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GENERALIZATION OF FUNCTIONAL ANALYSIS INTERVIEW SKILLS

The University of Arizona

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GENERALIZATION OF FUNCTIONAL ANALYSIS
INTERVIEW SKILLS

by
Stephen Michael Duley

A Dissertation Submitted to the Faculty of the
DEPARTMENT OF EDUCATIONAL PSYCHOLOGY
In Partial Fulfillment of the Requirements
For the Degree of
DOCTOR OF PHILOSOPHY
In the Graduate College
THE UNIVERSITY OF ARIZONA

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THE UNIVERSITY OF ARIZONA
GRADUATE COLLEGE

As members of the Final Examination Committee, we certify that we have read
the dissertation prepared by Stephen Michael Duley
entitled Generalization of Functional Analysis Interview Skills

and recommend that it be accepted as fulfilling the dissertation requirement
for the Degree of Doctor of Philosophy.

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ABSTRACT

A packaged training program consisting of audiotape modeling, performance feedback, and behavioral rehearsal components was implemented in an analog setting to train five school psychology graduate students in functional analysis interview skills and measure the generalization of the skills across subjects, settings, and time. The set of target skills to be operationalized and trained was selected from the functional analysis of behavior interview outline developed by Kanfer and Saslow.

Data were collected within a multiple baseline across subjects design for an analysis of the training effect, skill generalization, and social validation of the training treatment effect. Findings indicated that the training treatment program effected significant increases in interviewer performance over baseline levels for all subjects. These results were generalized across subjects, settings, and maintained over time. Social validation ratings indicated that the subjects exhibited more competent interview skills subsequent to training and under generalization conditions. Implications were made for future research relating to the psychometric validation of the interview assessment procedure.

CHAPTER 1

INTRODUCTION

In a seminal discussion of alternatives to traditional diagnostic procedures, Kanfer and Saslow (1965) rejected medical model diagnostic dimensions (Szasz 1960; Ullman and Krasner 1969) as unrelated to methods of behavior therapy. Yates (1975) contended that psychiatric diagnosis is irrelevant to both the theoretical basis for behavior therapy and to the practice of the behavioral clinical psychologist.

Dissatisfaction with the traditional system of psychiatric diagnosis has been registered across the past two decades (Kanfer and Saslow 1965, 1969; Yates 1970; Zubin 1967). These disaffections have been based on both theoretical grounds (Bringman et al. 1970a) and empirical findings (Bringman et al. 1970b, 1971). Indeed, procedures for the diagnosis of behavior disorders appeared confusing to the point that Zubin (1967, pp. 375-376) commented:

The present status of the classification of behavior disorders is, to say the least, chaotic. There are at least 50 different types of classification in varying degrees of use throughout the world ranging from those which deny the existence of behavior disorders as entities to those [which] regard all behavior disorders as manifestations of a single underlying dimension--inability to cope with life's vicissitudes--to those [which] imply that there are differentiable entities in

the field of behavior disorders just as there are entities in the field of physical disorders.

Given that serious criticisms are warranted regarding the utility of traditional psychiatric diagnostic systems (Zigler and Phillips 1961), Yates (1970) deemed the search for diagnostic classifications futile. If medical model diagnostic procedures hold scant relevance for a behavioral approach to therapy (Goldfried and Davison 1976; Kanfer and Saslow 1969), then a diagnostic approach is mandated which translates the initial complaint into a set of questions which can be pursued by available behavioral technology (Kanfer and Saslow 1969).

A functional analysis of behavior (Ferster 1965; Kanfer and Saslow 1965) represents a viable diagnostic procedure and data collection format. The approach "has the advantage that it specifies other causes of behavior in the form of explicit environmental events which can be objectively identified and which are potentially manipulable (Ferster 1965, p. 13). Ferster (1965, pp. 12-13) advanced that "the basic processes by which behavior is strengthened, weakened, maintained, extinguished, put under stimulus control, and so forth, can provide a framework for specifying the relation between the individual's repertoire and the milieu potentially available to him."

