

## A FAMILY-BASED BEHAVIORAL APPROACH TO TREATMENT OF THE ELDERLY

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### Purpose

Social work practitioners who work with the elderly are often called upon to assist families with an older family member who is experiencing behavioral difficulties that have necessitated the placement of the individual in an institutionalized care setting. As the quality of life for individuals placed within these settings has been called into question in recent years, the need for methods which address the special mental and physical needs of this population has grown in importance. Such needs are reflected in frequently occurring negative behaviors and in deficiencies in areas such as self-care, social contacts, and other positive actions. Such deficits can create negative consequences which include family conflicts, interruption of caregiving, or nursing home placement. Professionals and clergy are generally unprepared to provide the kinds of assistance which are required to ameliorate such behavioral problems.

Alternatives for providing the necessary skills that can keep the elderly individual at home while at the same time caring for their special needs and maintaining quality of life are needed more today than ever before, programs that teach family members and caregivers technologies to alleviate these problems and design better home environments.

The Elderly Support Project (ESP), an earlier research project conducted by Elsie M. Pinkston, Ph.D. at the University of Chicago's School of Social Service Administration, was designed to evaluate intervention procedures derived from behavioral parent training research, that might be used to teach families better home care of the mentally and physically impaired elderly. Using behavioral management techniques to facilitate better behavioral functioning or prevent further deterioration, such intervention can offset the need for institutionalization. The specific techniques were derived from operant and social learning theories of behavioral intervention. The problems they address include repetitive

behaviors, poor self-maintenance, low rates of social activities, and caregiver conduct, among others.

As an extension of this earlier work, the purpose of this present study was to conduct an exploratory investigation of this family-based behavioral approach. A content analysis of the ESP was conducted in an attempt to systematically use the findings to refine the early development of the ESP practice model. In the process, the interactions have been organized while questions for further research drawn from practitioner activity patterns have been raised.

### Significance

The current need for such theory-based methods to support the aged is precipitated by an increase in the aged population as well as an awareness of the shortcomings of current long-term care arrangements. The effects of such institutional placements are well documented (Geoffman, 1961) and in many cases widely regarded as negative (Tobin & Lieberman, 1976). Although social workers have traditionally focused their efforts in the areas of the elderly and the family (Lowy, 1979; Posner, 1959), techniques aimed specifically at this population are limited. Previous studies have pointed to the value of behavioral modification in working with the elderly and with the families of younger individuals with behavioral problems (Berkowitz & Graziano, 1972; Hoyer, 1973; O'Dell, 1974), however, to date, behavioral techniques have not been integrated into the mainstream of gerontological social work methods.

The need for empirical classification of social work interventions (i.e., what we do as social workers) along with the empirical development of more effective practice models with the elderly is another area of importance. Smith (1982) has indicated the need for such studies, especially those utilizing the methodology of content analysis:

Of all the potential uses of content analysis in social work research, the one of greatest priority . . . is the study of intervention processes. The focus of such study should be on what social workers actually do in the main business of the profession, that is helping people. What is needed are . . . more discriminating ways of defining the activities of the profession that yield data on how social workers ply their trade under various circumstances.

Although recently, progress has been made in conceptualizing types and levels of treatment in social casework, social work practice has not yet reached the point at which one can state with certainty exactly what it is that a client has received in a given treatment situation.

### Key Terms

**Impaired Elderly**-- An identified client in the study who upon being referred to the study and after being evaluated is determined to meet the following criteria:

1. Over 60 years of age.
2. Diagnoses of psychological problems and/or brain dysfunction, including chronic and acute brain syndromes, reactive mental disorders, depressions that prevent community functioning, senile psychoses, paraphrenia, arteriosclerotic brain disease, and acute confusional states. Physical impairments including cardiovascular accidents, arthritis, fracture, and spinal cord injury.
3. Excessive disability; that is, functional disability greater than that warranted by health status.
4. A caregiver available to participate in behavioral change efforts.
5. Behavioral excesses or deficits in rates of appropriate or inappropriate behavior, family interaction dysfunction, interpersonal problems, communication difficulties, social isolation, or inability to engage in activities of daily living or low rates of community activity.

