ABSTRACT

                Assuming that counseling is an interlocking system of
mutual influence and that the effect of various counselor/client
responses on the behavior of the other is probabilistic, then it
becomes important to understand what categories of factors contribute
to the probabilistic tendencies of counselor and client to respond in
different ways. One category of factors potentially affecting
differential response patterns, cognitive complexity, was
investigated based on the assumption that if counselors and clients
differ in their styles of processing interpersonal stimuli, these
differences will generate different interaction sequences. Counselor
trainees (N=41) were split into two complexity groups through a
cluster analysis of five measures of cognitive complexity. Each
trainee conducted a counseling interview with two clients responding
on the basis of a different cognitive style. Each verbal utterance of
counselor and client was classified into one of four interaction
process categories. For the sequence of response transitions
generated by each counselor/client grouping, transition probabilities
were estimated and organized into a transition matrix, then analyzed
using chi square. The analyses showed that the complexity level of
counselors and clients contribute to different interactional patterns
and that these process differences were significant only during the
early stages of the interview process. (Author)

COUNSELOR COGNITIVE COMPLEXITY EFFECTS

ON COUNSELOR-CLIENT INTERACTION PATTERNS

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It is characteristic of the counseling/psychotherapy process that it involves mutual interaction--that is, interaction whereby the exchanges of therapist and client influence one another. This interaction may be thought of as a process of constraint upon the initial behavioral variability of both counselor and client (Raush, 1965). That is, the counselor may be said to influence the client (and vice versa) to the extent that the counselor's responses modify in some way the distribution of actual responses from the client's total potential behavior repertoire. It has been suggested (Lichtenberg & Hummel, 1976; Strong, 1964) that this influence might be understood and represented behaviorally in terms of an "interlocking paradigm" (Skinner, 1957) in which the responses (R) of each participant (counselor and client) serve both as reinforcing stimuli (S^R) for the other's immediately preceeding response and as a discriminative stimulus (S^D) occasioning the subsequent response by the other.

Recalling that the behavioral effect of any given S^R on a previous response is to increase the probability of occurence of another response of the same response class (operant), and the effect of any given S^D is an increase in the probability of occurence of a response of the response class conditioned to it (Reynolds, 1968), the paradigm incorporates both the mutual and sequential probabilistic dependencies of the counseling interaction.

While the relative influence of any given response by either of the participants may be differential, that is the counselor's "contribution" to the therapy process may be disproportionate when constrasted with that of the client, the presumption remains that both parties to the encounter are both mutually influential and influenced. In addition, in accord with the "laws of operant conditioning," to the extent that the effect of various

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counselor/client responses on the behavior of the other is not entirely predictable but can be stated as simply an increase/decrease in the proba-bility of occurence of particular operants, this influence process may be considered probabilistic.

The problem of definition of "reinforcement" aside (Bavelas, 1978), it is generally recognized and accepted that what serves as a reinforcer for one individual may not be a reinforcer for another. From a behavioral stand-point, these differences may be understood as consequents of the individuals' respective genetic endowments, conditioning histories and contemporary envir-onmental circumstances. It is equally plausible that, as the cognitive theorists hypothesize, the person ought not be viewed as simply a passive element between stimulus and response, but rather as an active agent capable of modifying stimuli that are received (Kelley, 1955); and as individuals differ in their respective cognitive characteristics, it is reasonable to assume that they would differentially modify interpersonal stimuli into different "psychological relevance and meaning" (Harvey & Schroder, 1963, p. 95), leading to differential responding to otherwise identical stimuli.

Such differential responding should, it is assumed, lead to different counselor-client interaction patterns, defined in terms of differences in the interaction sequences generated by that responding. Of potential signifi-cance with respect to differential response predispositions in interpersonal interaction is the construct of cognitive complexity--specifically as the construct relates to the cognitive processing of interpersonal stimuli. Although various authors differ somewhat in their respective meanings of the construct, cognitive complexity is generally understood to refer to the number and organization of dimensions (possible meanings) employed by a person in the discrimination and evaluation of interpersonal stimuli (Vannoy, 1965).

