapist served as the antecedent for the client, and (b) the section of the contingency matrix in which the client served as the antecedent for the therapist. For these analyses, the speaker-switching structure imposed on the process by the unit of analysis does not confound the measures. When considering the therapist as the antecedent, (a) the

entropy, maximum entropy, relative entropy, and redundancy measures provide indices of structure in the therapist's responding, (b) the ambiguity measure provides an index of the uncertainty in the client's responding, given knowledge of the therapist's antecedent responses, and (c) the equivocation measure provides an index of the uncertainty in the therapist's responding, given knowledge of the client antecedent responding. When considering the client as the antecedent speaker, the information theory measures carry the same relative meaning with an appropriate switch in the person referents.

Structure and Influence

Irrespective of the mutuality of influence within counseling, it has been argued (Haley, 1963; Strong & Claiborn, 1982) that the balance of influence or power within counseling must favor the counselor if counseling is to be successful. Although research on interpersonal influence in counseling has a long history (for reviews see Corrigan, Dell, Lewis & Schmidt, 1980, and Heppner & Dixon, 1981), investigation of the relative influence of counselors on clients and clients on counselors is virtually non-existent (however, see Kobes & Lichtenberg, in press; Lichtenberg & Barke, 1981; Tracey, Heck & Lichtenberg, 1982; Tracey & Ray, 1984).

The ambiguity indices which are computed on the "counselor as antecedent" and "client as antecedent"

portions of the contingency matrix provide useful measures for the determination of the each interactant's influence relative to the influence of the other. Specifically, the antecedent speaker with the smaller ambiguity index may be considered evidencing the greater influence on the distribution of behaviors by the other (i.e., providing the greater decrease in the uncertainty in the other's responses).

The reasoning behind this interpretation should be fairly clear: To the extent that one person's responses are more predictable (or less uncertain) given the preceding person's responses, then it follows that the antecedent speaker's responses evidence greater constraint over the occurrence of the other's responses. That is to say, there is an asymmetry in the predictability in the contingent responding of the two interactants, with the second person having less "freedom of choice" (statistically speaking) than the first in "selecting" a next response (Gottman, 1979; Wampold, 1984).

Results

Response frequencies and response probabilities for both interviews are presented in Table 1. Interview 1 had a total of 464 coded responses--half of which were made by the therapist and half by the client (understandably, given that the responses, by definition, alternate by speaker). Most of the therapist's responses

(105 = 45%) were "one-down" responses; most of the client's responses (105= 45%) were "one-up" responses. Interview 18 had a total of 378 responses. As in the first interview, most of the therapist's responses (83 = 44%) were "one-down" responses. The client's responses appeared to be somewhat more evenly varied among the three response categories; however, "one-across" responses were the most predominant (75 = 40%).

Insert Table 1 about here

Tables 2 and 3 are the therapist-client contingency matrices for Interview 1 and Interview 18 respectively. The values appearing in the two matrices are the contingency frequencies, under which appear the contingency (transition) probabilities, for the various therapist-client and client-therapist response contingencies. [NOTE: The 0.0 entries in the upper left and lower right quadrants of the matrices reflect the "speaker-switching" character of the interaction. Specifically, transitions between therapist responses and between client responses were not possible, given the "utterance" as the unit of analysis.]

Insert Tables 2 and 3 about here

The contingency probabilities, when contrasted with the interactants' unconditional response probabilities

(Table 1), provide information relative to the influence of the responses of each speaker on the responding of the other. Specifically, if the conditional (contingent) probability of occurrence of a consequent is greater than its unconditional likelihood of occurrence, it suggests that the antecedent response (of the other speaker) had an excitatory effect on its occurrence. If the conditional probability of occurrence of a consequent is less than its unconditional likelihood of occurrence, it suggests that the antecedent response had an inhibitory effect on its occurrence.

As pertains to Interview 1, therapist "one-up" responses appeared to have an excitatory effect on client "one-up" responses, a strong excitatory effect on client "one-down" responses, and a strong inhibitory effect on client "one-across" responses. Therapist "one-down" responses appeared to have a strong excitatory effect on client "one-up" and "one-across" responses, and a strong inhibitory effect on client "one-down" responses. Therapist "one-across" responses appeared to have a strong inhibitory effect on client "one-up" responses, a strong excitatory effect on client "one-down" responses, and a negligible effect on client "one-across" responses.

Client "one-up" responses had a slightly inhibitory effect on therapist "one-up" and "one-across" responses, and a strong excitatory effect on therapist "one-down" responses. Client "one-down" responses had an excitatory

effect on therapist "one-up" and "one-across" responses, and a strong inhibitory effect on therapist "one-down" responses. Client "one-across" responses had virtually no effect on the occurrence of therapist responses.

As pertains to Interview 18, therapist "one-up" responses appeared to have little effect on client "one-up" responses, a strong excitatory effect on client "one-down" responses, and a strong inhibitory effect on client "one-across" responses. Therapist "one-down" responses had a slight excitatory effect on client "one-up" responses, a strong inhibitory effect on client "one-down" responses, and a strong excitatory effect on client "one-across" responses. Therapist "one-across" responses had a strong inhibitory effect on client "one-up" responses, a strong excitatory effect on client "one-down" responses, and a slight inhibitory effect on client "one-across" responses.

Client "one-up" responses had slight excitatory effect on therapist "one-up" responses, a strong excitatory effect on therapist "one-down" responses, and a strong inhibitory effect on therapist "one-across" responses. Client "one-down" responses had a strong excitatory effect on therapist "one-up" and "one-across" responses, and a strong inhibitory effect on therapist "one-down" responses. Finally, client "one-across" responses had strong inhibitory effect on therapist "one-up" responses, and a moderate excitatory effect on therapist "one-down" and "one-across" responses.

The various information theory measures (entropy, maximum entropy, relative entropy, redundancy, ambiguity, equivocation) for Interview 1 and Interview 2 are summarized in Table 4. The same measures, computed for (a) the therapist as antecedent speaker, and (b) the client as antecedent speaker, are summarized in Table 5.

NOTE: Maximum entropy is calculated as $\log_2 m$ -- where m is the number of response categories. It represents maximal disorganization, i.e., the absence of structure among the response categories. It is the entropy value for the interaction sequence when the various response categories have an equal likelihood of occurrence. Since the number of response categories was the same across the two interviews, maximum entropy was also the same [2 interactants (therapist, client) X 3 response categories ("one-up," "one-down," "one-across") = a total of 6 response categories: maximum entropy = $\log_2 6 = 2.539$].

In the information theory analyses based on the therapist as antecedent speaker or the client as antecedent speaker, the number of response categories was 3 : maximum entropy = $\log_2 3 = 1.585$. This value was also the same across the two interviews.

Analysis of the interaction

For both interviews, structure appears to be negligible, and response flexibility approached its maximum. Entropy was 2.539 for Interview 1 and 2.556 for Interview 18 (max. entropy = 2.585). The relative

entropy for both interviews as approximately .98, suggesting the counseling interaction to be about 98% as "free" or as flexible as it could be. Understandably, response redundancy (i.e., the degree of response patterning) in both interviews was minimal (redundancy = .01).

Insert Table 4 about here

Despite the apparent lack of overall structure in the two interviews, some constraint was evidenced in the conditional responding of the therapist and client. Specifically, in Interview 1 the response ambiguity was 1.423 -- a reduction of 1.116 in the overall uncertainty in the response occurrence (entropy minus ambiguity) -- suggesting that knowledge of antecedent responses provides information (i.e., reduces uncertainty) about their consequents. Similarly, knowledge of a response was found to provide information relative to its antecedent (equivocation = 1.423; entropy minus equivocation = 1.116). As discussed earlier, these reductions in response uncertainty are "confounded" by the imposition of a speaker-switching framework onto the interaction. This also likely accounts for the symmetry of the ambiguity and equivocation measures.

In Interview 18, the response ambiguity was 1.462 -- suggesting a reduction in the overall uncertainty in response occurrence when responses are considered

"contingently" (entropy minus ambiguity = 1.094). As before, knowledge of an antecedent response provides some information relative to the occurrence of its consequent. Similarly, knowledge of a response reduces the uncertainty of its antecedent (equivocation = 1.462).

Analysis of the interaction by speaker

In Interview 1, therapist entropy was 1.540 (max. entropy = 1.585) -- suggesting considerable flexibility in the therapist's responding. Specifically, the therapist's responses were 97% as free to vary as they could be (relative entropy = .972), and response redundancy (patterning) was .028. Client entropy was 1.538, also suggesting considerable response flexibility. Client responses were 97% as free to vary as they could be (relative entropy = .970), and response redundancy was .030.

Insert Table 5 about here

The uncertainty in the therapist's responding, given client antecedent responding (ambiguity) was 1.503, suggesting that the therapist retained considerable flexibility in his responding, despite client antecedent responses. The uncertainty in the client's responding, given the therapist's antecedent responses, was 1.343, suggesting that the client also retained a reasonable degree of response flexibility -- although that

flexibility was not as great as that for the therapist.

The uncertainty in the therapist's prior/antecedent response, given knowledge of the client's response (equivocation) was 1.344. Equivocation for the client's antecedent response when the therapist's response was known was 1.503 -- suggesting that the client antecedent responses were more predictable (i.e., less uncertain) when the therapist's responses were known, than vice versa.

In Interview 18, therapist entropy was 1.545 and client entropy was 1.567 (relative entropy = .975 and .989, respectively; and redundancy = .025 and .011, respectively) -- suggesting that the therapist was somewhat more "structured" or "patterned" in his responding than was the client.

The uncertainty in the therapist's responses when the client's antecedent responses were known was 1.489 (ambiguity); and the uncertainty in the client's responses when the therapist's responses were known was 1.435 (ambiguity). These measures suggest that the client's responses to the therapist were more predictable than vice versa.

The uncertainty in the therapist's prior/antecedent response, given knowledge of the client's response was 1.412 (equivocation); and the uncertainty in the client's antecedent response, when knowledge of the therapist's response was available was 1.512 (equivocation). These measures suggest that one could be more certain of

therapist antecedent responses than of client antecedent responses (given the consequent response of the other).

Discussion

The limited data available for analysis preclude formal statistical comparisons either within or across interviews; and it should be clear from the various tables presented above that the difference in values between the various information theory measures is, in many instances, quite negligible. However, with the understanding that these analyses were undertaken more as an exposition of analytical technique than for drawing substantive conclusions regarding this therapy interaction or therapy interaction in general, "conclusions" will be drawn.

1. The difference between the entropy values for the two interviews suggests that Interview 1 was slightly more structured than Interview 18, although neither interview evidenced much structure or patterning in its responses. That Interview 1, as the initial and "structuring" interview for the therapy case, was the more structured of the two is not surprising.

2. Within Interview 1, the therapist evidenced somewhat less structure in his responding than did the client, which is curious given the "structuring role" usually attributed to the therapist--particularly in the initial session(s).

3. Within Interview 1, the uncertainty in the

therapist's responses, given knowledge of the client's antecedent responses, was greater than the uncertainty in the client's responses, given knowledge of the therapist's antecedent responses. This suggests that the therapist was less influenced by the client's responses than the client was by the therapist's responses.

4. Within Interview 1, the therapist's antecedent responses (given knowledge of the client's responses) were more predictable than were the client's antecedent responses (given the therapist's responses).

5. Within Interview 18, therapist responses were more structured or organized than were the client's responses.

6. Within Interview 18, therapist responses were less influenced by the client's responses than were the client's responses by the therapist. More specifically, response uncertainty was greater for therapist responses when the client's antecedent response was known than it was for client responses when the therapist's antecedent response was known.

7. Within Interview 18, uncertainty was greater when trying to predict client antecedent responses from therapist responses, than vice versa.

8. The therapist's responding was more structured in Interview 1 than it was in Interview 18.

9. The client's responding was more structured in Interview 1 than it was in Interview 18.

10. In terms of "influence" (defined as constraint over the other's responding), the therapist was in the "one-up" position in the initial interview, despite a preponderance of "one-up" responding by the client and a preponderance of "one-down" responding by the therapist. Whether such an interactive response structure may be indicative a "meta-complementary" therapeutic relationship (Haley, 1963; Strong & Claiborn, 1982; Watzlawick, Beavin & Jackson, 1967) -- a relationship in which the therapist gains a "one-up" position relative to the client by "allowing" the client to be "one-up") -- is interesting and tempting to consider.

11. In Interview 18, although the unconditional response probabilities for the client were more balanced, and the therapist continued with a high proportion of "one-down" responses, interactionally (i.e., based on the contingent responding of the therapist and the client to each other) the therapist was the more influential ("one-up") of the two interactants.