The employment of an empirically validated diagnostic procedure is an essential stage of therapy within the behavioral model for clinical practice (Yates 1975). Klein et al. (1969) noted an understanding of the functional organization of behavior

as imperative for clinical decisions regarding diagnosis and treatment. In fact, Lazarus (1973) concluded that inadequate specification of controlling events represents one of the most common reasons for unsuccessful intervention.

The specification of these factors inherent to a functional analysis of behavior typically occurs during an interview assessment. The importance of behavioral interviewing skills to the clinician has been well documented. Meyer, Liddell, and Lyons (1976) noted that the diagnostic interview is a crucial component in the practice of wide spectrum behavior therapy. Acquisition of these skills has been determined essential to the training of psychologists (Myer et al. 1975). Furthermore, the behavioral interview has been described as the most salient source of interaction between the client and therapist (Werner and Schneider 1974). Indeed, Meyer and Liddell (1975) stated that behavioral interview to be the most important, as well as the most difficult to enact, aspect of the work of the behavior therapist.

Granting that the performance of a functional analysis of behavior is essential to the provision of behavior therapy services, it is striking to note the paucity of research regarding functional analysis interview assessment. Meyer and Liddell (1975) noted that the explicit training and identification of procedures for clinicians to conduct a behavioral diagnostic interview have been practically ignored by researchers with the exception of Kanfer and Saslow (1969). Haynes (1978) concluded

that research has not specifically addressed procedural issues unique to the behavioral interview. This condition prompted Haynes and Jensen (1979, p. 100) to state that "applications of the interview in behavioral assessment suggest that it is being used informally and unsystematically for a variety of functions." Haynes and Jensen concluded that the use of the behavioral interview for diagnostic purposes has occurred without sufficient investigation of its validity for that purpose. These authors implied that the behavioral diagnostic interview needs to be subjected to the demands for empirical validation required of other assessment techniques.

Ford (1979) concurred with the criticisms outlined above and advanced an additional concern. Ford noted that research efforts have either ignored the generalizability of trained skills to a natural setting (Brown, Kratochwill, and Bergan 1980) or have produced inconsistent results (Goodwin, Garvey, and Barclay 1971). Brown et al. (1980) pointedly emphasized that extensions of the behavioral interview training research must address the issue of skill generalization to a natural setting. Generalized treatment effects would entail the demonstration of trained behaviors under different, non-training conditions, i.e., across subjects, settings, behaviors, and time (Drabman, Hammer, and Rosenbaum 1979; Stokes and Baer 1977).

This lack of empirical data is not surprising given that researchers rarely either report or target the transfer of

trained skills to natural settings (Miller 1978). Ford (1979) noted that only six of 40 relevant interview training investigations produced behavioral maintenance at lengthy follow-up intervals and reported no research demonstrating generalized results. However, both practical and ethical considerations would seem to compel researchers to demonstrate the generalizability of trained behaviors, such as behavioral interviewing skills, to naturalistic settings (Drabman et al. 1979). Those authors emphasized that professionals cannot be expected to employ behavioral techniques unless their effects are demonstrated beyond training investigations. Drabman et al. concurred with the recommendation of Stokes and Baer (1977) that programming for generalized treatment effects become a technology. Unfortunately, efforts of this type have not occurred for the training of behavioral interviewing skills.

Ford (1979) further criticized previous research regarding the skill training of clinicians for failing to investigate changes in other than discrete skills. Minkin et al. (1976) suggested that traditional behavior analysis measures of training treatment effects be supplemented by procedures to establish the relations among objectively measured behaviors and complex classes of behaviors such as interview skills. Hay et al. (1979) supported that contention and specifically called for research designed to validate functional analysis procedures. Changes in other than discrete or molecular skills produced by training

efforts might be validated by having relevant judges rate the qualitative skill level of subjects both before and after training (Minkin et al. 1976). This procedure of subjective evaluation of behavior change, according to a clinical or therapeutic criterion, has been termed social validation (Kazdin 1977; Wolf 1978). However, as with regard to the issue of skill generalization, research efforts have not been directed at providing this social validation data for behavioral interviewing skills.