**Caregiver**-- A family member, spouse, close friend, or other support person of the identified client who is assumed to have basic skills and motivations for participation which are based on the following criteria:

1. Have adequate time and commitment for involvement with the program.
2. Have adequate motivation, that is, are affected by the behavior of the client and have ongoing contact.
3. Have adequate access to the client and control of social consequences of the client's behaviors.

4. Demonstrate adequate skill levels or ability to learn skills.
5. Demonstrate adequate mental and physical health for participation.

**Family-Based Behavioral Intervention--** Family-based behavioral intervention is divided into nine steps. These include: a) initiation and client screening; b) assessment; c) initial contract formulation; d) baseline data collection; e) treatment implementation; f) treatment evaluation; g) maintenance procedure development and implementation; h) fading and termination; and i) followup.

The specific treatment techniques that were expected to be utilized in the model included handling general business issues, information gathering, data collection training, intervention training, linkage development, prompting, program description, instruction, modeling, contracting, explanation, emotional explanation, support, positive reinforcing statements and negative reinforcing statements, all to be used within a family educational format.

**Content Analysis--** Content analysis is the methodological approach employed in the study. The essence of content analysis lies generally in the categorizing and coding of data (usually in the form of the written or spoken word) in an attempt to analyze the processes of communication inherent in such an interaction.

### Research Questions

The specific questions this study has attempted to answer fall into four categories:

1. The range and variation of the expected and unexpected events: What do the interventions actually look like in the implementation of the behavioral family practice model? What activities were used most frequently? What activities were used least frequently? What was the differential use of these activities across, between and within cases and interviews? Was an operant model actually used?;
2. The feasibility of the model itself: To what extent and with what modifications were the model's prescribed interventions implemented in the manner suggested by the model's theoretical framework? Were the interventions associated with the proposed stages of the treatment model?;

3. The sequential nature of events: What sequences or patterns of interventions emerged from the implementation of the practice model? Are the patterns ordered in a significant manner? Do the activities cluster in any specific way?; and

4. The feasibility of using the content analysis research methodology as a tool in the development of practice models: Is content analysis a viable research methodology to be used in the development of practice models as opposed to its historical use as an evaluative tool?

### Population

The data that was ultimately analyzed in this study was originally collected in the form of audio tape-recordings of the verbal interactions between the practitioner, the impaired elderly person (client), the caregiver(s), and support person(s). The data was collected throughout the entire course of the Elderly Support Project. Each practitioner secured permission from caregiver(s) and subjects to record each session in the home. The tape recorder was placed non-obtrusively in the room and each session was recorded in its entirety.

### Design

The methods used in this study comprised an ex post facto, exploratory/developmental examination of practitioner intervention. The intent was to foster the development of the practice model. More specifically, the objective was to shape an inchoate model for use in practice and for further testing. Because it is exploratory in nature, no formal hypotheses were proposed. Instead what guided the analysis was the more general question: "What does the intervention look like?"

### Sample

Two generations of sampling were considered in attempting to define the final sample actually used in this study. The sample for the original ESP research was a non-probability, client sample constructed through referrals from several cooperating agencies which provide discharge planning and referrals based on strict criteria and guidelines outlined earlier. Based on this selection criteria, an original sample of sixty-nine subjects was assembled which consisted of a range of diagnostic

categories, functioning levels, and presenting problems. It was this original sample of sixty-nine subjects that was to become the population from which the final sample was drawn for this study.

A sample of eight cases was selected from the sixty-nine original cases. In order to match the cases as closely as possible, only cases in which complete pre- and post-tests were available were considered. This limited sample selection to only cases after the fortieth case from the original ESP sample.

The sample included only those cases which ran the full course of treatment as indicated in the case summaries whereby termination was mutually agreed upon by client, caregiver, and practitioner alike. Using these later cases reduced implementation-related artifacts enhancing the likelihood that the techniques of treatment were employed in a consistent manner by the practitioner.

The cases selected from the available population were based on prescribed criteria. Cases were selected which were assigned to one practitioner. In this way differences in the implementation of the model were controlled for by using only one senior MSW practitioner who was well versed in the techniques of the model and who was very experienced in working with the clients over the years of the project.