The structure of therapeutic interaction is fundamentally a function of the unconditional and conditional probabilities of the various therapist and client responses. Whether as a result of "theoretical orientation," "role expectations," or simply habit, that some therapist and client responses occur more (or less) frequently than others, defines a certain character or structure to their interaction. It is their conditional

responding, however, which defines the structure of their relationship. In a general sense, a relationship is said to exist between two persons whenever they behave in a non-random manner with respect to each other. More specifically, a relationship between persons means that their actions are dependent (at least to some degree) on the preceding behaviors of the other. Indeed, were this not the case (i.e., were a therapist and client not to respond differentially/non-randomly to each other), it would be difficult to say there was any relationship between them. By this definition, it should be understood that a relationship is not based simply on the responses one person (e.g., the therapist) makes to another (e.g., the client); rather it is based on the contingencies that exist between their responses (Cherry, 1957) -- contingencies of mutual and reciprocal constraint upon the response variability of both the therapist and the client.

This study attempted to demonstrate how measures derived from Shannon and Weaver's (1949) mathematical theory of communication ("information theory") could be useful in understanding the structure of therapeutic interaction and the therapeutic relationship.

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Table 1

Response frequencies and probabilities for Interview 1
and Interview 18

Response	Interview			
	1		18	
	Freq	Prob	Freq	Prob
Therapist				
one-up	61	.263	47	.249
one-down	105	.453	83	.439
one-across	66	.284	59	.312
Client				
one-up	105	.453	51	.270
one-down	68	.293	63	.333
one-across	59	.254	75	.397

Table 2

Contingency frequency and probability matrix for
Interview 1

Antecedent	Consequent					
	Therapist			Client		
	Up	Down	Across	Up	Down	Across
Therapist						
Up	0.0	0.0	0.0	31	26	4
				.508	.426	.066
Down	0.0	0.0	0.0	57	8	40
				.543	.076	.381
Across	0.0	0.0	0.0	17	34	15
				.258	.515	.227
Client						
Up	21	58	26	0.0	0.0	0.0
	.200	.552	.248			
Down	24	20	23	0.0	0.0	0.0
	.358	.299	.343			
Across	15	27	17	0.0	0.0	0.0
	.254	.458	.288			

Table 3

Contingency frequency and probability matrix for
Interview 18

Antecedent	Consequent					
	Therapist			Client		
	Up	Down	Across	Up	Down	Across
Therapist						
Up	0.0	0.0	0.0	13	26	8
				.277	.553	.170
Down	0.0	0.0	0.0	26	11	46
				.313	.133	.554
Across	0.0	0.0	0.0	12	26	21
				.203	.441	.356
Client						
Up	13	29	9	0.0	0.0	0.0
	.255	.569	.176			
Down	20	17	25	0.0	0.0	0.0
	.323	.274	.403			
Across	14	37	24	0.0	0.0	0.0
	.187	.493	.320			

Table 4

Information theory measures for the two therapy interviews

Measure	Interview	
	1	18
Entropy	2.539	2.556
Max. entropy	2.585	2.585
Rel. entropy	.982	.989
Redundancy	.018	.011
Ambiguity	1.423	1.462
Equivocation	1.423	1.462

Table 5

Information theory measures for the two therapy interviews when broken down by (a) therapist as the antecedent speaker, and (b) client as the antecedent speaker

Measure	Interview	
	1	18
<u>Therapist</u> as antecedent:		
Entropy	1.540	1.545
Max. entropy	1.585	1.585
Rel. entropy	.972	.975
Redundancy	.028	.025
Ambiguity ^a	1.343	1.435
Equivocation ^b	1.344	1.412
<u>Client</u> as antecedent:		
Entropy	1.538	1.567
Max. entropy	1.585	1.585
Rel. entropy	.970	.989
Redundancy	.030	.011
Ambiguity ^a	1.503	1.489
Equivocation ^b	1.503	1.512

^aUncertainty in the consequent speaker's response, when the antecedent speaker's response is known

^bUncertainty in the antecedent speaker's response, when the consequent speaker's response is known

Interactive Counseling Discourse as Social Control:
Stochastic Analysis and Microanalysis

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Interactive Counseling Discourse as Social Control: Stochastic Analysis and Microanalysis

We assume, from a sociolinguistic perspective, that negotiation of the therapeutic relationship is reflected in the interactive discourse -- the flow of talk -- between client and therapist. Because discourse is assumed to be rule-governed and pragmatic and thus a form of social or interpersonal control (Grimshaw, 1981), analysis of discourse can suggest ways in which client and therapist (as any two interactants in a social system) influence their interaction toward some desired state. Rules of discourse override both the content (or substance) and the form (or structure) of the message and reflect limitations on who says what, when, how, and toward what end (Friedlander, 1984). An analysis of discourse can reveal the implicit agreements of client and therapist about the locus of responsibility for guiding the treatment (that is, who determines the topic, who is most active) and about responsibility for resolving problems (that is, who questions, who advises, who challenges, who responds).

To arrive at these implicit agreements, client and therapist speak in ways that signal their expectations and intentions (Meara, Pepinsky, Shannon, & Murray, 1981). Tracey and colleagues (Tracey, Heck, & Lichtenberg, 1981; Tracey & Ray, 1982) argued that one signal, topic determination, reveals the type of therapy relationship. Their research suggested that when client and therapist hold congruent expectations about their respective roles, new topic initiations tend to be sustained in the subsequent response (Tracey et al., 1981). Viewed from a sociolinguistic perspective, the successful shift to a new topic reflects the relative power of the speakers to control their social interaction. The speaker who changes the focus attempts to direct the flow of dialogue. By adopting the new topic, the other speaker implicitly accepts the first speaker's right to take charge of the interaction. If, on the other hand, the second speaker immediately reshifts the topic, he or she has tacitly challenged the other's control. Thus, when client and therapist 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 shift attempts that occur frequently and in succession would reflect a continuing negotiation about who is to control the interaction (Friedlander & Phillips, 1984, p. 140).

The purpose of our project was to elucidate the specific negotiation process between a client and therapist as reflected in their interactive discourse, particularly the patterns surrounding topic shifts. The two therapy sessions were studied using the Discourse Activity Analysis System (DAAS; Friedlander, 1984; Friedlander & Phillips, 1984; Friedlander, Thibodeau, & Ward, in press). The DAAS is a coding system in which each speaker's conversational turns are classified into ten mutually exclusive categories representing substantive and management functions of speech. Substantive turns contribute meaning to the topic of conversation, and management turns simply control the flow of

dialogue. Five of the DAAS categories are active turns, those which determine or expand the domain of the topic at hand or which delimit or redirect the interaction. The active substantive turns are topic shift initiations and topic relevant acts; the active management turns are initiatory turns, terminating turns, and other metacommunications. Passive turns, on the other hand, are totally responsive or irrelevant to the topic, indicate a misunderstanding, or relinquish participation. Passive turns include topic relevant responses, off-topic acts, off-topic responses, repair initiations, and passing turns.

To date, the DAAS has been a major focus in two investigations. In the first study (Friedlander & Phillips, 1984), we conducted a stochastic process analysis to examine patterns of discourse that might suggest how novice counselors and their clients establish a working alliance in early interviews. Data were drawn from the first two sessions from a sample of 14 dyads. The major results showed that the Markov chain conditions of stationarity and first-order dependence were satisfied. In other words, the sequences of talk were found to be highly stable over time and predictable. Topic shifts were frequent and repetitive, suggesting a struggle for control over the interaction. Furthermore, the patterns of talk were independent of speaker's role; that is, client and counselor influenced one another similarly.

In another investigation with the DAAS (Friedlander et al., in press), good and bad sessions were compared and contrasted for 8 dyads. Subjects were outpatients at a private medical school clinic and were seen by psychology interns and psychiatry residents. Dyads were selected from a larger pool based on the degree of congruence between clients' and therapists' perceptions of their sessions. From each dyad, one good and one bad session were selected based on ratings of the interview using Stiles' (1980) Session Evaluation Questionnaire. Group comparisons and case-by-case contrasts using the DAAS coding system showed that in both good and bad sessions, the clients used considerably more active turns than did the therapists. In the bad sessions, however, the relative activity levels tended to be more asymmetrical. That is, the therapists tended to be either extremely active -- in some cases, even moreso than the clients -- or extremely passive. We concluded that, in that sample at least, better sessions were characterized by more balance -- therapists being relatively more passive than their clients but not extremely so.

Two types of analyses of the present interview data were performed. First, a microanalysis described the relative activity levels of client and therapist over time. Second, a stochastic analysis tested the stability and predictability of the sequences of talk and identified patterns surrounding the initiation and adoption of new topics.

Two trained judges independently categorized all the conversational turns from the two sessions using transcripts and audiotapes. Proportions of active turns (i.e., activity levels) were determined separately for client and therapist. Results are summarized in Table 1. First, we notice that, in terms of frequency of topic shift initiations, considerably more were made by the therapist than by the client, in all 4 segments. The client attempted to shift the topic 3 times, the therapist, 30, the majority of which occurred in the second half of the initial session.

Second, overall, client and therapist both participated actively in the dialogue. Interestingly, their activity levels were equivalent, .73, when data from both sessions were combined. This means that 73% of each speaker's turns were active, and 27% of them were passive. This result is in striking contrast to the good session/bad session study (Friedlander et al., in press), where, across sessions, the median therapist activity level was considerably more passive.

Here, in Session 1 the client was somewhat more active than the therapist in the first half but not the second half. The shift from first to second half in this session shows a greater drop in the client's activity level than an increase in the therapist's activity level, suggesting that the client may have "opted out" at this point. Conversely, in Session 18, the therapist used proportionately more active turns than did the client in the first half but not the second half. In none of the segments were the activity levels highly discrepant, however, suggesting that both speakers tended to participate symmetrically throughout their interaction. Somewhat less balance was evident in the first session than in the 18th, however.

A more detailed examination of the data involved conducting a stochastic process analysis. This refers to an analysis of temporal relationships according to the laws of probability. When temporal relationships are studied, each behavior (in the present case, each conversational turn) is both a consequent of what has preceded and an antecedent to what follows. The unit of interest in a stochastic analysis is a transition, or the transaction between two successive turns (Friedlander & Phillips, 1984). The present sample contained 248 transitions in Session 1, 227 transitions in Session 18.

Our first task was to collapse the 10 DAAS categories to four (see Table 2). This was necessary because a limited number of categories is needed to estimate transitional probabilities reliably (Lichtenberg & Hummel, 1976). Decisions about which categories to combine followed our first stochastic study which were based on the similarities of the functions of the categories and on low frequency occurrences for 6 of the 10 categories. The resulting four categories included two active categories, topic shift initiation and topic relevant act, and two passive categories, topic relevant response and passing turns. Definitions of each category are listed in Table 2.

Once the data were collapsed to these four major categories, transitional probability matrices were generated from each pair of sequential turns. See Table 3 for the composite matrices for (a) all client-to-therapist turns and (b) all therapist-to-client turns. This is across both sessions. The rows refer to antecedent turns and the columns to consequent turns. Cell entries show the conditional probabilities of transitions from a row (or antecedent) category to a column (or consequent) category. To illustrate, Matrix A shows that when the client initiated a topic shift, 100% of the time the therapist responded with a topic relevant act. In Matrix B, however, when the therapist initiated a topic shift, 53% of the time the client responded with an active response -- a topic relevant act -- but 47% of the time she responded passively, either with a topic relevant response (37%) or a passing turn (10%).

Based on the transitional probability matrices in Tables 3 through 6, we asked a series of questions. First, we asked: Do client-to-therapist transitions follow the same patterns as therapist-to-client transitions? In other words, we first needed to determine the stability of the sequences, i.e., whether the conditional probabilities depended on who was speaking. If a speaker's role defines how certain interactions occur, then the differential status of client and therapist would suggest dissimilar types of discourse patterns (Friedlander & Phillips, 1984; Tracey & Ray, 1982).

In response to this question, we determined that Matrices A and B (Table 3) did differ significantly, $\chi^2(12) = 39.07$, $p < .001$. This indicated that the discourse rules were not the same for each speaker. Hence, these data differed considerably from our first stochastic study, in which client-to-counselor and counselor-to-client transitions could be combined for further analysis.

Because of this unexpected finding, we sought to determine whether this difference occurred in both sessions or in only one of the two (see Table 4). We found that in Session 1, the client-to-therapist and the therapist-to-client matrices did differ significantly, $\chi^2(12) = 28.53$, $p = .01$. In Session 18, however, there were no significant differences, $\chi^2(12) = 14.76$, $p < .30$.