Several benefits to be accrued from investigation in these areas have been noted in the literature. Research efforts operationalizing the functional analysis interview procedure might produce a more reliable interview format less attenuated by interviewer variation (Hay et al. 1979). Investigations are warranted which replicate established training procedures on a novel interview format such as the functional analysis procedure (Brown et al. 1980). More importantly, research demonstrating the generalizability of the training of functional analysis interview repertoires might suggest appropriate training models for competency based programs (Kratowill and Bergan 1978) and continuing education efforts (Koocher 1979). Finally, training programs with socially validated effects might be expected to have increased accountability to the consumers of psychological services (Wolf 1978).

The present study was designed to address the criticisms and recommendations noted above regarding the identification and

explicit training of functional analysis interview skills (Meyer and Liddell 1975), generalization of trained skills to a natural setting (Brown et al. 1980), and validation that training efforts produce more than changes in discrete skills (Minkin et al. 1976). The major purpose of the study was the determination of the strength of generalization of functional analysis interview skills across subjects, settings, and time demonstrated by prospective school psychologists subsequent to completion of training. In order to accomplish this goal, two prerequisite objectives were mastered. First, an operationalized format for conducting the functional analysis interview outlined by Kanfer and Saslow (1969) was developed. Second, the explicit behavioral interview training program employed by Brown et al. (1980) was replicated. The final purpose was to provide a social validation of the training treatment effect.

A packaged training treatment approach (Kazdin and Wilson 1978) consisting of audiotape modeling, performance feedback, and behavioral rehearsal components (Brown et al. 1980) was implemented in an analog setting (Nay 1976). The set of target skills to be operationalized and trained was selected from the functional analysis interview outline by Kanfer and Saslow (1969). Generalization of the treatment effect was measured for the trained skills across subjects, settings, and time. Data were collected for an analysis of the training effect, skill generalization, and social validation of training treatment effect. The research was

conducted within a multiple baseline across subjects design
(Hersen and Barlow 1976; Kratochwill 1978).

CHAPTER 2

REVIEW OF THE LITERATURE

This review focuses on four areas. The Kanfer and Saslow (1969) model for conducting a functional analysis is detailed. A summary discussion of the interview assessment procedure for performing the analysis follows. The literature regarding the micro-setting training research relevant to functional analysis interview skills is outlined. Finally, a review of procedures for effecting generalization of the behavioral interview training is presented.

Kanfer and Saslow Model

Yates (1975) identified four models of behavioral analysis alternatives to psychiatric diagnosis. These systems included the behavior analytic model of Goldfried (Goldfried and Davison 1976), the multimodel behavior analysis format of Lazarus (1973), the behavior analysis as experimental control technology (Baer, Wolf, and Risley 1968), and the behavioral diagnosis model of Kanfer and Saslow (1965, 1969).

Kanfer and Saslow (1969, p. 419) defined behavior analysis as "an attempt to identify classes of dependent variables in human behavior which would allow inferences about the contemporary

controlling factors, the social stimuli, the physiological stimuli, and the reinforcing stimuli, of which they are a function." Kanfer and Saslow expanded the Lindsley (1964) model which analyzes stimuli, response, contingency, and consequence variables to include an aspect relating to the biological condition and psychological, cognitive events private to the organism. The resultant model is useful for detailing a description of the problem (Ciminero 1977) and delineating strategic procedures for implementing a behavior change plan (Yates 1975).

The comprehensive functional analysis system has been outlined by Kanfer and his colleagues (Kanfer and Grimm 1977; Kanfer and Phillips 1970; Kanfer and Saslow 1965, 1969) as composed of seven stages. An initial analysis of the problematic situation includes a preliminary statement of the problem. Within this category, presenting complaints are partitioned as related to either deficiencies in information or skill, inappropriate self-control, or problematic reinforcement contingencies. Kanfer and Grimm (1977) provided exemplars for each classificatory category and suggested that therapeutic strategies be directed at treatment of the target behavior in terms of its components. Kanfer and Saslow (1969) emphasized that the behavioral repertoire of the client may be substantially different from that required for adequate adjustment. Kanfer and Saslow noted that the initial analysis accounts for behavior assets, as well as excesses and deficits, which may represent skills available as resources during treatment.