Research suggests that at least with regard to the cognitive structuring
of the interpersonal stimuli, the construct is not a unitary trait, but
rather a multifactored construct reflecting several different _types_ of
cognitive complexity (Vannoy, 1965). Assuming that cognitive complexity
is a heterogeneous construct, it is possible to cluster individuals (specifi-
cally counselors and clients) with respect to their respective similarities
across types of cognitive complexity thus forming relatively homogeneous
groups of individuals with respect to their particular style of cognitive
complexity. To the extent that these homogeneous groups differ among them-
selves with respect to their style of processing interpersonal information,
it is assumed that different person-person (counselor-client) interaction
response patterns and processes would be generated.

If one is willing to assume the cognitive style of the counselor, at
least in a limited behavioral sense, can be understood and described as the
probabilistic tendencies toward responding in particular ways given certain
antecedent responses, one begins to approach partial understanding of the
manner in which counselors and clients interact to generate particular
types of counseling processes -- be they for better or worse (Strupp & Bergin,
1969).

It was the specific focus of this study to investigate the differential
counseling interaction patterns generated by counselors of differing levels
of cognitive complexity.

METHOD

Counselors

Counselors in this study were male (N=12) and female (N=29) beginning masters' level counseling students enrolled in an initial counseling skill laboratory course at the University of Kansas.

Instruments

Five measures of cognitive complexity were used and were selected on the basis of the following criteria: (1) each measure represented a substantial loading on separate factors extracted in Vannoy's (1965) factor analytic study of cognitive complexity measures; (2) on a face validity basis, each instrument represented a means of assessing complexity in the interpersonal domain. The five measures included:

1. Intolerance of Ambiguity Scale (IA). The scale was developed by Budner (1962) and consists of eight positively and eight negatively stated Likert-type items and has a negative loading (-.68) on Vannoy's Factor I. The scale is designed to measure a person's tendency to interprete ambiguous situations as sources of threat.

2. Interconcept Distance (ID). This instrument was devised by Ware (1958) with scoring procedures subsequently modified by Vannoy (1965) and Blaas (1975). The scale consists of twenty person concepts (e.g. brother, teacher who most influenced me, myself, etc.) which are evaluated by 14 seven point semantic differential dimensions applicable to person-objects. Scores for each of the 20 person-objects become points in multidimensional space with the mean distances between points being the measure of discrimination complexity for that subject. The lower the mean distance, the fewer

the discriminations made between person-objects, hence, the lower the complexity score, has a positive loading (.70) on Vannoy's Factor II.

3. <u>Intolerance of Trait Inconsistency</u> (ITI). This test was developed by Steiner (1954) and revised by Steiner and Johnson (1963). It consists of 15 items with each item consisting of two pairs of traits. One pair of traits has been judged to be equally good while the other has been judged to be unequally good. Subjects are asked to choose which of the two pairs of traits are more likely to occur together in people and scores reflect the number of times the more equally good pairs of traits are chosen. A high intolerance of trait inconsistency reflects a cognitive style that groups people into either thoroughly good or thoroughly bad categories. The instrument has a positive loading (.56) on Vannoy's Factor IV.

4. <u>Category Width</u> (CW). This instrument is a 10 item scale modified by Vannoy (1965) that is experimentally based on Pettigrew's (1958) original scale. The scale is designed to obtain an estimation of whether a person uses broad or narrow categories in processing interpersonal stimuli. Broad categorizer use only a few categories to characterize diverse personalities while, narrow categorizers use many categories for such categorization. The test has a positive loading (.48) on Vannoy's Factor VII.