Having identified the first session as the primary source of speaker differences, our next question concerned first half versus second half of Session 1. Chi-square tests showed that client-to-therapist transitions did not differ significantly from therapist-to-client transitions in the first half of Session 1, $\chi^2(12) = 10.58$, $p < .60$ (not tabled). Differences were found, however, in the second half of this session (Table 5), $\chi^2(12) = 21.17$, $p < .05$. The greatest contribution to the chi-square difference in Matrices A and B (Table 5) was the way that topic relevant acts were responded to. A topic relevant act is an active turn that adds substance, that is, it goes beyond what has been previously discussed on a particular topic. When the client used a topic relevant act in the second half of Session 1, the therapist was likely to

initiate a new topic 24% of the time, whereas the client never initiated a new topic in response to the therapist. In response to the therapist's topic shift attempts, the client responded with a topic relevant act 53% of the time, but she responded with a passive turn (topic relevant response or passing turn) 47% of the time. This suggests that the therapist took direct control of the interaction in the second half of the first session and that the client offered little active resistance to his moves. (Resistance would have been indicated by her responding immediately with a second topic shift initiation, a TSI \rightarrow TSI transition.)

Recalling that no speaker differences were found in Session 18, we then questioned whether the sequences of talk occurred in Session 18 were stationery, that is, stable across the entire session. Results showed that the first and second halves of Session 18 (Table 6) did not differ significantly, $\chi^2(12) = 14.77$, $p < .20$. This means that, in contrast to the latter part of Session 1, client and therapist were again influencing one another in similar ways and that the patterns of influence were stable across the entire Session 18.

Finally, we tested the order dependence of the composite matrix of Session 18 (Table 6, Matrix C). Order dependence refers to the Markovian condition of predictability. Using the transitional probabilities for this entire session, we constructed three models of order dependence (zero-, first-, and second-order). These models served as competing hypotheses. The first analysis compared the hypothesis of zero-order dependence with that of first-order dependence. The zero-order model served as the null hypothesis. Support for zero-order dependence would indicate that the transitions occurred randomly, while first-order dependence would mean that each turn was dependent only on the immediately preceding turn (i.e., clients' turns would be dependent on therapists' turns and vice versa). This analysis resulted in a significant value, $\chi^2(9) = 18.25$, $p < .05$, and enabled rejection of the zero-order hypothesis.

The second analysis tested the hypothesis that a second-order model of dependence would describe the data more accurately than a first-order model. The second-order model, then, was a rival hypothesis. Support for the rival hypothesis would mean that each client turn was dependent not only on the preceding therapist turn but also on her own previous turn. Likewise, the therapist's response would be dependent on his own previous response as well as on the intervening client response. The chi-square value for this analysis failed to reach significance, $\chi^2(36) = 24.18$, ns, thus supporting the model of first-order dependence.

In considering the overall meaning of these data, we arrived at several conclusions. First, the interaction in Session 1 was definitely more unbalanced than that of Session 18. In particular, the interactional patterns in the first half of the first session -- an elaboration of the client's concerns -- were considerably different from the second half, which was a general assessment of her emotional status. In the first half, the client was somewhat more active, the therapist

more passive. Based on the conclusions drawn from the good session/bad session study (Friedlander et al., in press), we would speculate that the first half of Session 1 probably was viewed considerably more positively by both therapist and client than the second half. Furthermore, in the second half of that session, client and therapist played by different rules, that is, their patterns of influence were not identical. The client, although not challenging the therapist's topic shift initiations, responded passively almost half the time. In other words, the pattern of interpersonal influence shifted dramatically in this half of the session -- the therapist directed the flow of talk, and the client took considerably less responsibility for what occurred.

By Session 18, however, the patterns of discourse were highly stable, each speaker responding to the other in predictable ways. Activity levels were high and symmetrical, suggesting that both client and therapist were invested in contributing actively to the interaction. Like all dyads, this one had created a unique culture by the 18th session. The distinguishing features of the patterns of talk can suggest the type of culture that developed. To begin with, while both participants were equally active, the therapist was far more likely to initiate new topics. Interestingly, no topic shift attempts were challenged by a second topic shift attempt in succession, suggesting no struggle for control of the interaction. This finding is in striking contrast to our earlier study of novice clients and counselors, in which successive topic shifts were frequent. The lack of such repetitive shifts here may be due either to the therapist's expertise or to the client's tendency to comply, or both. In this session, dissatisfaction with a topic was not actively challenged; it was more likely to appear as **passive, rather than active, responses.** Although there were no differences in transitional probabilities due to speaker's role, the disproportionately greater number of topic shift initiations by the therapist suggests that the client was likely to show her lack of interest in the therapist's choice of topic by passive compliance.

The patterns of discourse that were found in this dyad highlight not only the process of negotiating control in the therapeutic relationship, but also the potential for a particular dyad's patterns to be used as diagnostic or therapeutic tools. In this dyad, for example, the client's pattern of passive compliance may reflect a more general interpersonal style of nonassertiveness on her part. If this were the case and if one of the goals of treatment were to enhance her assertiveness, an interactional pattern such as that observed here (in which the therapist maintained a generally high activity level and frequently initiated new topics) is in direct contradiction to this goal. Given that the present data show (as did our previous findings) that passive turns tend to be followed by active turns, a more viable therapeutic strategy for a client such as this would be for the therapist to deliberately assume an interactional stance that is relatively more passive.

To date, the study of discourse patterns in therapy has been naturalistic. An interesting avenue for future inquiry might be intentionally to manipulate the interactional patterns in ways that address particular therapeutic goals.

Table 1

Frequencies of Topic Shift Initiations (TSIs) and Activity Levels by Client and Therapist Over Time

Time	Client		Therapist	
	TSI	Activity Level	TSI	Activity Level
Session 1				
First Half	1	.81	5	.70
Second Half	0	.67	15	.76
Session 18				
First Half	1	.70	6	.78
Second Half	1	.78	4	.70
Overall	3	.73	30	.73

Note. Higher activity levels reflect a more active contribution to the substance and management of the dialogue. An activity level of .73, for example, means that 73% of the speaker's turns were classified as active, and 27% were passive.

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Table 2

Discourse Activity Analysis System Categories Used in the Stochastic Analysis

Category	Definition
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.
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.
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 also may be used to clarify a misunderstanding.
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. PTs are usually minimal responses to preceding turns or simple acknowledgment or disagreement.

Table 3

Transitional Probability Matrices: All Client-to-Therapist Transitions and All Therapist-to-Client Transitions

Consequent					Consequent				
Antecedent	TSI	TRA	TRR	PT	Antecedent	TSI	TRA	TRR	PT
Active					Active				
TSI	.00	1.00	.00	.00	TSI	.00	.53	.37	.10
TRA	.11	.58	.13	.18	TRA	.01	.73	.19	.08
Passive					Passive				
TRR	.11	.67	.11	.11	TRR	.03	.73	.23	.00
PT	.26	.60	.07	.07	PT	.03	.89	.03	.06

Matrix A: Client-to-Therapist

Matrix B: Therapist-to-Client

Note. TSI = Topic Shift Initiation; TRA = Topic Relevant Act; TRR = Topic Relevant Response; PT = Passing Turn. Matrices A and B differed significantly, $\chi^2(12) = 39.07, p < .001$.

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Table 4

Transitional Probability Matrices: Client-to-Therapist and
Therapist-to-Client Transitions by Session

Antecedent	Consequent			
	TSI	TRA	TRR	PT
Active				
TSI	.00	1.00	.00	.00
TRA	.14	.56	.16	.14
Passive				
TRR	.19	.58	.12	.11
PT	.20	.60	.20	.00

Matrix A: Client-to-Therapist
(Session 1)

Antecedent	Consequent			
	TSI	TRA	TRR	PT
Active				
TSI	.00	.55	.35	.10
TRA	.00	.73	.21	.06
Passive				
TRR	.06	.72	.22	.00
PT	.00	1.00	.00	.00

Matrix B: Therapist-to-Client
(Session 1)

Antecedent	Consequent			
	TSI	TRA	TRR	PT
Active				
TSI	.00	1.00	.00	.00
TRA	.07	.61	.11	.21
Passive				
TRR	.00	.80	.10	.10
PT	.30	.60	.00	.10

Matrix C: Client-to-Therapist
(Session 18)

Antecedent	Consequent			
	TSI	TRA	TRR	PT
Active				
TSI	.00	.50	.40	.10
TRA	.01	.72	.17	.10
Passive				
TRR	.00	.82	.18	.00
PT	.05	.80	.05	.10

Matrix D: Therapist-to-Client
(Session 18)

Note. TSI = Topic Shift Initiation; TRA = Topic Relevant Act; TRR = Topic Relevant Response; PT = Passing Turn. Matrices A and B differed significantly, $\chi^2(12) = 28.53$, $p < .01$. Matrices C and D, however, did not differ significantly, $\chi^2(12) = 14.76$, $p < .30$.

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Table 5

Transitional Probability Matrices: Client-to-Therapist Transitions and
Therapist-to-Client Transitions, Second Half of Session 1

Consequent					Consequent				
Antecedent	TSI	TRA	TRR	PT	Antecedent	TSI	TRA	TRR	PT
Active					Active				
TSI	.00	.00	.00	.00	TSI	.00	.53	.40	.07
TRA	.24	.52	.12	.12	TRA	.00	.70	.24	.06
Passive					Passive				
TRR	.23	.53	.12	.12	TRR	.00	.50	.50	.00
PT	.50	.50	.00	.00	PT	.00	1.00	.00	.00

Matrix A: Client-to-Therapist

Matrix B: Therapist-to-Client

Note. TSI = Topic Shift Initiation; TRA = Topic Relevant Act; TRR = Topic Relevant Response; PT = Passing Turn. Matrices A and B differed significantly, $\chi^2(12) = 21.17$, $p < .05$.

Table 6

Composite Transitional Probability Matrices: Session 18

Antecedent	Consequent				Antecedent	Consequent			
	TSI	TRA	TRR	PT		TSI	TRA	TRR	PT
Active					Active				
TSI	.00	.43	.57	.00	TSI	.00	.80	.00	.20
TRA	.05	.64	.11	.20	TRA	.04	.68	.17	.18
Passive					Passive				
TRR	.00	.93	.07	.00	TRR	.00	.70	.18	.12
PT	.11	.72	.06	.11	PT	.17	.75	.00	.08

Matrix A: First Half

Matrix B: Second Half

Antecedent	Consequent			
	TSI	TRA	TRR	PT
Active				
TSI	.00	.58	.34	.08
TRA	.04	.66	.14	.16
Passive				
TRR	.00	.81	.13	.06
PT	.13	.74	.03	.10

Matrix C: Entire Session

Note. TSI = Topic Shift Initiation; TRA = Topic Relevant Act; TRR = Topic Relevant Response; PT = Passing Turn. Matrices A and B did not differ significantly, $\chi^2(12) = 14.77$, $p < .20$.

An Examination of Topic Control in Counseling

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Running head: Topic Control in Counseling

Part of the symposium (J. W. Lichtenberg, Chair) entitled "Perspectives on process: The micro analysis of two counseling sessions" presented at the annual meeting of the American Psychological Association, Los Angeles, August, 1985.

Given that counseling/psychotherapy rests so much on verbal interaction, indeed it is known as the talking cure, it is important to understand how the client and counselor decide what is to be discussed in treatment. The determination of the topic of conversation is a major arena where influence can and is exerted (Friedlander, 1984; Verplanck, 1955). By controlling what is discussed, one is able to determine a key area of counseling interaction, and perhaps the outcome.

By examining the topical behavior of the participants (i.e., the sequence of topic following/topic initiation responses) it is possible to assess how harmonious the interaction is (Tracey & Ray, 1984) as well as determine who is in control, i.e., who has greater control over what actually gets discussed. In this study, the sequence of topic initiation/topic following responses in each of the two representative sessions (an early and a late session) from one successful dyad were examined with respect to the following questions: (a) What is the general sequence of topic initiation/topic following behavior in each of the two sessions, and (b) How is topical control different between the participants over the two sessions. It is expected that the general pattern of topic initiation/topic following behavior and the control pattern would be different between the two sessions. The early session would presumably represent initial attempts at rapport building while the late session should focus on wrapping things up and starting attempts at relationship termination. These different tasks were

expected to be represented by different interaction and control patterns.