A clarification of the problem represents the second phase of the analysis. Within this stage, topics are investigated in an attempt to determine the reinforcement system operating to maintain the problematic behavior.

In that reinforcement conditions are idiosyncratic to each client, a hierarchy of events, conditions, and people serving as current and potential reinforcers and aversive consequences is next established. The use of the Reinforcement Survey Schedule (Gautels and Kastenbaum 1967) facilitates the data collection. In order to explicate appropriate reinforcement strategies, the therapist must determine the frequency of previous success and expectations for current effectiveness for the identified reinforcers. Additionally, it is constructive to assess whether the client attributes contingent reinforcement to his behavior or to random, inexplicable factors. Finally, the clinician must establish whether successful intervention would require the client to relinquish current reinforcing conditions associated with the problem.

During a fourth phase, the psychologist initiates queries about the client's biological condition, sociocultural experiences, and physical development. These types of questions are designed to evoke descriptions of habituated behaviors and to tentatively relate these behaviors to biological and sociological conditions. Consideration is granted to the impact of the client's biological limitations and developmental difficulties upon his cultural roles.

An analysis of self-control skills examines the methods and degree of self-control exercised by the client. Throughout this stage, deficits and excesses of self-control are evaluated in terms of the historical success of persons, events, or institutions in facilitating self-control.

A sixth category requires an assessment of the social relationships of the client. This analysis provides data regarding the significance of persons in the environment who may affect the expression of the problem, or who are in turn, influenced by the behavior of the client. Utilization of significant others in the treatment process is considered. This type of information identifies the range of social roles in which the client is expected to function.

During a seventh and final phase, the psychologist considers the normative standards relevant to the problematic behavior. A definition of the discrepancy between the client's idiopathic behavior and normative referents provides a focus for formulating treatment goals.

In summation, Kanfer and Saslow (1969) stated the purpose of the functional analysis as the definition of the patient's problem in terms which suggest specific treatment strategies. Kanfer and Phillips (1970) and Dickson (1975) noted that the system provides a format for the initial collection and organization of data and facilitates the design of a treatment plan. The design of a treatment plan follows from the functional analysis

given that knowledge of reinforcement conditions suggests the motivational and incentive systems available for utilization by the clinician (Ferster 1965). This knowledge also details the resources and constraints to successful treatment operating across the client's environmental settings.

Several authors have reasoned that the outline originated by Kanfer and his associates represents the most comprehensive statement of a functional analysis model (Mash and Terdal 1976; Weiner 1976; Yates 1975). In fact, Gotman and Leiblum (1974) determined that the model represents the only viable approach to behavioral diagnosis. While the model does not afford the scientific rigor of the functional analysis as experimental control method (Dickson 1975), it does include information presently considered essential to a complete behavioral diagnosis. The model extends the system for functional analysis employed by Goldfried and Davison (1976) to include an analysis of contingency conditions, while avoiding the aspects of the Lazarus (1973) model which might be superfluous to the design of a behavioral intervention.

Data Collection for a Functional Analysis

Kanfer and Phillips (1970, p. 496) stated that "in order to apply a behavioral model comprehensively to the entire treatment process, the behavior therapist needs systematic methods by which to collect information, to appraise the patient's difficulties, and to reach decisions concerning the most appropriate

treatment program." Mash and Terdal (1976) added that such clinical assessment is concerned with the decision making process involved with implementing the intervention.

Traditional diagnostic approaches have utilized the client's verbal self-report, nonverbal behaviors during interview assessment, and performance on psychological tests as indications or signs of the client's personality structure (Kanfer and Saslow 1969). In contrast, behavioral assessment approaches involve a sampling of the client's problematic behavior in terms of what he does in various situations in response to situational demands (Bersoff and Grieger 1971). The behavior assessor is charged with "learning everything that is relevant to the development of effective, efficient, and durable treatment interventions (Morganstern 1976, p. 52).