5. <u>Paragraph Completion Measure of Integrative Complexity</u> (PCM). The test was derived from conceptual systems theory (Harvey, Hunt & Schroder, 1961) and was designed to measure the degree of integrative complexity (Schroder, Driver, & Streufert, 1967). Integrative complexity is distinguished from dimensional complexity in that a cognitive structure could be highly differentiated and yet not well integrated. This distinction seems substantiated as the PCM is represented by itself on Vannoy's Factor VIII (.48). The test consists of five incomplete sentences, the responses to which are timed and scored by two independent judges, according to a manual developed by Hunt,

Kingsley, Marsari, Shore & Sweet (Note 1). The interrater reliability obtained in this study was $r = .72$.

Interaction Process Categories

Four mutually exclusive interaction process categories were used in classifying the verbal responses of counselor and clients in the simulated counseling interviews. The categories were derived by minor modification of the four interaction process categories proposed by Lennard and Bernstein (1960) for their analysis of psychotherapy interaction. The four categories modified for this study were: (1) Descriptive--responses which conveyed or asked for factual information, or which gave or asked for orientation, repetition or clarification (e.g. "I see that it is time to stop." "What does that statement mean?"); (2) Analytical--responses which asked for or conveyed interpretation, analysis, opinion or feeling (e.g. "What do you think is wrong with you?" "You seem to be unhappy."); (3) Prescriptive-- responses which expressed or asked for direction or suggestion regarding what should or must be done, (e.g. "I would prefer that you didn't do that." "Where should we begin?"); (4) Valuative--responses which sanctioned, valued, or expressed judgment regarding some content, (e.g. "That's good." "He's so terribly dishonest.") The four response categories when crossed with speaker (counselor and client) resulted in eight mutually exclusive inter- aciton process categories. Response units were defined as everything spoken by any one of the two speakers until or unless there was a change in speaker or response category.

Clients

Subjects participated in two simulated counseling interviews that were based upon the simulated clients originally designed by Heck and Thomas (1975). These interviews represented an initial counseling session in which the counselor trainees are to work with two role-played clients (male

and female) who are responding on the basis of a specified problem. Both client roles reflect a high school student wanting to discuss post-high-school educational-vocational concerns. The purpose of using two role-played clients was twofold: (1) to control for client differences, and; (2) to examine potential differences in response patterns between clients of each sex. Two male and female doctoral students in counseling were utilized in each role-in an effort to control for particular role-player effects.

Procedure

The counselor trainees were administered the five measures of cognitive complexity during a counseling laboratory period. During the subsequent lab period, each trainee conducted a counseling interview with both male and female clients. The order of the interviews was counterbalanced and trainees were randomly assigned to particular role-played clients. Each interview was audio tape recorded and the verbal responses of counselor and client classified by two independent judges previously trained to a level of interrater agreement of k .94 (Cohen, 1960; Tinsely & Weiss, 1975) on counseling interviews similar to the actual interviews used in this study. Because of the large number of interviews rated, following attainment of a previously specified satisfactory level of interrater agreement, the res-ponses of individual interviews were classified by only one of the two judges, the specific interviews being randomly assigned to the judges. To assess reliability of agreement between the judges both in response unit determination and response classification, six randomly selected portions of the actual interview tapes were assigned to both raters; the obtained coefficient of agreement ($k=.89$) suggested continued rater agreement both with respect to discrimination of response units and category classification.

The five measures of cognitive complexity were subjected to a cluster
analysis of cases (BMDP2M) for the purpose of classifying individual counselors
into relatively homogeneous subgroups of cognitive complexity. Two homogeneous
clusters of subjects were identified; subjects not initially included in
either cluster were assigned to one or the other cluster using discriminative
analysis procedures. "High complexity"/"low complexity" designations for
the two groups were determined on the basis of mean scores for the cluster for
each of the five cognitive complexity measures. Table 1 reports the mean
values for the two counselor clusters.