Method

Sample Dyad

A male, clinical psychologist (of approximately 50 years of age and of professed social-learning orientation) met for 20 sessions with a female client (age 35) who had presenting concerns of difficulty with interpersonal relationship (with both men and women) and anxiety. The treatment was judged as successful based on the counselor's global judgement. This study involved intensive examination of sessions one and 18.

Topic initiation/topic following

Each speaking turn (i.e., all that was said by one participant between statements by the other) was rated as being either a topic initiation or a topic following response (Tracey & Ray, 1984). A topic initiation occurred if the first topic in a speaking turn was different from the last topic in the previous speaking turn in one or more of the following ways: (a) different content, (b) different person as subject, (c) different time reference, (d) different level of specificity and/or (e) an interruption. If none of these criteria were met, a topic following response was rated.

The interruption criterion was included because it was felt that the topic control information carried in these behaviors was too important to exclude. A move by one participant to take the floor from the other by interrupting was coded as a topic initiation, as the normal order of discourse was not followed. Viewing interruptions as analogous to topic initiations, in this way, has been supported by Crow (1983).

Each speaking turn was rated independently for topic initiation/topic following by two raters. A kappa of .70 (87% agreement) was obtained.

Results and Discussion

Question 1: Data description

To gain an indication of the sequence of topical behavior, the transition probabilities of each response with subsequent responses (i.e., the probability that a response is followed by a certain subsequent response) are depicted in Figures 1 and 2 for each session. Notice that the sequence of topical behavior is presented first without respect to the role of the participant (Figure 1), and secondly with account taken for the different roles of the participants (Figure 2).

Insert Figure 1 About Here

As can be seen from the Figure 1 graphic for session 1, any initiation was subsequently followed 74% of the time. Twentysix

percent of the time these initiations were followed by another initiation (indicating conflict as no topic for discussion has been settled upon). Any following response would equally lead to either a subsequent following response or an initiation. The topical sequence for session 18 was quite different. There was little difference in the appearance of initiation and following behavior. Each one was followed by the other approximately 60% of the time, and reflexively by itself 40%.

Insert Figure 2 About Here

The transition probabilities of the role specific data (Figure 2) can be examined similarly. For session 1, the client was most likely to follow regardless of what the counselor previously did; while the counselor was most likely to initiate, especially after a previous client following statement (67%). For session 18, a different picture emerges. It was equally probable for the client to respond either with a following or an initiation response after a counselor initiation, but she was more likely to initiate after a previous counselor following response. The counselor tended to initiate after a previous client follow (62%) and to follow after a previous client initiation. But overall there was much less difference between the response sequences of the client and counselor in session 18 than there was in session 1.

This eyeball analysis of the transition probabilities is useful in

gaining an initial understanding of the topical sequence involved but statistical tests should be applied to ensure the reliability of the conclusions generated (Tracey, 1983). Much of the interactional literature assumes that each person in a counseling relationship is acting in response to the other participant. The validity of this assumption is rarely examined. The question of concern here was: To what extent was each participant's behavior a function of his or her own and the other's previous behavior? To examine this a Markov chain test of order (Castellan, 1979; Tracey, 1985a) was conducted. Given that there were large differences between the transition probabilities of the client and counselor in Figure 2, it was decided that analyzing the role unspecified data could lead to misleading conclusions. As such, only the role specific data were examined.

Markov chain models assume that each behavior is dependent upon some previous behavior. But the exact number of previous behaviors (i.e., order) must be determined. As stated above, most theorists assume a first order Markov model, where each person's behavior is a function of the previous behavior of the other as well as their own proclivities. Lichtenberg and Hummel (1976) found that a first order model has been found superior to a zero order model (where each person acts entirely independently of the other), but there has been little research examining whether a second order model (where each behavior is a function of the two previous behaviors) is a more valid representation of the sequence of behaviors in counseling. Specifically, whether the

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data were best modeled by a second order model, a first order model, or a zero order model was determined separately for each participant in each sample session.

As tests of order are not commonly understood, let me take the time to explain the hypotheses that are tested. The second order test examines whether knowing what response occurred two turns previously is an improvement in modeling the data over knowing only what response occurred one turn previously. The first order test examines whether knowing what the other previously did helps predict what one will currently do. If it does not, the two participants are acting completely independently. Finally, the last test, the zero order test is a simple examination of whether or not each participant's probability of responding in an initiating or following manner differs from 50%. Thus the above tests yield information on which specific terms lead to the presence of each behavior in an interaction sequence.

Insert Table 1 About Here

The results of the chi-square goodness of fit statistics (Castellan, 1979) for each of the order analyses are provided in Table 1. As can be seen, the test of the second order assumption was not found significant for either the client or counselor in either session. For session one, the test of the first order assumption was also found to be

nonsignificant for both the client and counselor. In session one, the client and counselor acted independently from one another. For session 18, the test of the first order assumption proved significant for both the client and the counselor, indicating that how each responded was in part a function of what the other previously did. Finally, the zero order chi-square test was found significant for both the client and counselor in session 1, but for neither in session 18. This indicates that the client and counselor in session 1 were not equally likely to follow or initiate at any point in time.

For session 18, both participants were equally likely to follow or initiate (if no account is taken of the previous behavior). So, for session 18, the transition probabilities depicted in Figure 2 are an accurate representation of the sequence of interaction. How each person responded was only a function of what the other previously did. For session one, a very different picture emerges. How each participant responded had nothing to do with what the other previously did. The most parsimonious description of what occurred is that the client tended to make following responses (72%) and the counselor tended to make initiating responses (65%), regardless of what the other did.

These differences in the response dependency across the two sessions could reflect differences in the beginning versus end processes of counseling. The first task of counseling is generally accepted to be the establishment of rapport and mutual understanding. Two people

meet, each operating on their own expectations of what should transpire; and from this they must mutually work out how they are to behave with each other. The lack of interdependence found for the first session could represent this behaving based only on one's own expectations or patterns. Given this independence of behavior, early treatment is where style dimensions would be expected to be the strongest (i.e., unencumbered by the behavior of the other). This lack of a relationship was also demonstrated by the client's mentioning that she was hesitant because she expected a female counselor. This caution could lead to less mutuality.

As a relationship develops, it would be expected that what each person does is at least somewhat determined by what the other previously did. As a result, the behavior would be guided less by idiosyncratic styles differences and more by what the two participants mutually defined. The interdependency found in session 18 seems to confirm this hypothesis. Toward the end of successful treatment, one would expect that the participants are very responsive to each other, and that what the other does has an effect on subsequent behavior. I have proposed elsewhere (Tracey, in press-a) that what transpires in successful counseling is that the client moves from independent behavior initially (i.e., acting only according to his or her own idiosyncratic style), to mixed independent and interdependent behavior, to final, fairly exclusive, interdependent behavior. Sessions 1 and 18 confirm the first and last stage hypotheses. It would prove useful to

examine the order of interaction in some middle sessions as well
examine other dyads.

Question 2: Control Differences Between the Participants

Elsewhere (Tracey, in press-b, 1985b), I have distinguished between several different ways to operationalize control and the lack of overlap among them. Each measure assesses control from a different perspective. As such, any examination of control in counseling should undertake to include as many different measures of control as possible. Three different measures were examined here. The first measure is that of the proportion of topic initiations (TI) that each participant exhibits. This index assumes that control is exerted whenever one tries to direct the topic of conversation. The more one tries to direct the topic (by initiating), the more power or control one is assumed to have. I have argued (Tracey, in press-b) that this definition is more of an intrapersonal, or style, definition of control. Some people just initiate much more than others.

The second measure of control is that of topic determination (TD) which was defined as the proportion of topic initiations that were subsequently followed by the other. High values of topic determination reflect that the participant was able to control what actually got discussed. It is very possible to initiate often and yet have a very few initiations actually heeded by the other. Topic determination is more of an interpersonal definition as it accounts for how initiations

are responded to by the other. I found (Tracey, in press-b) that these two indices, proportion of topic initiations and topic determination were poorly related, thus measuring different definitions.

The third measure examined was that of dominance (Tracey, 1985b) which focused more on the statistical dependency in the behavior than upon the control meaning implied in initiating and following (i.e., initiating is controlling, while following is not). Dominance was defined as the difference in the dependence on the previous behavior between the two participants. "In a dyad, if B's future behavior is more predictable (dependent) from A's past behavior than conversely, then A is said to be dominant" (Gottman, 1980, p 71). To determine dominance, the index of lagged dependence Q (which is somewhat analogous to a standard correlation coefficient) was used. This index reflected the extent to which each participant's response was dependent upon the other's previous response. The particular dependency index used controlled for any dependency due to autocorrelation (Allison & Liker, 1982). Thus, for this dependency measure, it does not matter whether the behavior emitted is an initiation or a following response, only that it is dependent upon the previous behavior.

Insert Table 2 About Here

Each of these three control definitions (TI, TD, and Dependency) was calculated for each participant in each of the two sessions. The

differences in these values were then compared, across participant and across session, using chi-squared tests of homogeneity. The control values obtained and the results of the statistical tests are presented in Table 2. Using TI as the control index, it was found that the counselor had significantly more control than the client in session one

²
($X^2(1, N=362) = 82.23, p < .001$), but not in session 18 ($X^2(1, N=250) = 1.22, p > .05$). Over time (i.e., between sessions 1 and 18), the client

demonstrated a significant increase in topic initiations ($X^2(1, N=306) = 43.54, p < .001$); while the counselor exhibited a significant decrease

²
($X^2(1, N=306) = 9.82, p < .01$). The dyad moved from unequal power with the counselor in control (using the TI definition) to equal and moderate levels of control.

The analysis of the topic determination definition of control yielded similar results. The counselor had greater control in the first session than the client. By the eighteenth session, there were no difference found in the topic determination. The counselor had significantly lower levels of TD in the last session than compared to the first. The client demonstrated a significant increase in her levels of topic determination between the two sessions.

The analysis of the dependency demonstrated that there was no dominance found in either session (i.e., significant differences in dependence between the participants). Each participant's behavior was

equally dependent upon the behavior of the other. However, a comparison across sessions revealed that the dependence of both participants increased from near zero in session 1 to moderate levels in session 18. Both the client and the counselor were more responsive to what the other previously did in the eighteenth sessions than in the first. This result corroborates the order differences found earlier.

The two indices that relied on the meaning of the behaviors involved (TI and TD) rather than the statistical dependence demonstrated that the counselor had more control of the topic in the first session (initiating more and determining more of what actually got discussed) than the client. But by the eighteenth session, the topic control had equalled out. Each participant was equally able to initiate and have his or her topic followed by the other. One interpretation of this is that the client moved from an initial inferior (one-down) position to an equal one (Haley, 1963). As the client improves, he or she no longer has to rely so strongly on the counselor for guidance and support, and the client can start viewing the counselor as a separate person, an equal. Strong and Claiborn (1982) argue that this is an appropriate time for termination.

The failure of the dominance variable to yield similar results is no surprise as it focuses on a very different construct of control. There were no differences in dependency found between the participants in the first and eighteenth sessions. This results is in keeping with my findings (Tracey, 1985-b) for successful dyads. Early and late

sessions of successful dyads were characterized by no differences in dependency between the participants. But the middle sessions were found to have differences with the counselor less dependent than the client (i.e., dominant).

Overall, I hope that these analyses and interpretations have demonstrated how illuminating sequential examinations of the counseling process can be. However, I would be very remiss if I did not temper my interpretations of the results. All conclusions drawn are only conjectures and should be used in hypothesis building. Only two sessions were examined and thus it is impossible to generalize to the other unexamined sessions, much less generalize to other dyads, or the counseling process in general.

Given the difficulty and complexity of analyses of this type, the researcher must choose where he or she will risk problems in generalizability. In this sort of research, there seem to be three major models of achieving generalizable results. Some researchers choose to sample only random parts of sessions, making generalization to the rest of the session questionable. Other researchers examine only whole initial sessions of a good sample size of dyads, enabling generalizations to be made to other initial sessions but not to any sessions after the first. The third model, focuses on complete analysis of a few dyads over the whole course of treatment. These are valid internally, unlike the first set, but suffer greatly with respect to external generalization due to the small n. It does not seem likely

that any one study could be expected to adequately meet all threats to generalizability, given the difficulty and complexity of these analyses. It seems more realistic to see each of these types of studies as important building blocks in our understand of the sequential process of counseling.

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Table 1

Summary of the chi-square goodness of fit statistics for the different order hypotheses.