Only cases which showed improvement and/or successful use of interventions in alleviating or reducing the problems to some extent were selected. Improvement was assessed by an examination of the case summaries. The final eight case sample included clients of four diagnostic types: 1) four cases of depression, 2) one case of manic depression, 3) two cases of stroke, and 4) one case of dementia.

### Data Collection

A computer-based coding system was custom-designed to code and analyze the data. This system scored both expected and unexpected activities in an efficient yet simple manner, while making less burdensome the various tasks of data analysis. The software application was developed and programmed in dBase III Plus<sup>1</sup>.

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<sup>1</sup>dBase III Plus is a registered trademark of Ashton-Tate Corporation

The resulting system, CADCAP (Content Analysis Data Collection and Analysis Program), was designed to allow the coder who sat before the computer terminal with headphones, to start the system while simultaneously starting the tape recorder to begin coding. An on-screen 30-second interval counter module would then beep to alert the coder when to stop the tape. At this point, the system would prompt the coder for markers regarding the 30-second interval just listened to. Because counter units are notorious for slipping over the course of a tape, a method was devised whereby the system would ask the coder not only for the counter unit number but for a "marker phrase" that would mark the beginning and the end of the interval by entering a short phrase. In this way, when reliability coding was conducted at a later time, the system would prompt the reliability rater as to the words for the beginning and end of the interval insuring that the exact same interval was coded by each observer.

The system accepted input for each of the expected activities on an "occur/did not occur" basis. The coder simply pressed the corresponding letter of the category being scored and the system automatically recorded the entry, waiting for further input to move on to the next interval depending on the user's specifications. The system prompted for the observer number, present case number, phase number, and interval being entered as well as displayed the last interval entered so coders could easily keep track of their place in the coding process. Changes to entries were possible at any time. Built-in safeguards were also designed to prevent a coder from double-coding an interval, a common problem in content analysis data collection. In order to code the unexpected categories (those activities which were not part of the practice model's expected activities profile), the coder pressed a key, for the "Other Talk" category, which called up a screen where the coder could then write as brief or as long a description of the activity as desired. Later these descriptions could be analyzed simply by printing them out in a sequential listing by interval and then recoded and sorted in various ways to analyze the patterns.

As a final note, the system also automatically calculated reliability on an occurrence-by-occurrence basis by assigning agreement or disagreement scores to each pair of scored categories in the interval between multiple observers. Thus it is possible not only to determine whether or not there was overall agreement in the interval but specifically for which categories scored.

## Findings/Discussion

Previous research conducted within the Elderly Support Project showed the general use of the model to be successful in modifying behaviors of the elderly through behavioral family intervention. These modifications were categorized as increasing desirable activities, decreasing noxious or problematic behaviors, and making environmental changes which lead to behavioral improvements. Such improvements have included increased social activities, enhanced self-care routines and improved interpersonal relations. Family members have been shown to be able to be taught to provide adequate support for the maintenance of older persons at home. The success of the model has been explained in part by Pinkston (1984):

Operationally defining and quantifying behaviors offers caregivers information regarding the trends of problem behaviors and aids in decisions about changes in caregiving practices. It also provides the means for feedback to caregivers about their technique, both for insuring more adaptive caregiver behavior and for improving the behavioral levels of the clients. Caregivers attend to positive behaviors while ignoring dysfunctional behaviors. Training them to use praise results in less restrictive care practices, and teaching them to use maintenance procedures, including links to community services and systematic fading of practitioner support, increases the likelihood of continued family assistance.

The dimensions which were examined to answer the first research question included an analysis of length of treatment; length of interviews; primary interview participants; activity utilization patterns across and between cases, and between and within interviews; and impressions of the non-verbal characteristics of practitioner use of activities.

### Length of Treatment

Overall length of treatment was observed to vary widely from a minimum of 6 interviews to a maximum of 27 interviews (median of 20). Length of treatment then can be considered to be a changing variable



from case to case related more to the individual needs of the client rather than a preset standard.

Length of interviews appeared to be relatively consistent overall with a slight increase in length ascribed to the treatment phase. The average length of a session was a few minutes short of an hour, an hour short of the two hour approximation cited in the model's general prescription.