Insert Table 1 About Here

Crossing counselor cluster with client roles resulted in four process
comparisons:

    I.   Low vs. high complexity counselors - female client

$$(T_L C_F \text{ vs. } T_H C_F)$$

    II. Low vs. high complexity counselors - male client

$$(T_L C_M \text{ vs. } T_H C_M)$$

    III. Low vs. high complexity counselors - combined male and female clients

$$(T_L C_{F+M} \text{ vs. } T_H C_{F+M})$$

    IV. Male vs. female client - combined group of counselors

$$(C_M T_{H+L} \text{ vs. } C_F T_{H+L})$$

Statistical Analysis

The sequence of categories assigned to the verbal interaction of counselors
and clients constituted the raw data of the counseling process; the "process"
itself, however, was understood not as simply the sequence of responses, but
rather in terms of the transformations or changes in response/response category
across time. That is to say, the unit of analysis was the transitions between
categories of responses rather than the responses themselves--upon the process,
rather than upon the units of the process. A transition was specified by
any two consecutive categories of response and an indication of the direction
of the response-response change or transformation. The first response in any

transition was designated its _antecedent_; the second was its _consequent_.

Were the counseling process causally determihistic, at any given moment in the process the occurance of any response would necessarily imply a single unique transition to a specific consequent response with a probability of unity (p=1.0). However, as was suggested earlier, within the interlocking paradigm, the sequence of interactive events/responses cannot be assumed entirely predictable, but must be considered probabilistic. Despite the presumed probabilistic nature of these transitions, it nonetheless seems evident that the counseling process demonstrates at least some degree of orderliness or regularity to it and does not, as a rule, degenerate into chaos. The occurance of each particular consequent in the process, though not determined, is made in accord with some "principle" which assigns each of the possible consequent responses a certain probability of being the actual consequent to the antecedent response. That is, though counseling may not be a deterministic process in the causal sense, it nonetheless may be "rule governed" or "principled" in some manner.

For the sequence of response transitions generated by each of the counselor-client groupings, _transition probabilities_ (p_{ij})-those probabilities of transition among the various process response classes--were estimated by dividing the number of occurances of a particular response-response (i,j) transition in the sequence of responses by the number of times its antecedent (i) occured as the antecedent for any transition in the response sequence.

These transition probabilities were then organized into an 8x8 _transition matrix_, a square matrix whose rows and columns referred to the eight response categories [rows(i)=antecedents; columns(j)=consequents] and whose cell entries (p_{ij}) referred to the corresponding probability estimates of the transitions from row category (antecedent) to column category (consequent).

The matrix summarized the essential structure of the process in terms of its response-response transition probabilities (Lichtenberg, 1977).

Interaction process comparisions were conducted using X^2 tests of homogeneity in the following manner: A X^2 value was computed for each of the individual corresponding rows of the transition matrices for the counselor-client role grouping being compared. For the 8x8 transition matrices, this resulted in a total of eight individual X^2 values for each of the three comparisons. For each process comparison, these values were summed and the statistical significance for the resulting value was determined—a significant X^2 value implying difference between the processes of the two groups being compared (Suppes & Atkinson, 1960). The rationale for summing the individual matrix row comparison X^2 values was that despite significant X^2 values for any given row, indicating differential response distributions for that antecedent, overall interaction process differences might not be present.

Results

Table 2 summarizes the statistical analyses for the four interaction process comparisons. For ease of presentation, the results will be discussed for each group comparison of the process.

1. Low vs. high complexity counselors - female client ($T_L C_F$ vs. $T_H C_F$)
   The data indicates an overall significant statistically differences between the interactional processes generated by high and low complexity counselors interacting with the female client. It appears as if the differential response distributions following the counselors descriptive and analytic responses accounted for the preponderance of the interactional process differences.

2. Low vs. high complexity counselors - male client ($T_L C_M$ vs. $T_H C_M$)
   No overall statistically significant differences were found between

the interactional processes generated by high and low complexity counselors interacting with the male client.

3. Low vs. high complexity counselors - combined male-female client $(T_L C_{F,M}$ vs. $T_H C_{F,M})$

   A statistically significant difference was noted between the interactional processes generated by high and low complexity counselors interacting with the combined group of clients. As in the first comparison it appears that the differential response distribution following the counselor's descriptive and analytic responses accounted for most of the interactional process differences.