Criterion	Second Order		First Order		Zero Order	
	df	χ^2	df	χ^2	df	χ^2
^a						
Session 1						
Counselor response	2	.37	1	1.03	1	17.90***
Client response	2	3.41	1	.38	1	43.45***
^a						
Session 18						
Counselor response	2	1.89	1	9.53**	1	.80
Client response	2	4.32	1	4.06*	1	.45

^a

N for session 1 = 181, N for session 18 = 125 for each participant.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Topic Control in Counseling
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Table 2

Summary of the values obtained for each of the three control variables and the chi-square tests of homogeneity.^a

Variable		Session 1	Session 18	N	² X
Topic Initiation (TI)					
Counselor		.65	.47	306	9.82**
Client		.18	.54	306	43.54***
C1 vs. Co	N	362	250		
	2				
	X	82.23***	1.22		
Topic Determination (TD)					
Counselor		.83	.56	177	5.44*
Client		.42	.66	100	15.56***
C1 vs. Co	N	151	126		
	2				
	X	22.53***	1.32		
Dependency					
Counselor		-.10	-.29	306	7.73**
Client		-.05	-.19	306	3.86*
C1 vs. Co	N	362	250		
	2				
	X	.51	1.41		

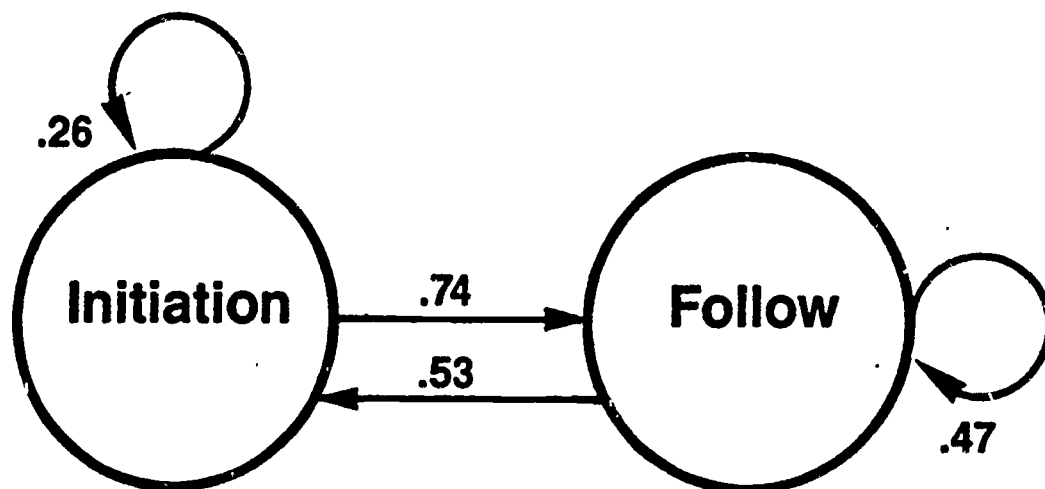
^a
df=1 for all tests.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Figure Caption

Figure 1: Transition probabilities of topic following and topic initiation for the two sampled sessions.

Session 1



Session 18

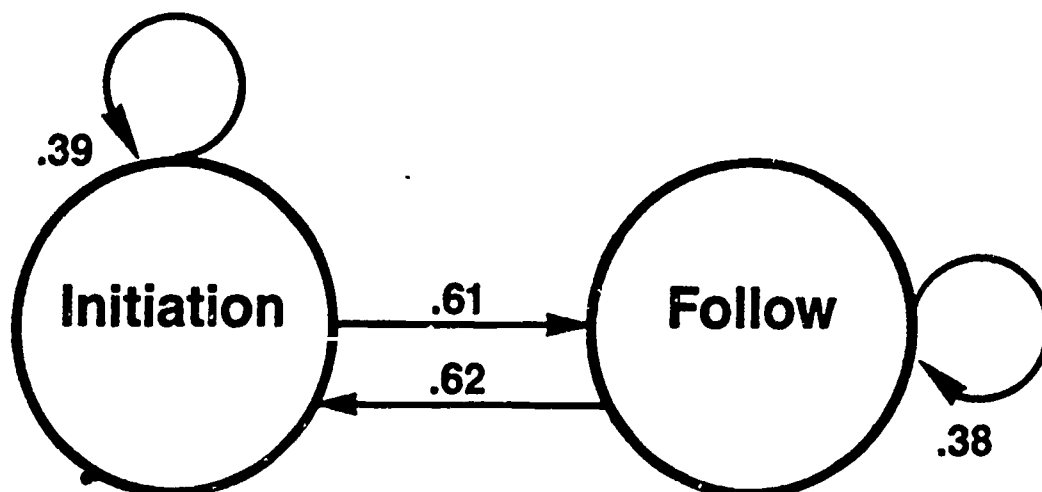
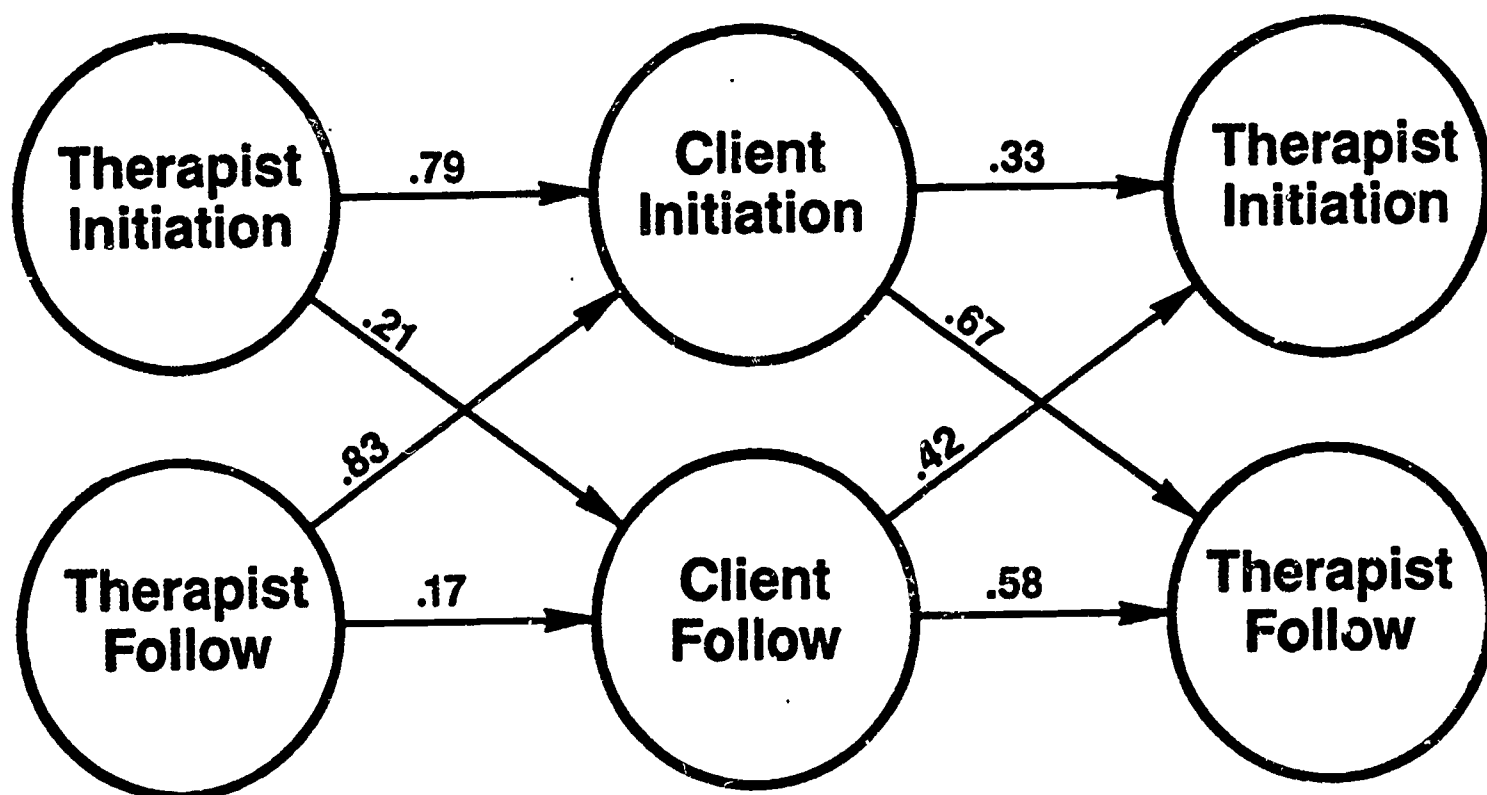


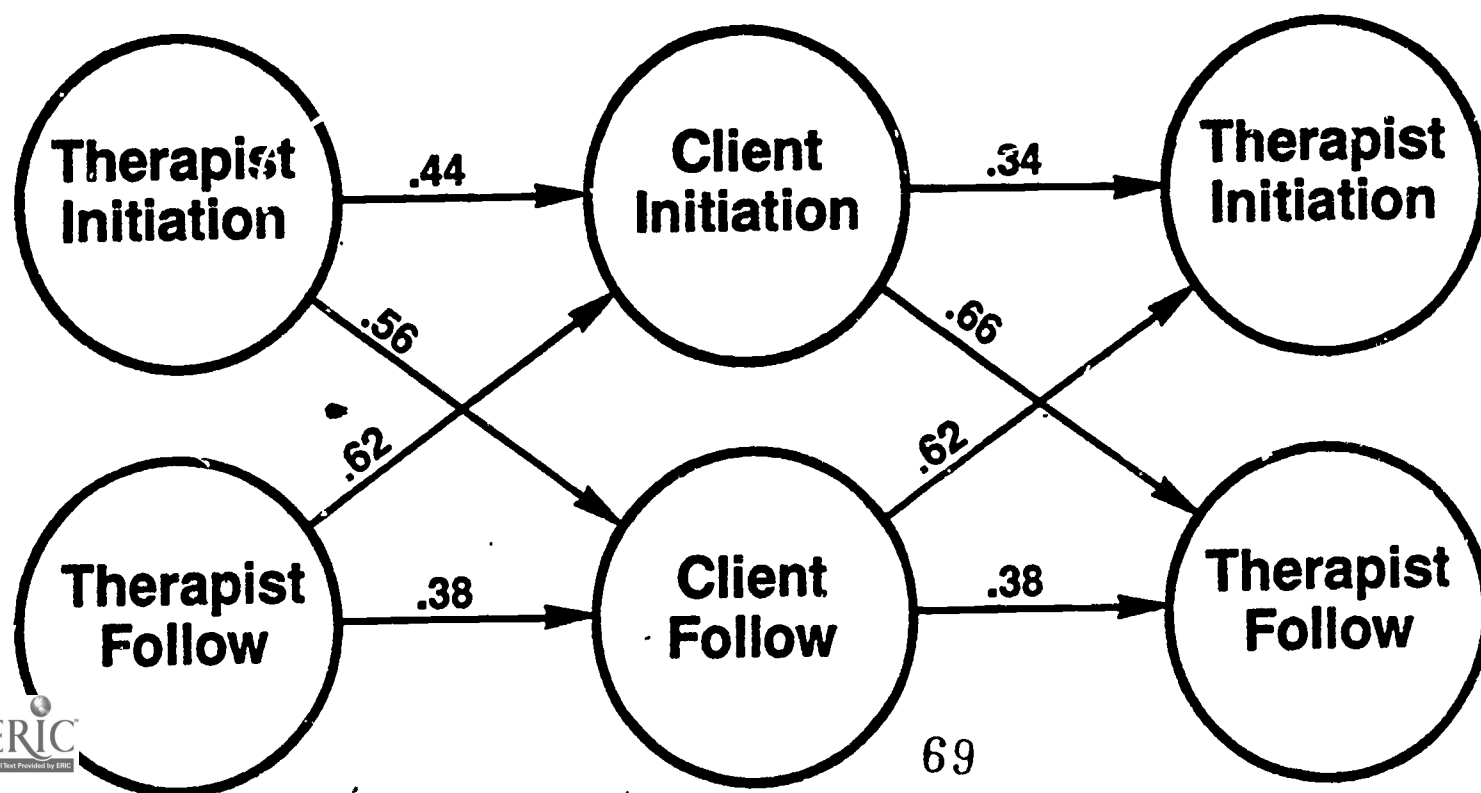
Figure Caption

Figure 2: Role specific transition probabilities of topic following and topic initiation for the two sampled sessions.

Session 1



Session 18



A Descriptive and Lag Analysis of Relational Control in Counseling

Laurie Heatherington

Williams College

Paper presented in symposium "Perspectives on process: The micromanalysis of a single counseling session," American Psychological Association Convention, Los Angeles, 1985.