### Primary Participants

An examination of the primary participants in each interview revealed that in 19 out of the 24 interviews studied, both the client and caregiver were present in the interview. However, in 17 of these 19 joint interviews, the caregiver was the individual with whom the practitioner interacted the majority of the time. Of the remaining interviews, only one involved a support person primarily. Three involved the client or the caregiver solely. A qualitative analysis was made of these communication arrangements. Typically, one participant would emerge as dominant in each interview, relegating the other participant(s) to the background. In over 70% of the cases this dominant participant was the caregiver. Since the degree of verbal impairment was relatively constant across cases, this was reasoned to be most likely a function of either personality or the assumed roles of each of the participants (i.e., "care-giver" vs. "cared-for") with each person playing out their respective roles throughout the interview.

### Activity Utilization Patterns

The data were analyzed for two types of activities: expected (core) and unexpected (other). Core activities were found to comprise 53.9% of all activity occurrences in the sample with Information gathering, Data collection training, and Support being by far the most predominant activities. Together these three activities accounted for 54.9% of the core activities.

The use of other activities, or those activities that were not prescribed by the model, was also analyzed. Other activities were shown to include: 1) Illustrating, 2) Informing, 3) Self-disclosure, 4) Socializing, 5) Suggesting, 6) Summarizing, 7) Clarifying, 8) Exploring, 9) Ignoring, 10) Interpreting, 11) Responding, 12) Sustaining, 13) Assisting, 14) Laughing/Joking, 15) Listening quietly, 16) Silence, and 17) Writing.

The results of this analysis showed that overall, Sustaining activities accounted for the lion's share, 22.3% of all activities combined. The high preponderance of this activity is explained to some degree by the fact that all uses of phrases such as "I see", "Oh yes", "Mm hm", "Ah ha", etc. were coded in this category. Overall, the utilization patterns were indicative of a consistently used array of divergent activities, faithful in the main to the prescribed theoretical framework on which their use was based.

#### Non-verbal Characteristics

The non-verbal dimension of practitioner activity was collected as impressionistic characterizations which served only as a qualitative backdrop for quantifying the activities themselves. Though no formal analyses of these impressions was conducted, the results show this particular practitioner to have successfully blended a business-like and professional approach together with a warm and engaging one, where the use of humor and social conversation was mixed with task-oriented activities to effect an overall treatment approach that was at the same time relaxed yet productive.

The second research question was concerned with the extent to which the model's prescribed interventions were implemented in the manner prescribed by this theoretical framework. Predictions for the use of core activities specific to each treatment phase were realized for the majority of activities based on frequency counts. Information gathering was expected to occur in Phase I (Baseline/Assessment phase). Linkage development was shown to be primarily a Phase II (Intervention phase) activity as expected, suggesting that it may be difficult to assess the clients' needs until treatment begins. The use of Program description as a Phase II activity was also confirmed as well as Intervention training, Instruction, Modeling, and Contracting. Self-disclosure, Socializing, and Responding, each showed significant increases in Phase III (Maintenance phase) attesting to predictable communication patterns as the "work" of treatment slows down. In this sense, both practitioners and clients appear to relax the more formal structure surrounding the treatment process and engage in more social conversation in the final phase. Phase III was observed to be a loosely structured and somewhat less focused time in overall treatment.

The third research question was concerned with the sequences and patterns of intervention which emerged from the implementation of the practice model. Statistical significance was ascribed to the nature in which the patterned use of activities occurred across cases. What these patterns reveal about the family-based behavioral model is that the nature of applying its techniques is highly interactive.

The last research question related to the use of content analysis as a helpful research methodology to be used in the development of practice models as opposed to its historical use as an evaluative tool. When used in conjunction with a computer model, content analysis was shown to be a highly workable and useful approach.

The coding of audio tapes can be a time-consuming and fatiguing task when done with coding sheets and pencil. One of the innovations of this study was the development of a computer application that considerably reduced the time and energy normally associated with this process. Especially useful was the program's built-in reliability calculation feature and the "Other Talk" module which allowed the unexpected and as yet uncategorized data to be collected easily and in full detail, making subsequent recoding for more meaningful categorizations a relatively easy task. The power of this tool makes the use of coding sheets unnecessary.