4. Female vs. male client - combined counselor groups $(C_F T_{H,L}$ vs. $C_M T_{H,L})$

   The data indicates a statistically significant difference between the interactional processes generated by the male and female client interacting with the combined groups of counselors. In particular, the data shows a differential response distribution following all four categories of client responses and two categories (analytic, prescriptive) of counselor's responses.

In summary, the results show that the complexity level of counselors as well as different clients contribute to different interactional processes being generated. These results will be reviewed in the Discussion section as to constraints and implication of the data. However, since there were a number of significant differences in the interactional processes the significance of these results were pursued in a different manner.

These results suggest that there were certain differences in the interaction processes under certain circumstances (counselor complexity and client). As an inference one might assert that these differences in process characteristics reflect the operation of different "rules" which govern these apparently different processes. However, these results are based on one-

step dependency transition probabilities; that is, an analysis of one-step (single) antecedent - consequent relations tabulated through the interview data. While the analysis revealed certain differences in absolute transition probabilities, therby implying different rules of interaction, it is not known whether the probable sequences generated by "rule differences" would be any different. For example, despite significantly different process character-istics, defined by one-step process rules, once the rules are in effect, do the processes remain distinctive after a certain number of transitions?

To test this proposition, an assumption was made that all processes started in a certain initial state; i.e., the counselor opening with a descriptive comment such as "I'm (introduce self) and how can I help you." This was a reasonable assumption to make as all counselors were instructed to introduce themselves in their initial contact with the role-played client. Assuming the process started in this state the transition matrix was multiplied by itself, recursively sixty times in accord with the assumptions of finite Markov chains (Kemeny & Snell, 1960). Sixty times was an estimate of the average number of interchanges within the approximate twenty minute counseling period. By this procedure one addresses the question of "Given the process started in X state, where is it likely to be after 10, 20....60 transitions?" For ease of illustration the following tables show what state (i.e., counselor or client response categories) the process is likely to be in through the first 10, the 30th, 40th, and 60th transition periods for each of the group comparisons.

[Insert Table 3 here]

[Insert Table 4 here]

[Insert Table 5 here]

[Insert Table 6 here]

Inspection of the data in Tables 3-6 reveal a striking number of similarities. First, for each of the four group comparisons of the probable process pattern there appears to be little differences in the patterns. In particular, the process seems to stabilize at about the 10th transition period with negligible changes at the 30th, 40th, and 60th periods. Moreover, the data within each table show a pattern of client and counselor essentially exchanging descriptive (C_1, T_1) and analytic (C_2, T_2) remarks with very low usage of either prescriptive (C_3, T_3) or valuative (C_4, T_4) comments. Indeed, if one were to bet on where the state is likely to be at any particular transition period it would be most likely in a descriptive state with the probability of being in an analytic state a close second.

In summary, while the chi square analysis (Table 2) reveals a statistically significant difference in the absolute frequencies of response types, hence the absolute probabilities, between low and high complexity counselors and between the client comparisons, these differences do not appear to reflect significant differences in the probable sequences of interaction.

Discussion

This study examined the question of whether the counseling process is different between different complexity level counselors and two role-played clients, differing in sex but reflecting the same vocational problem. It proposed to do so by examining the mutual and interactive influence of both counselor and client on each other's verbal behavior. This influence was represented as a transition which was defined as a move between any two consecutive events (i.e., antecedent-consequent). Estimates of the probability of any given event (e.g., counselor or client response) being followed by any other event were computed and were defined as transition probabilities.

The transition probabilities were organized into a __transition matrix__ with rows = antecedents and columns = consequents. Under the finite Markao chain assumptions the transition probabilities were assumed to: (a) to be __stationary__ (i.e. the probabilities within the sequence do not depend on their place in the series of transitions), and; (b) reflect __first-order dependency__ (i.c. the consequent is dependent only on its immediate antecedent).