Extensive review efforts (Goldfried 1976; Mash and Terdal 1976; Mischel 1968) have outlined the assumptions underlying behavioral assessment. Additionally, expansive handbooks detailing procedures and techniques have been edited by Ciminero, Calhoun, and Adams (1977) and Hensen and Bellack (1977), and authored by Gambrell (1977). Despite cautions advanced by these reviews that data collection procedures need not be limited to client self-reports (Ciminero, Nelson, and Lipinski 1977) and might profitably include analog assessment (Nay 1976), direct and naturalistic assessment (Kent and Foster 1976), psychophysiological measurement (Kallman and Fuerstein 1977), and reports by informants

(Kanfer and Saslow 1969), the most frequently employed assessment procedure remains the behavioral interview (Haynes and Jensen 1979; Mash and Terdal 1976).

A model for the linkage of interview procedures to behavioral assessment has been provided by several researchers (Cone 1976; Cone and Hawkins 1977; Haynes and Jensen 1979). Cone's scheme is designed to organize research and clinical assessment activities. It requires consideration of three aspects of the measurement process including the contents assessed, the methods used to assess them, and the types of generalizability established for the measure. Within this conceptualization, the behavioral interview is representative of a range of content areas assessed through an indirect method. The external validity of the data collected through indirect methods such as interviews appears to be an empirical issue which has yet to be addressed.

Techniques and procedures for conducting a behavioral interview have been reviewed extensively (Bernstein and Dana 1970; Goodman 1972; Linehan 1977; Matarazzo 1965; Meyer et al. 1976; Morganstern 1976; Spitzer and Endicott 1973; Weiner 1975; Weins 1976). The interview can be defined broadly as a

. . . situation in which a trained person gathers a body of information about a subject by asking him questions and making observations and evaluations of his responses. It differs from naturalistic observation and ordinary conversation in that the interviewer exerts some control over the interaction for the purpose of obtaining the desired information (Spitzer and Endicott 1973, p. 397).

Explicit schemes for clinical behavioral interviewing have been presented by Kanfer and Saslow (1969), Gottman and Leiblum (1974), Goldfried and Davison (1976), and Meyer et al. (1976) and for consultation interviewing by Bergan (1977). The specific tactics for conducting the interview have been reviewed elsewhere (Gilmore 1973; Storrow 1967; Weins 1976). In addition, the delivery of the complex array of interview behaviors has been discussed by numerous authors (e.g., Delaney and Eisenberg 1972; Dyer and Vriend 1975; Hackney and Nye 1973; Shertzer and Stone 1974). The primary focus of the interview assessment strategy remains the identification of stimulus conditions and contingency systems leading to an "analysis of behavior and the concomitant uncovering of antecedent and consequent conditions that elicit, reinforce, and perpetuate that behavior (Bersoff and Grieger 1971, p. 484)."

In spite of the pervasive employment of the interview as a data collection technique, methodological problems persist. Citing difficulties relating to content analysis (Matarazzo et al. 1968), therapist bias (Meichenbaum 1976), interviewer skill deficits (Kanfer and Saslow 1969), and the unreliability of the procedure (Cannell and Kahn 1968; Hay et al. 1979), the employment of structured interview methods has been increasingly advocated (Hay et al. 1979). The structured interview is believed to improve the clinical and research value of data collected by standardizing the interview format (Spitzer and Endicott 1973). As

a result, variability associated with differential technique is reduced, the reliability of the measurement process is improved, and inter-rater reliability is increased (Spitzer et al. 1970). In practice, the models for conducting the functional analysis of behavior are implemented within a structured format.

Interview Skill Training

Research regarding the training of interviewing behavior has been conducted across clinical, counselor, and medical education fields. Ford (1979) summarized that training programs have been instituted through behavioral training (Lazarus 1969), interpersonal process recall (Kagan 1963, 1975), anxiety reduction techniques (T. V. Miller 1971; Monke 1971), integrated didactic-experiential methods (Carkhuff 1969; Truax and Carkhuff 1967), traditional seminar approaches (Cline and Garrard 1973; Gorroll, Stoeckle, and Lazare 1974; Jason et al. 1971; Froehlich 1969; Waldron 1973), and microsetting methods (Brown et al. 1980; Goodwin et al. 1971; Ivey 1971; Ivey et al. 1968).