The feasibility of using content analysis in the development of practice models then, lies in the use of dedicated computer models. In this regard, these models must have the ability to take uncategorized, unanticipated data (which is inherent in the model-building process) and more easily develop such data into useful and meaningful patterns which can tell us something about what it is we do in the practice setting. In the process, the richness of the data remains intact. In the absence of such systems, the tasks of data collection and recoding for unanticipated events is extremely costly in terms of time and effort expenditures. It is believed that the CADCAP system developed for this research can be further refined to be adaptable to various types of content analysis studies, with variable numbers of categories, etc., in effect making it a viable tool which can be used generically from one content analysis study to another.

### Reliability/Validity

This study utilized the CADCAP reliability function which discriminates between overall frequency of activities and specific activities on an interval-by-interval basis, as discussed earlier. An incremental test-retest approach was utilized. The percentage-of-agreement measure was used in the initial pilot phase of assessment to determine preliminary reliability. When this index revealed problems, further work on clarifications, refinement of the category descriptions, and more training of the reliability coder occurred. The formal reliability coding process was conducted only after observer1 agreed that the categories were in sufficient agreement with observer2 (the reliability coder) with consistent overall reliability calculation ranging between 80% to 85% or better. When the simple index indicated adequate reliability, and consensus was achieved by both observers to begin reliability coding, the CADCAP reliability function was used to compute agreement.

### Limitations

The nature of the small eight case sample, purposive and non-random, must be regarded as imposing various restrictions on the extent to which the findings can be generalized. The study has sought only to describe one particular application of the model by a single practitioner in order to begin to evaluate the processes of the treatment approach in a preliminary way. The small sample size and the acknowledged "creaming" of the sample cases requires the use of caution in assuming more than the utilization patterns say about this sample. However, the cases were severely impaired and generally representative of the population from which the sample was drawn.

### Implications

Several suggestions for practice emerge from the results of this study. One observation has been the practitioner's focus of attention on one or the other participants in the interview to the virtual exclusion of the other when both participants were present. It appeared that a verbally active or assertive caregiver could shift the focus of the interview entirely away from the client. This issue is raised because of its persistence in almost all interviews. The tendency for the shift in focus to move away from the client appeared to be associated with a caregiver's tendency to begin to discuss non-treatment related issues at length. A functional analysis of

practitioner differential attention to both client and caregiver would appear to be an area for future research. Such study could quantify the nature of who is addressed and how the focus of attention shifts from client to caregiver. What are the functional mechanisms that operate to exclude the client from active participation. What are the contextual variables? What are the consequential variables?

Additionally, research should be undertaken in the area of quantifying the engagement/disengagement process. The results of this study have indicated that practitioner as well as clients may be finding it difficult to terminate treatment. The final phase has been demonstrated to be one in which the use of Socializing and other non-directive activities increase dramatically. Research to determine the functional aspects of "irrelevant" speech and socializing is indicated.

A third area of inquiry raised in the present findings would be an examination of the comparative abilities of clients to focus on one or more targeted problems at a time. The noted tendency was for clients to focus on generally one or two problems during one interview, although five or six would be identified. Comparisons of efficiency and effectiveness could be made to determine how many problems can be effectively dealt with in each session, while identifying the optimal approach to structuring treatment. Is it better to structure treatment in a linear way (one problem at a time) or in a multiple-baseline approach? What are the functional aspects of ignoring problems targeted for treatment? Controlled experiments with differential focus on one or more problems at a time would appear to be indicated.

A fourth area for future research would be an assessment of the nature of unexpected activities as revealed in this study. Are there comparable patterns of use of such activities for other cases and practitioners? Is there a common thread for the use of other activities as well? What are the trends?

Finally, further development of the micro-computer application tool for use in content analysis research is indicated. The use of such a model has been demonstrated to be an asset as a working tool in the development of practice models. It's ability to quantify unanticipated activities and aid in their categorization, along with its' useful reliability function, shows the model to be a potentially useful methodological tool which warrants further refinement.

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