The analysis of this transition matrix rows using chi square (Table 2) demonstrated absolute differences in the distribution of the counselor/ client responses to each other in certain response categories across a number of comparisons. This suggests the interpretation that these different processes apparent in certain client-counselor combinations are generated or governed by different "rules of interaction." However by raising this matrix to the 60th power, a vector of probabiliites showing where the process was likely to be after n transitions, failed to show any appreciable difference in the various group comparisons. For example, by the 60th transition, the processes look extremely similar across all of the groups. Thus despite different process characteristics, defined by one-step process rules, being evident, once the rules are in effect and have stabilized, the processes lose their distinctiveness after 60 transitions. In short, different rules of interaction seem to lead to the same place.

However, these results are constrained by certain features of this study. First, the counselor/client response categories are not richly varied using only four very inclusive categories of responses. A more complex, discriminating category system may have been more sensitive in detecting other potential process differences. Secondly, these counselors, being first

semester students were primarily using only two (T_1, T_2) of the four response categories thereby reflecting a constricted response pattern. Besides the inclusive character of the response category system and the relative in-experience of the counselors, the constricted pattern could also be due to the interview being a relatively brief, initial interview. It seems plausible that prescriptive and valuative comments come later, if at all, in the processes of interaction.

While there were differences in the rules which govern the processes (i.e. distribution of verbal responses of client and counselors), all that has been demonstrated is where these processes are likely to be at certain transition periods. However the analysis of these processes are based on a one-step sequence (i.e. antecedent-consequent); thus there is no information based on sequences longer than one step. The consequence is that we don't have information about the sequence pattern that eventuate in these transition periods. It could be that that is where the differences in the rules becomes apparent.

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Table 1

Mean Scores, Standard Deviations on Five Cognitive Complexity Measures for Counselor Clusters

Complexity Measure	Low Complexity Cluster		High Complexity Cluster	
	M	SD	M	SD
Intolerance of Ambiguity (IA)	48.23	9.83	46.00	9.68
Interconcept Distance (ID)	7.98	.72	5.69	.74
Intolerance Trait Inconsistency (ITI)	7.00	2.23	6.37	2.33
Category Width (CW)	41.76	6.11	39.12	8.13
Paragraph Completion Measured (PCM)	1.56	.52	1.74	.69

Table 2

Chi Square Analysis of Four Interaction Process Comparisons

Response Category	Process Comparison							
	$T_L C_F$ vs $T_H C_F$		$T_L C_M$ vs $T_H C_M$		$T_L C_M$ vs $T_H C_{F,M}$		$C_F T_{H,L}$ vs $C_M T_{H,L}$	
	x^2	df	x^2	df	x^2	df	x^2	df
T_1	31.46***	7	3.79	7	20.84**	7	10.44	7
T_2	14.68*	7	16.76*	7	21.79**	7	24.05**	7
T_3	3.38	7	11.33	7	10.88	7	16.39*	7
T_4	2.25	7	7.33	7	5.95	7	8.28	7
C_1	12.76	7	5.29	7	10.73	7	57.04***	7
C_2	7.13	7	2.35	7	3.47	7	28.33***	7
C_3	5.43	7	4.74	7	4.50	7	18.33*	7
C_4	2.44	7	7.94	7	4.09	7	15.84*	7
	79.53**	49	59.53	49	82.25**	49	178.70***	49

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

NOTE: Counselor (T) and client (C) numerical subscripts refer to the interaction process categories: 1=descriptive, 2=analytic, 3=prescriptive, 4=valuative. Alphabetic subscripts correspond to counselors cognitive complexity (L=low, H=high) and client sex (M=male, F=female).