A Descriptive and Lag Analysis of Relational Control in Counseling

This paper illustrates the use, the promise, and the limitations of a methodology for studying relational communication in counseling. "Relational communication" refers directly to the idea that all communications convey information on 2 levels: the content (report) and the relational (command) (Reusch & Bateson, 1951; Watzlawick, Beavin & Jackson, 1967). On the relational level, people (husbands and wives, teachers and students, counselors and clients) use talk to define the nature of their relationship vis a vis each other. The messages, "Shut the door, now!," "Would you please shut the door?," and "I wonder if we might shut the door" convey similar content but very different messages about how the speaker views him/herself in relation to the other. The other's reply will, in turn, convey information about the his/ her definition of the relationship, and over a series of exchanges the relationship will be negotiated and defined.

The coding system we use focuses on one dimension of relational communication, that of control. This is a central dimension, given recent conceptualizations of counseling and therapy such as Jay Haley's (1963) and Strong and Claiborn's (1982), in which control and social influence figure prominently. The coding system, called the Relational Communication Control Coding System, was developed by communication researcher Edna Rogers and her colleagues (Ericson & Rogers, 1973). It was built on the ideas of Gregory Bateson (1936), the initial operational definitions suggested by Carlos Sluzki & Janet Beavin (1965/1977), and preliminary coding by Mark (1971). It allows us

to operationalize the constructs of symmetry and complementarity, and treats sequential pairs of messages, rather than individual behavior, as the primary unit of analysis.

The use of this system and the information that it yields about relational control are illustrated by its application to these two counseling sessions, which will be described now.

Procedure

Briefly, each message was given a 3-digit "message code" which represents the speaker, the grammatical format, and the message's pragmatic relation to the previous message. Thus a message might be coded as a therapist question which gives an instruction, or a client statement which continues the theme of the conversation. Section 1 on the handout shows the second and third digit codes categories. Based on the latter two digits--the grammatical format and the relation to the previous message--one of three control codes was then assigned. The possible control codes are: up, for messages seeking to gain control; down, for messages seeking to give up control, or across, for messages which are neutral with respect to control definition. So, for example, the question giving an instruction would be coded as "up," and the statement which continued the theme as "across." Note that the control code of a single message does not mean that the speaker was "in" control or not in control, just that he/she attempted to define such a position. The control codes were then combined sequentially in pairs to yield relational control "patterns," as was done in section 2. on the handout.

These can be symmetrical (both define themselves as up, down, or

neutral with respect to control), complementary (one defines self as up or down, and the other as the opposite) or transitional (one defines self as neutral, and the other as up or down).

The coding was done by the author and a research assistant trained for approximately 30 hours using the manual provided by Edna Rogers and a supplement specifically for coding counseling interactions, prepared by the author. Interrater reliability at the end of training was .85. Twenty percent of each of the sessions was independently coded by both coders for reliability checks; this yielded a Kappa (Cohen, 1966) index of interrater agreement of .90. Coding was done from the transcripts and the tapes together.

Results: Description of the Interaction Process

What then, does this procedure reveal about these particular counseling sessions? This question can be answered on two levels.

First, we can make some statements about the attempted control maneuvers of the counselor and client. In the first session the total frequencies of "up" and "down" control codes were roughly the same, 36% and 37%, respectively. There were fewer messages, 27%, which carried a neutral control definition. In the 18th session, however, the attempted control definitions shifted, to a higher proportion --36%--of neutral, or one-across, control codes. There was a correspondent decrease in the frequency of one-up messages, while the frequency of one-down messages was stable across both sessions. (Please note here and throughout the discussion of the results that these observed differences are not independent, since there were a fixed number

of total messages within a session.)

A look at the 3-digit message codes revealed a high frequency of counselor-question/client answer sequences in the first session, as expected, and as reflected in the higher percentages of up and down control codes. This dropped off by the 18th session, which was characterized by more statements which simply extended the topic of conversation. Because the high frequency of question-answer sequences tends to mask other information, the control maneuvers of the counselor and client were examined without them. [In the first session, counselor gave roughly equal numbers (.33 up, .32 down, .36 across) of messages of each control position, while client's messages were characterized by predominantly one-down messages(.43), followed by neutral (.37) and then domineering messages(.20), in that order. By the eighteenth session, the counselor was giving somewhat more one-down messages (.39) and fewer one-up messages (.27), while the frequency of neutral messages was about the same (.34). The client's control maneuvers changed more dramatically, with almost twice as many neutral messages (.60) and fewer messages which carried a control definition (up=.14, down=.38) of any kind.

A look at the specific kinds of messages coded revealed that the counselor changed the topic much more frequently than did the client in the first session, and more than he did later, in the eighteenth session. The client, on the other hand, changed the topic more frequently in the eighteenth session than she did in the first. Client questions and nonsupport statements

also increased from the first to the eighteenth session. Lest it appear that the only difference between sessions was in the client attempting more control, it should be noted that there were also more requests for and offers of support or agreement by the client in the eighteenth session than in the first. This was not true, however, for the counselor. So we find, overall, a more varied exchange in the later session, especially with regard to the client's behavior.

This type of analysis is interesting and may lend itself to testing certain hypotheses about individual differences in attempted relationship definition. Summing control codes across the interaction, however, forfeits crucial information about the sequence of moves, and hence about the actual relationship. As seen in section 2 on the handout, knowing that both counselor and client had equal numbers of one-up messages, for example, does not tell us if they were in sequence, resulting in a string of competitive symmetrical exchanges in which both struggle to define themselves as in control or if they were followed by one-down messages by the other, resulting in shifting sets of complementary exchanges. Just the two possibilities in this example represent very different kinds of relationships.

This recognition brings us to the second level of analysis, the level of sequential analysis, which preserves temporal sequence, and hence, pattern information. The method of sequential analysis used was the lag sequential analysis approach described by Sackett (1978, 1981). This approach can be applied to interactional data which is coded in such a way that the

categories are mutually exclusive and exhaustive (Sackett, 1981). It then asks, "given a certain criterion event, say a one-up move, what is the probability that certain target events, say a one-down move, will occur immediately next, i.e., at a lag of 1? And is that probability significantly different from what would be expected simply on the basis of the overall frequency (the unconditional probability) of one-down moves in the interaction?" The answer is provided by a z-score which compares the conditional and the unconditional probabilities. These questions can be asked about more distal events also, say about the interdependence of events which follow each other not immediately, but at a lag of 2, i.e. after one intervening event, or at a lag or 3, 4, and so on.

Lag sequential analysis was applied to these counseling sessions using a revised computer program obtained from Roger Bakeman (1979) at the Georgia State University. An example of the output provided by this program is shown in section 3 on the back of the handout. The data, which were examined up to a lag of 6, showed nonrandom patterns of interaction in both interviews at a lag of 1 and also at several subsequent lags. In the first interview, 18 of the 54 conditional probabilities were significantly different from the unconditional probabilities, a number that greatly exceeds chance. (Only differences with z-scores greater than the absolute value of 1.96 and thus significant at the .05 probability level are included in the following discussion.) Moreover, these results fit a pattern which made psychological sense. Given that an "up" event

occurred, a highly predictable sequence followed such that at the odd lags (1,3,5), which represent the other speaker, a "down" event was highly likely. At the even lags 2 and 4, another "up" event by the same speaker was highly likely. When a "down" event is used as the criterion code, this up-down alternating pattern was observed until lag 3, when it petered off. Thus there was a high frequency of stable complementary patterns--they represented 36% of all the interactions--as seen in the lag 1 results and the complementary patterns repeated themselves, as seen in the significant results at later lags. This was consistent with our graphs of the data, in which there were several long "runs" of up-down-up-down messages, especially at the very beginning and at the end of the session. Though these were primarily question/answer sequences, they were not exclusively so. The lack of symmetry in this interaction was notable. This was not a session in which the individuals sought to compete for control or to give up control to the other. Disagreement, when it occurred, for example near the end of the session where the client was resisting the counselor's request to seek a medical examination, was polite and equivocal. In fact, though most counselors would probably agree that there was a short struggle for control there, it could not be discerned from the pattern of control codes.

Finally, visual examination of the data revealed a longer series of 5 codes (up-down-across-down-up) which repeated itself frequently (7 times); this was mirrored in the results of the lag analysis. Looking at the corresponding messages revealed that this pattern resulted some of the time from the following: a successful interruption by the counselor, followed by a

supporting statement by the client, a counselor message which extended the topic of conversation, another client supporting statement, and finally a topic change by the counselor. It was as if this final topic change reinforced the control definitions offered and accepted by the earlier interruption-support exchange.

The lag analysis of the 18th interview revealed a more varied set of transactional patterns, with fewer repeating ones. Again, a one-up move set in motion a wave of complementary exchanges, although in this session it was shorter, lasting just two lags. Except for a short burst at the end of the session these "waves" occurred only at the beginning, possibly as the counselor and client "settled in" to the session. There was a striking relationship between neutral messages and messages which were down with respect to control. A significant number of three-event sequences of these codes (across-down-across) was also seen in the first interview, but here it was even longer, maintaining itself up to lag 5. These runs reflected continuing stories or monologues of the client, interspersed with support and/or unsuccessful interruptions by the counselor. Indeed, the combined frequency of the across-down and the down-across transactional patterns, was greater than that of the complementary patterns (up-down, down-up) in this session. Conversely, a neutral move was clearly not likely to be followed by a move seeking control, and vice-versa. Again a lack of symmetrical patterns was noted, although when they did occur they were most likely to be neutralized symmetrical ones. This session seems to be one in which the client was not about to (overtly) assert

control and the counselor was careful not to behave in a manner too reminiscent of some of the client's male colleagues with whom she was angry. Also, though the counselor was still directing the session, there was a greater familiarity between them, reflected in the lower frequency of complementary patterns. This allowed the counselor, at the end of the session when they were discussing her evaluation of men, to use humor and challenge in a manner that was both effective and well-received by the client.

Summary

In summary, by studying the results of the lag sequential analysis without getting too far from the raw material of the counseling interactions--the messages themselves--one is able to begin to map the control dynamics. The map is a gross one at this point. It does not capture subtle struggles for control and those that unfold over a long period of time, certainly not across interviews. Theoretically, though, that would be possible by using this coding system and the sequential analysis longitudinally across all sessions. The map also does not include nonverbal information, which as we know can qualify and disqualify the meaning of verbal messages. Using the tape as well as the transcript in coding preserves some of the paralinguistic information, though the rest of the nonverbal information cannot be used without a videotape and an expanded coding system to go with it. On the promise side, this is a methodology which is consistent theoretically and philosophically with the so-called "interactional" or "systems" approach to counseling. It yields results that are psychologically

meaningful (Heatherington & Allen, 1984; Lichtenberg, 1984; and that will no doubt become more powerful with its continued use and refinement.

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Author Notes

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Footnotes

¹

The z-score calculations on the original program were corrected by Bakeman, following Allison & Liker's (1982) comment on Gottman (1979).

Handout:

A descriptive and lag analysis of relational control in counseling.
(L. Heatherington, 1985 APA Symposium "Perspectives on Process")

I. CODING DETAILS (from Ericson & Rogers, 1973; Ericson, 1979)

"Message codes" are 3-digit codes:

First digit --represents the speaker (1=therapist, 2=client)

Second digit--represents the grammatical format:
statement, question, successful interruption,
nonsuccessful interruption, incomplete, other

Third digit --represents the relation to previous message:
support, nonsupport, extension, answer, instruction,
order, disconfirmation, topic change, self-instruction, other

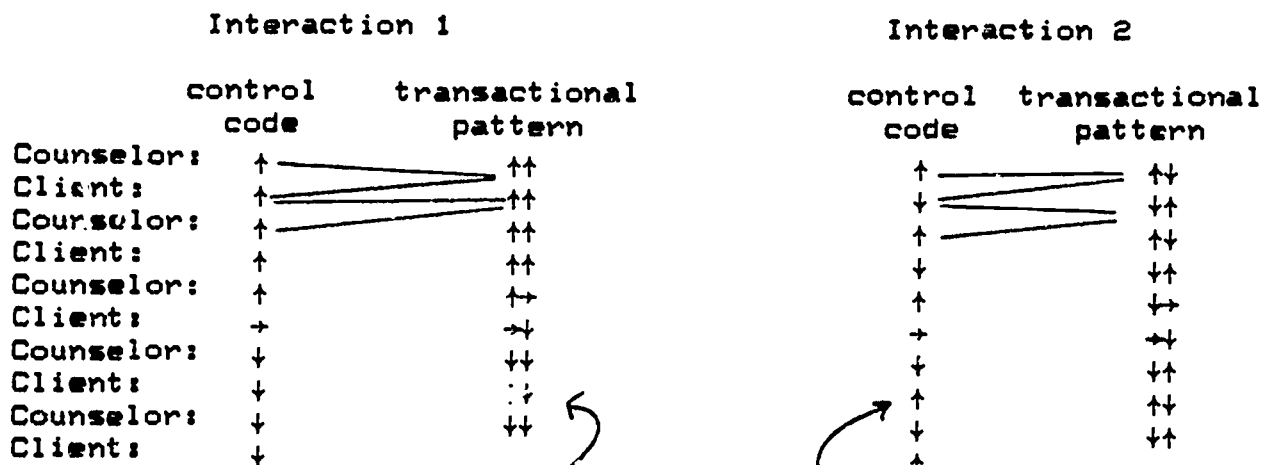
The 2nd and 3rd digits combined are used to determine a control code of up, down, or across. These are then combined sequentially in pairs (as in II. below) to form "relational communication" or "transactional" patterns.