The microsetting approach has been proven particularly successful in the training of counseling skills (Boyd 1975; Ivey et al. 1968; Moreland, Ivey, and Phillips 1973; Poling 1968; Yenawine and Arbuckle 1971). The training methodology has been extensively validated and reviewed (Bierschenk 1974; Fuller and Manning 1973). Bierschenk (1974, pp. 7-8) identified five elements characterizing the model as:

1. Structuring the components which define a teaching situation.
2. Reduction of an ordinary teaching situation with regard to the number of participants, the range of the subjects, and the length of time.
3. Focusing of different skills and strategies plus demonstration of models.
4. Feedback of different types of information with regard to the separate components that are included in a teaching situation.
5. Evaluation of courses of action and strategies with regard to intentions or specified plans.

A review of the microsetting research relevant to the training of specific interviewing behaviors analagous to functional analysis skills follows.

Brown et al. (1980) implemented a microteaching training format to teach problem identification skills to school psychology graduate students. Target behaviors were explicitly defined and developed from Bergan's (1977) model for behavioral consultation. These skills were described as interview behaviors related to either behavior specification, behavior setting, observation, or summarization categories. Three of the four trainees achieved criterion performance for post-training and follow-up measures; one subject who reported an aversion to behavioral techniques failed to achieve criterion for the initial two categories. The researcher concluded that the target behaviors came under control of the training treatment as it was introduced sequentially. Generalization of the trained skills to an in vivo setting was

not addressed. Brown et al. (1980) concluded that the instructional package was effective in training selected problem identification interview skills and might generalize to the training of a comprehensive behavioral consultation system.

Goodwin et al. (1971) reported a study investigating the retraining of school psychologists in behavioral consultation procedures. The researchers employed a microconsultation training format to teach broadly defined functional analysis skills. The effort emphasized the experimental evaluation of the microconsultation treatment. Three groups of 30 subjects each were assigned to either microconsultation training, active control, or inactive control groups according to a stratified random sampling plan based on the location and size of the subjects' respective school districts. The experimental group psychologists acquired and demonstrated significantly more target skills subsequent to training than did their control group counterparts. However, the trainees failed to exhibit either maintenance or generalization of interview skills during a two-month field observation follow-up measure.

Guttman and Haase (1972) employed a microconsultation treatment to train attending behavior and the reflection and summarization of feeling. Twenty graduate students were assigned to either the training or a control group condition. Subsequent to training, portions of analog interview audiotapes were independently rated for demonstration of the target skills. The results

of a trend analysis depicted significant differences in performance between the experimental and control groups across the three dependent measures. The authors concluded that the results provided further validation of Ivey's (1971) model for microconsultation training. Additionally, a follow-up measure indicated that extinction of training effects for attending behavior and the reflection and summarization of feeling follows the traditional learning curve in the absence of retraining.

Replication of the findings of the Guttman and Haase (1972) effort is represented by the research of Haase and DiMattia (1970). The latter group of researchers reported similar results for microconsultation training with paraprofessional counselors. A subsequent follow-up study (Haase, DiMattia, and Guttman 1971) established that considerable extinction of skill may be expected to occur after one year.

Moreland et al. (1973) compared the effectiveness of microcounseling training and traditional seminar instruction for teaching six basic interviewing skills. The target interview skills were attending behavior, and the use of close-ended questions, open-ended questions, minimal activity responses, paraphrases, and reflection of feeling summarizations. Twenty-four medical students were assigned to either the microsetting or traditional training conditions. The results of ratings of dependent measure performance obtained from videotaped interviews indicated that none of the pre- to post-training changes were significant for either the microcounseling or comparison groups.

A microcounseling approach for the training of discrete therapist skills was employed by Miller, Morrill, and Uhlemann (1970) and Elsenrath, Coker, and Martinson (1972). Miller and his colleagues assigned 20 novice counseling students to treatment and control groups matched for age, sex, and grade point average. Training was directed at skills regarding listening and responding to client cues, conversing in a brief and concise manner, and relating psychological test information to the client's experiences. Findings obtained from a comparison of pre- and post-training videotapes of analog interviews reflected a significant difference in the skills displayed between the trained and untrained subjects. Additionally, the clients counseled by the students within the microcounseling condition evidenced a more significantly increased knowledge of assessment results and improved attitude toward counseling than did their control group counterparts. No generalization data were collected.