Table 3

Probabilities Of Various States After Certain Transition Periods -

Groups $T_L C_F$ vs $T_H C_F$

Transition No.	Client/Counselor States							
	C_1	C_2	C_3	C_4	T_1	T_2	T_3	T_4
1	0	0	0	0	1.00	0	0	0*
	0	0	0	0	1.00	0	0	0
2	.45	.22	.05	.03	.09	.14	.02	.01
	.39	.27	.04	.04	.10	.13	.02	.01
3	.16	.18	.06	.02	.42	.15	.01	.01
	.16	.18	.06	.03	.35	.21	.01	.01
4	.34	.22	.05	.02	.21	.14	.01	.01
	.30	.25	.05	.03	.19	.15	.01	.01
5	.22	.19	.05	.02	.35	.15	.01	.01
	.21	.20	.05	.03	.29	.19	.01	.01
6	.30	.21	.05	.02	.26	.14	.01	.01
	.27	.23	.05	.03	.23	.17	.01	.01
7	.25	.20	.05	.02	.32	.15	.01	.01
	.23	.21	.05	.03	.27	.18	.01	.01
8	.28	.20	.05	.02	.28	.14	.01	.01
	.26	.23	.05	.03	.24	.17	.01	.01
9	.26	.20	.05	.02	.30	.14	.01	.01
	.24	.22	.05	.03	.26	.18	.01	.01
10	.27	.20	.05	.02	.29	.14	.01	.01
	.25	.22	.05	.03	.25	.17	.01	.01
30	.27	.20	.05	.02	.29	.14	.01	.01
	.25	.22	.05	.03	.25	.18	.01	.01
40	.27	.20	.05	.02	.29	.14	.01	.01
	.25	.22	.05	.03	.25	.18	.01	.01
60	.26	.20	.05	.02	.29	.14	.01	.01
	.25	.22	.05	.03	.25	.18	.01	.01

*The first raw within each transition period reflect the state probabilities of group $T_H C_F$. The second row are the probabilities for group $T_L C_F$.

Table 4

Probabilities Of Various States After Certain Transition Periods -

Groups $T_L C_M$ vs $T_H C_M$

Transition No.	Client/Counselor State							
	C_1	C_2	C_3	C_4	T_1	T_2	T_3	T_4
1	0	0	0	0	1.00	0	0	0*
	0	0	0	0	1.00	0	0	0
2	.45	.21	.05	.02	.08	.16	.02	.01
	.46	.17	.05	.02	.08	.18	.02	.01
3	.15	.16	.05	.02	.40	.19	.02	.01
	.18	.16	.06	.02	.38	.16	.02	.02
4	.34	.20	.05	.02	.19	.17	.02	.01
	.34	.17	.05	.02	.21	.18	.02	.02
5	.22	.17	.05	.02	.32	.18	.02	.01
	.25	.17	.06	.02	.31	.17	.02	.02
6	.29	.19	.05	.02	.24	.17	.02	.01
	.30	.17	.06	.02	.25	.17	.02	.02
7	.24	.18	.05	.02	.29	.18	.02	.01
	.27	.17	.06	.02	.28	.17	.02	.02
8	.28	.19	.05	.02	.26	.18	.02	.01
	.29	.17	.06	.02	.26	.17	.02	.02
9	.26	.18	.05	.02	.28	.18	.02	.01
	.28	.16	.06	.02	.27	.17	.02	.02
10	.27	.18	.05	.02	.27	.18	.02	.01
	.28	.17	.06	.02	.27	.17	.02	.02
30	.26	.18	.05	.02	.27	.18	.02	.01
	.28	.17	.06	.02	.27	.17	.02	.02
40	.26	.18	.05	.02	.27	.18	.02	.01
	.28	.17	.06	.02	.27	.17	.02	.02
60	.26	.18	.05	.02	.27	.18	.02	.01
	.28	.17	.06	.02	.27	.17	.02	.02

*The first row within each transition period reflect the state probabilities of group $T_L C_M$. The second row represents $T_H C_M$.