There are 9 possible transactional patterns:

Complementary	Symmetrical	Transitional
↑↑ (couns. "up")	↑↑ (competitive sym.)	↑↓
↑↓ (client "up")	↑↑ (submissive sym.)	↑↓
	↑↓ (neutralized sym.)	↑↓
		↑↓

II. INFORMATION GAINED FROM SEQUENTIAL DATA ANALYSIS

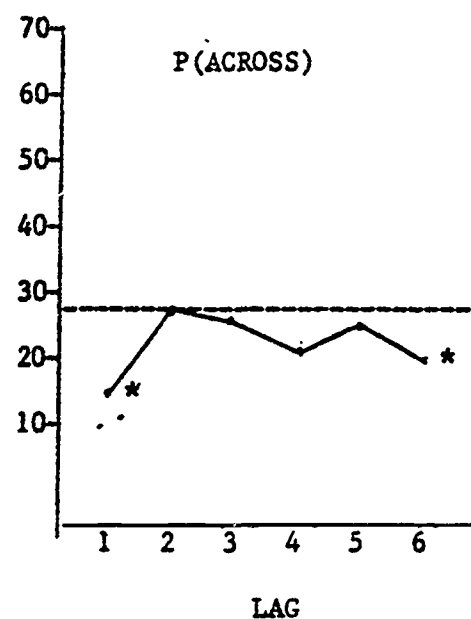
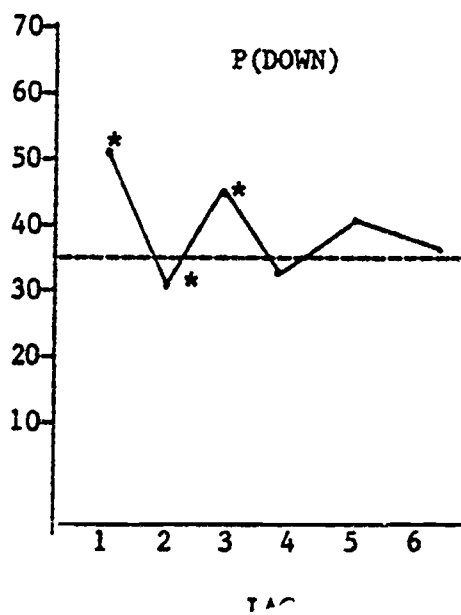
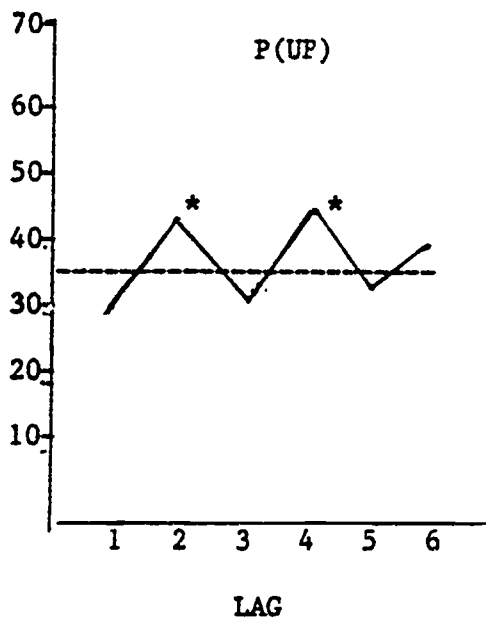
Note: the counselor and client in both interactions had about equal nos. of "up" and of "down" messages, but the sequence in which they occur makes for very different transactional patterns.



(stable) Competitive Symmetry vs. (shifting) Complementary Patterns

III. SAMPLE OF OUTPUT FROM LAG SEQUENTIAL ANALYSIS PROGRAM (BAKEMAN, 1979)
APPLIED TO RELATIONAL COMMUNICATION DATA

GIVEN AN
"UP" MOVE:



_____ (unconditional probability)

* $|z| > 1.96, p < .05$

Influence in Counseling: Content and Relationship

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Strong and Claiborn (1982; Claiborn, in press) have distinguished two kinds of influence in counseling. These correspond to the content and relationship levels of communication described by Watzlawick, Beavin, and Jackson (1967). Influence on the content level consists of the counselor's sending messages that are discrepant from client attitudes, under conditions that promote client attitude change in the direction of the counselor's position. This is the kind of influence originally embodied in the social influence model (Strong, 1968; Strong & Matross, 1973). And it is on this level that counseling may be considered an interpretive process, wherein the counselor's messages ultimately change the way the client labels and construes events--and thus views the world (Claiborn, 1982; Levy, 1963).

The second kind of influence occurs on the relationship level of communication. Here, messages are considered in terms of their interpersonal effects--the behavior they elicit in others, and the relationship definition they set up between interactants. As a sequence of such messages, counseling is an interactional process: The counselor's behavior creates a relationship definition that strips the client's symptomatic behavior of its usual interpersonal effect, and prompts the client to engage in alternative, presumably healthier behavior.

These two kinds of influence are not completely distinct; one plays upon the other. Influence on the content level requires a relationship definition in which the counselor has social power with respect to the client. A relationship in which the counselor is defined as an expert, for example, is largely the result of influence on the relationship level. Conversely, influence on the

relationship level is necessarily accompanied by changes in interpersonal perception and the interpretation of others' behavior, some of which may be effected by influence on the content level.

The influence process itself is difficult to study. Influence is generally inferred from manipulating input (the counselor's behavior) and measuring output (the client's behavior). An added difficulty on the relationship level is that the meaning of the messages is not explicit, as it is on the content level, but must in turn be inferred from the interpersonal implications of the messages. It is one thing to know what "let's meet next week at 3" means on the content level, but quite another to know whether its interpersonal effect is to set up a dominant-submissive or mutually cooperative relationship.

In this examination of the influence process in a single case, I wanted to focus on the relationship level, both because it has been little studied and because it presents the added difficulties just described, which I wanted to understand better. I chose a method of analysis capable of characterizing how the counselor and client negotiate their relationship definition and how the definition changes within and between the two sessions. Yet I was also interested in influence on the content level, and could not settle upon a separate method for studying content without knowing more about the case. The method of analysis I chose seemed capable of describing the counseling relationship in ways that are at least relevant to influence on the content level.

Method

The method I used was to rate counselor and client statements according to the Interpersonal Communication Rating Scale (ICRS; Strong & Zodun, 1984), and from these ratings to produce contingency probability tables reflecting the reciprocal influence of counselor and client.

The ICRS was developed expressly to rate influence strategies used by

participants in an interaction. Based on Leary's (1955) circumplex, it consists of eight strategies formed by the intersection of four axes (see Figure 1). The axes (moving clockwise from the vertical axis) are dominant-submissive, extraverted-introverted, friendly-hostile, and dependent-competitive. The eight strategies are pieces of the pie formed by the axes. They are (again moving clockwise) leading (between dominant and extraverted), nurturant (extraverted and friendly), cooperative (friendly and dependent), docile (dependent and submissive), self-effacing (submissive and introverted), distrustful (introverted and hostile), critical (hostile and competitive), and self-enhancing (competitive and dominant). The strategies are described more fully in Table 1. The ICRS was used in this study with two modifications. First, ratings were based only on linguistic cues, since paralinguistic cues were unavailable; in any rating of relationship messages, this constitutes a serious loss of information. Second, statements were rated with respect to strategy only, and not, as is also possible in the ICRS, the intensity of the strategy.

The raters (myself and an advanced doctoral student), minimally trained but agreeing about 80% of the time, rated each counselor and client statement according to the guidelines of Strong and Zodon (1984). A statement was "a participant's communication from when the participant begins to speak to when the other begins to speak" (Strong & Zodon, p. 1); thus, embedded remarks, indicated on the transcript by parentheses, were not rated. Most statements were given only one rating, but occasionally statements were given two or three ratings, indicating that the influence strategy had shifted within the statement.

For the contingency probability tables, each session was divided, by time, into equal thirds. For each third of each session, two tables were produced, one showing the probability of each counselor strategy given each client

strategy, the other showing the reverse (see Tables 2-13). If a statement had more than one strategy, contingency probabilities were calculated only for contiguous strategies. (For example, if the client shifted within a statement from leading to cooperative, leading was considered contingent upon the counselor's previous strategy and the counselor's subsequent strategy was considered contingent upon cooperative.) In addition to contingency probabilities, the frequency and proportion of each strategy are also given in the tables.

Results and Discussion

I will present and discuss the results by thirds of each session and conclude with some general comments. Tables 2 and 3 have to do with the first third of the first session. As Table 2 shows, the counselor used only two strategies, leading and nurturant, and the great majority (82%) were leading. The probability that these leading strategies were followed by cooperative strategies on the part of the client was very high (.78). Table 3 shows that the client used a greater variety of strategies, yet only used cooperative more than once. The client's cooperative strategies were always followed by the counselor's leading strategies (probability 1.00). Thus, the relationship definition that emerged in the beginning of the first session was clearly one in which the counselor "took charge," at least with respect to the task at hand, and the client cooperatively followed his lead. It is worth noting, however, that when the client used a strategy other than cooperative, the counselor was likely to use a strategy other than leading (probability .75).

In the second third of this session, the picture became a little more complicated, but the basic relationship definition was the same (see Tables 4 and 5). Table 4 shows that though beginning to use other strategies, the counselor was still primarily leading (79%), and his leading strategies were still very likely to be followed by the client's cooperative strategies

(probability .69). However, the counselor's leading strategies were also followed by the client's self-effacing and critical strategies (probabilities .19 and .09, respectively). Table 5 shows that though the client was still primarily cooperative (63%), she also used self-effacing and critical strategies (each 15%). In addition, though her cooperative and self-effacing strategies were most likely to be followed by counselor leading (probabilities .85 and .87, respectively), her critical strategies were more likely to be followed by counselor nurturant strategies (probability .50). In the middle of the first session, then, the counselor's leading position was expanding to include some nurturance, particularly in response to greater client criticality.

In the final third of this session (see Tables 6 and 7), the relationship definition was very much like the first third. Table 6 shows the counselor almost exclusively leading (97%), with the result that the client used mostly cooperative strategies (probability .78). Table 7, however, shows the client continuing to use a variety of strategies, still primarily cooperative (54%). All of the strategies used except critical were highly likely to be followed by counselor leading.

The overall picture of the first session is of the counselor's position in the relationship defined in terms of one strategy--leading--and of the client's position defined in terms of several strategies probabilistically connected to counselor leading. These strategies include behaviors not at all atypical of a client at the beginning of counseling: cooperating in problem-solving, disclosing one's problems or limitations (self-effacement), and complaining about other people and situations (criticality).

Tables 8 and 9 depict the first third of the eighteenth session. Table 8 shows that the counselor was now using two strategies frequently--leading (50%) and cooperative (35%). Both of these strategies were likely to be followed by client cooperative strategies (probabilities .69 and .55, respectively). Table

9 shows that although the client used a wide variety of strategies, she used cooperative strategies by far the most (56%); leading was now her second most frequent strategy (16%). As before, the client's cooperative strategies were most likely to be followed by counselor leading (probability .64), but were now also followed by cooperative strategies (probability .29). The client's leading strategies were most likely to be followed by cooperative strategies on the part of the counselor (probability .75). The relationship definition at this point was somewhat like in the first session--counselor leading and client cooperating. Occasionally, however, the client took the lead and gained the counselor's cooperation; this did not happen in the first session, where the few leading strategies used by the client were always followed by leading strategies on the part of the counselor.