Table 5

Probabilities Of Various States After Certain Transition Periods —

Groups $T_L C_{F,M}$ vs $T_H C_{F,M}$

	Client/Counselor State							
Transition No.	C_1	C_2	C_3	C_4	T_1	T_2	T_3	T_4
1	0	0	0	0	1.00	0	0	0*
	0	0	0	0	1.00	0	0	0
2	.42	.24	.05	.03	.09	.14	.02	.01
	.45	.20	.05	.02	.09	.16	.02	.01
3	.15	.17	.05	.02	.37	.20	.01	.01
	.16	.17	.06	.02	.40	.16	.02	.01
4	.32	.22	.05	.03	.19	.16	.02	.01
	.34	.19	.05	.02	.21	.16	.02	.01
5	.21	.19	.05	.02	.31	.19	.01	.01
	.23	.18	.05	.02	.33	.16	.02	.01
6	.28	.21	.05	.03	.23	.17	.02	.01
	.30	.19	.05	.02	.25	.15	.02	.01
7	.24	.20	.05	.02	.28	.18	.02	.01
	.27	.18	.05	.02	.30	.16	.02	.01
8	.26	.20	.05	.03	.25	.17	.02	.01
	.28	.19	.05	.02	.27	.16	.02	.01
9	.24	.20	.05	.02	.27	.18	.02	.01
	.27	.18	.05	.02	.29	.16	.02	.01
10	.26	.20	.05	.03	.26	.17	.02	.01
	.28	.19	.05	.02	.28	.16	.02	.01
30	.25	.20	.05	.02	.25	.17	.02	.01
	.27	.18	.05	.02	.28	.16	.02	.01
40	.24	.19	.05	.02	.25	.17	.02	.01
	.27	.18	.05	.02	.28	.16	.02	.01
60	.24	.19	.05	.02	.24	.17	.01	.01
	.26	.18	.05	.02	.27	.16	.02	.01

*The first raw within each transition period reflect the state probabilities of group $T_L C_{F,M}$. The second raw represents $T_H C_{F,M}$.

Table 6

Probabilities Of Various States After Certain Transitions –

Groups $C_F T_{H,L}$ vs $C_M T_{H,L}$

	Client/Counselor State							
Transition No.	C_1	C_2	C_3	C_4	T_1	T_2	T_3	T_4
1	0	0	0	0	1.00	0	0	0
	0	0	0	0	1.00	0	0	0
2	.42	.24	.04	.03	.09	.13	.01	.01
	.46	.19	.05	.02	.08	.17	.02	.01
3	.16	.18	.06	.02	.39	.18	.01	.01
	.16	.16	.06	.02	.39	.18	.02	.02
4	.32	.23	.05	.03	.21	.14	.01	.01
	.34	.18	.05	.02	.20	.17	.02	.02
5	.22	.20	.05	.02	.32	.17	.01	.01
	.23	.17	.06	.02	.31	.18	.02	.02
6	.28	.22	.05	.03	.25	.15	.01	.01
	.30	.18	.05	.02	.25	.17	.02	.02
7	.24	.20	.05	.03	.30	.16	.01	.01
	.26	.17	.06	.02	.29	.18	.02	.02
8	.27	.21	.05	.03	.27	.16	.01	.01
	.28	.18	.05	.02	.26	.18	.02	.02
9	.25	.21	.05	.03	.29	.16	.01	.01
	.27	.17	.06	.02	.28	.18	.02	.02
10	.26	.21	.05	.03	.27	.16	.01	.01
	.28	.18	.06	.02	.27	.18	.02	.02
30	.26	.21	.05	.03	.28	.16	.01	.01
	.28	.18	.06	.02	.27	.18	.02	.02
40	.26	.21	.05	.03	.28	.16	.01	.01
	.28	.18	.06	.02	.28	.18	.02	.02
60	.26	.21	.05	.03	.28	.16	.01	.01
	.28	.18	.06	.02	.28	.18	.02	.02

*The first row within each transition period reflect the state probabilities
of group $C_F T_{H,L}$. The second row represents $C_M T_{H,L}$.