The second third of this session contains a major change in relationship definition, particularly in the position of the client (see Tables 10 and 11). Table 10 shows that the counselor continued to lead (66%); his second most frequent strategy was now critical (13%) (earlier it had been nurturant or cooperative). Counselor leading continued to be followed most often by client cooperative strategies, but at a much lower probability than before (.47, as opposed to .69-.78); counselor leading was also followed by critical and leading strategies on the part of the client (probabilities .19 and .14, respectively). Table 11 shows that the client used cooperative strategies much less than before (30%), and also used critical, leading, and self-enhancing strategies as much or more than before (23%, 17%, and 13%, respectively). The first three of these most frequent client strategies were most likely to be followed by counselor leading (probabilities .55, .57, .80, respectively), though the client's critical strategies were also followed by critical strategies on the part of the counselor (probability .29). The client's self-enhancing strategies were most likely to be followed by the counselor's self-enhancing strategies (probability

.50). In this part of the session, the counselor's leading took on a more critical, less nurturant character. It was met, in turn, with less cooperation on the part of the client, and more dominant positioning--expressed as criticality, leading, and self-enhancement. The client, it appears, gained status in the relationship with the counselor (the vertical, or dominant-submissive, axis being the status dimension), but the counselor had really lost none. Thus, the relationship definition had now become more mutual, in terms of status, than it had been before.

In the final third of this session (see Tables 12 and 13), the new relationship definition was also evident. Table 12 shows the counselor's leading to be at its lowest point (45%). Though this was not markedly lower than the beginning of this session (50%), it was accompanied by a very different secondary strategy--critical (32%), rather than cooperative. The counselor's leading was most likely to be followed by cooperative strategies on the part of the client (probability .57), and occasionally by client leading (probability .21). The counselor's critical strategies were rather equally likely to be followed by cooperating, nurturing, docile, and self-effacing strategies on the part of the client (probabilities .20-.30). Table 13 shows the client to be using cooperative strategies at the same level as the prior third of the session (33%), a low level compared with before. The client also used every other strategy, except one (distrustful) in almost equal proportions; of these, leading was used most (20%). The client's cooperative strategies were likely to be followed by the counselor's leading or critical strategies (probabilities .50 and .30, respectively), and the client's leading strategies by the counselor's leading or cooperative strategies (probabilities .50 and .33, respectively). Other client strategies with a high probability of being followed by counselor leading were self-effacing and critical (both .67). The new relationship definition thus continued with the counselor still leading, but more in the

sense of challenging and pushing (criticality) than simply taking charge. The client's position accordingly became less consistently cooperative, somewhat higher in status, and generally very diverse in the strategies used.

In general, the picture of the influence process I get from these data (purposely ignoring content) is of the counselor establishing social power very early on and maintaining it throughout counseling. The client participated in this fully with her cooperative strategies, so that the relationship quickly and solidly became defined as a leading-cooperative one, a well-run task group of two. From this relationship definition alone, I would argue that conditions were very good for influence on the content level and that this was probably a major source of change in this case. Probably within this relationship definition (because it never seemed to be abandoned entirely), a second relationship definition appeared in the middle of the eighteenth session (and probably many times before). This one, which I just described above, probably characterized episodes of influence on the content level. The counselor offered ~~discrepant ideas--with leading and critical strategies--~~ and the client worked with them, adopting some with cooperative strategies, questioning others with critical strategies, and defending her own position with self-enhancing strategies. (You see I could not ignore content entirely.) If I were analyzing this case more extensively, I would take the relationship shift described here as a possible cue that something important was happening on the content level of communication--a critical incident, or the like--and turn my attention toward it with a method appropriate for examining content.

It is more difficult to say whether influence took place on the relationship level. The relationship definition changed remarkably little in eighteen sessions; the counselor continued to lead, but used leading in different ways (judging by secondary strategies), and the client began to share the leadership more. The client shifted positions more, but this did little to

alter the counselor's position. The most that can be said (which perhaps is a lot) is that the counselor's leading position did not prevent the client from using a variety of strategies. Change on the relationship level could spring from such experimentation.

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On Getting Closer to a Description of the Actual
Events in Counseling: Discussant Remarks

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Presented as part of a symposium, James W. Lichtenberg,
Chair, "Perspectives on process: The microanalysis of two
counseling sessions," presented at the Annual Convention of
the American Psychological Association, Los Angeles, CA:
August 25, 1985.

These six studies about two interviews from a single counseling case are illustrative and excellent examples of the 'state of the art' in counseling research. The researchers here today are leading exponents of a research trend in our specialty that may eventually help move us into a more self-consciously empirical stage of inquiry. I mean by empirical a method which allows us to get the description of the basic activities in counseling correct in the first place before we try to explain them.

First, each of these researchers has elected to use the participants' talk as their resource for making statements about the two interviews. Second, each researcher is interested in description; although, each has seen fit to go beyond a description of what the participants believe themselves to be doing by using an external coding scheme to locate events in the interview. Thus, in conducting their analyses, they have been able to set aside their assumptions about what makes for good or bad counseling, and about the effects of the alleged personality characteristics of the participants.

A concern with description and a focus on the communicative work performed by the participants places these studies at the boundary between what might be called "studies about counseling" and "studies of counseling." In our specialty, studies about counseling, those that make comments about the work of the counselor and client, are

abundant. By contrast, studies of counseling, or those that provide tangible examples of the actual work in 'sequentially developed and technical detail', are very rare. [Harold Garfinkel provided this distinction in characterizing the current state of social studies of scientists' work; Garfinkel, Lynch & Livingston, 1981]. Our researchers have delivered some examples of sequentially developed detail about the client and counselors' work, albeit the sequential detail is that produced by their coding schemes. There is a striking uniformity of procedures and results across the separate studies. This suggests that our researchers may have employed a common set of assumptions when looking at their findings. What then, have we learned from each of these six studies?

Chuck Claiborne (1985) analyzed these two sessions by administering a modification of the Interpersonal Communication Rating Scale categories. By using just the influence strategy categories we learn from Chuck what it is about this talk that makes it "leading," or "nurturant", or "cooperative", or "docile", or "critical" and the rest. We learn as well, that the counselor rather consistently "leads" and the client rather consistently "cooperates." The pairing of these two concepts and their consistent pairing throughout the analysis yields, then, for Chuck, one example of the 'exercise of social influence' in counseling. In other words, we are told what it is about the talk that

makes it influential when coded by the Interpersonal Communication Rating Scale categories.

Terry Tracey (1985) analyzed the two sessions by administering a coding scheme consisting of two categories: topic initiation and topic following. To apply his coding scheme and interpret the results, Terry had to assume that an important and recognizable feature of a person's talk is its 'topicality' for both speaker and hearer; that in selecting a topic, one speaker attempts to influence another; by talking about the 'same' topic, a second speaker is thus influenced by a first speaker; and finally, if these events are seen to occur in a series of sequences, social influence has occurred. Thus, with these assumptions in mind, and with the further application of a Markovian test of order, we learn from Terry what it is about the talk of the counselor and the client that makes it topical, sequential and independent of, or dependent on, the other person's talk.

Miki Friedlander and Susan Phillips (1985) analyzed the two sessions' talk by administering both some of the categories of the Discourse Activity Analysis System, the DAAS, and the stochastic tests of stability and predictability of talk sequences. As with Terry Tracey, several assumptions had to be made to apply the DAAS coding scheme and Markov procedures to render the results interpretable. I won't detail those here, but suffice it to say that by using the DAAS and Markov we learn from Miki and

Susan what it is about the counselor and client's talk that makes it 'active' or 'passive', and which speaker is either; what makes it 'controlling' and, therefore, 'unbalanced' or 'balanced,'; and again, what makes it independent or dependent relative to each speaker. Thus, the talk of the counselor was sometimes seen to be more 'topic initiating' and, by inference, more socially influential.

Turning now to Laurie Heatherington (1985), she analyzed the talk in these two sessions using the coding scheme provided by the Relational Communication Control Coding System categories, and the procedures of a lag sequential analysis. We therefore learn, here for example, what it is about the counselor and client's talk that, over time, makes it 'controlling' or 'neutral', 'competitive', or 'complementary' and hence, 'transactional'. The talk is seen to be a series of shifting sequences or patterns in which both participants attempt to control the interaction.

Clara Hill's (1985) Coding schemes consisted of the Therapist Intentions List categories and the Client Reactions System categories. The difference in Clara's study is that she asked the participants to act as coders of their own talk rather than relying on others to do the coding. This feature moves us a step closer to obtaining a description of the participants' own accounts when viewed under the auspices of a coding scheme. When the therapist is instructed to comply with Clara's coding instructions, we learn what it is about the therapist's talk that makes it

'information getting', 'supporting', 'limit setting', and the rest. Similarly, the client tells us what it is about the therapist's talk that is reportable as evidence of Clara's Client Reaction System categories. That the sessions were seen to consist of various amounts of 'get information', 'challenge', 'feelings', 'understand' and the rest is what these two coding schemes provide for.

In a manner similar to Heatherington (1985), Jim Lichtenberg (1985) analyzed the two session's talk with a coding scheme that orients the coder to locate evidence of 'relational control' in the counselor and client utterances. The coders therefore, find evidence in the talk that some utterances are 'moves toward dominance', 'moves toward accepting dominance', or 'moves toward neutralizing control.' Within this view of what the talk amounts to, Jim also wants to learn more about the probability of the occurrence of the talk, thus construed in these ways, and what that says about the 'structural stability' of the sequences as an interactive system of social influence. Given this, we learn what it is about the talk that makes it 'excitatory' or 'inhibitory' in its effect on the occurrence of a next speaker saying something. Jim's findings are too numerous to mention briefly without doing them an injustice.

These studies show sophistication, imagination and restraint in the interpretation of their results. They turn-up several similar findings when analyzing the same counseling case. They advance the ways the social influence

concept can be used to label events in counseling. If, however, you have already surmised that I am about to offer a caveat or two, you are correct. I am concerned about the way this consolidation of results across independent analyses may mislead us into thinking that uniformity of reports equals accurate description. I have been deliberately redundant in saying about each study that with the use of the researcher's coding scheme, we learn what it is about the talk in these two counseling sessions that makes it: 'leading-cooperating', or 'topic initiatory/topic following', or 'active-passive', or 'symmetrical' and 'competitive-asymmetrical-complementary', or 'information-getting-understand', or as 'dominant-submissive-neutralizing' and hence, in true Pavlovian fashion, either 'excitatory' or 'inhibitory.' Moreover, we have learned what there is about this counselor and client talk that makes it sequential and contingent.

Now, it may be dangerous of me to ask this, but don't we also want to know what there is about the talk that makes it counseling in the first place? In other words, how is it that clients and counselors organize their sessions such that at least some of the activity is recognized by them, and by us, to be actual instances of counseling? When we ask such a question we allow for the possibility that our participants engage in activities in their setting which they do not identify as doing counseling (cf. Turner, 1972).

However, you will note that with the use of external coding schemes and stochastic analysis our researchers have treated almost every utterance in the session under the implicit rule that if an utterance occurs after the beginning and before the end of a session, it's an event of counseling. The use of such a rule and the use of coding schemes may well mask just how the client and counselor organize their encounter to be the occasion they intend it to be. When for them does the occasion actually begin and when does it end; and what, for them, are its central or core activities? How, then, do they interact to produce those core activities? These are not questions that can be answered by looking with coding schemes from the outside in.

Counseling is a talking enterprise. Somehow some of the talk itself gets identified by the participants as treatment. In some heretofore unexplicated way, a certain kind of talk is thus heard by the participants as 'doing counseling', and is describable by them as treatment or help. My own clinical experience tells me it is the case that when the participants believe they are doing counseling it is the counselor who influences the clients' contribution. What I and our researchers here today would like more than anything to be able to show, and in no uncertain terms, is just how, by talking or not talking, by talking a lot or a little, the counselor influences the client's talk. We are on the verge of doing so.

To accomplish this we will need to see the session from within in order to describe: 1) what kind of client and counselor talk constitute the 'core activities' of a session, (cf. Turner, 1972), and 2) what conversational methods bring about that talk (cf. Sacks, Schegloff & Jefferson, 1974). I would suggest that many instances of actual counseling talk can be observed directly and at least initially characterized as follows: client talk which formulates in lay terms some problem as the reason for being there, and counselor talk which transforms that lay account into its expert technical relevance. Such talk is observable when it occurs in the session. Our task is to turn such observations into a program of researchable phenomena. To do this we will need to adopt the attitude that self-evident matters for the participants are the activities we want to learn more about.

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