Elsenrath et al. (1972) trained graduate counseling students to increase the length of silent passages and decrease the length of interviewer responses. An analysis of randomly excised portions of audiorecordings of naturalistic interviews indicated that trainees subjected to the microsetting training exhibited longer response delays, fewer interruptive statements, and less total time of conversation than did control subjects. The researchers further concluded that the experimental group facilitated significantly more client verbalization without a

concurrent increase in total utterances than did the control group. Elsenrath and his associated suggested that microcounseling techniques might be consolidated with other comprehensive training programs to train complex interpersonal behaviors. Again, no measure of skill generalization was obtained.

Generalization Procedures

Generalization is deemed to have occurred when a behavior change maintains across time, transfers to other settings, or is extended to another behavior (Baer et al. 1968; Conway and Bucher 1974). An additional dimension suggested by Stokes and Baer (1977) involves generalization across individuals. Regardless of the varying definitions of generalization, researchers have concurred with the Baer et al. (1968, p. 97) statement that "generalization should be programmed, rather than expected or lamented." Drabman et al. (1979) specifically cited the Stokes and Baer reference to the technology of generalization and the necessity for both planned treatment generalization and further research in the area.

Drabman et al. (1979) have advanced a conceptual framework for categorizing generalized effects of behavior change efforts. A generalization map depicts 16 different classes of generalized treatment effects across the setting, behavior, subject, and time dimensions. In a review of the research literature within each classification, the authors noted a paucity of investigations in approximately half of the categories. Drabman

and his colleagues outlined sophisticated research designs and methodologies appropriate for investigating generalization of treatment effect. The authors concluded that researchers cannot simply hope for generalization to coincidentally occur; rather, generalized treatment effects must be programmed.

A. J. Miller (1978) conducted an extensive review of strategies recommended for the programming of generalization. Miller identified eight series of procedures advanced for promoting generalization within token economy programs (O'Leary and Drabman 1971; Kazdin and Bootzin 1972, Wildman and Wildman 1975), behavior change efforts with psychotic patients (Lieberman, McCann, and Wallace 1976), parents as therapists programs (Forehand and Atkeson 1977), and general behavior change interventions (Kazdin 1978; Stokes and Baer 1977; Sulzer-Azaroff and Mayer 1977). The recommendations of Stokes and Baer are directly relevant to this investigation and are discussed below.

Stokes and Baer (1977) reviewed 270 applied behavior analysis studies in order to summarize the structure of that generalization literature. The reviewers stated that some 120 investigations contributed directly to a technology of generalization. The techniques designed to facilitate generalization were classified into nine categories:

1. Train a behavior and hope for generalization.
2. Sequentially modify behavior across situations.
3. Introduce naturally maintaining contingencies.

4. Train sufficient exemplars.
5. Train loosely to decrease discrimination.
6. Use indiscriminable contingencies.
7. Program common stimuli across settings.
8. Mediate generalization.
9. Train to generalize.

Several of these techniques are explicitly utilized by the microsetting training program in the present investigation. The employment of varied topics for the functional analyses across baseline, training, and post-training interviews constitutes the training of sufficient exemplars. The use of Model Form II to record interview data across the experimental phases and situations represents programming common stimuli across settings. In addition, instructed generalization wherein subjects are admonished to generalize practiced skills is subsumed by the category train to generalize.

Stokes and Baer (1977) concluded that a set of pragmatic tactics might be derived to promote generalization. That list of tactics includes:

1. Look for a response that enters a natural community; in particular, teach subjects to cue their potential natural communities to reinforce their desirable behaviors.
2. Keep training more exemplars; in particular, diversify them.

3. Loosen experimental control over the stimuli and responses involved in training; in particular, train different examples concurrently, and vary instructions, SDs, social reinforcers, and backup reinforcers.
4. Make unclear the limits of training contingencies; in particular, conceal, when possible, the point at which those contingencies stop operating, possibly by delayed reinforcement.
5. Use stimuli that are likely to be found in generalization settings in training settings as well; in particular, use peer tutors.
6. Reinforce accurate self-reports of desirable behavior; apply self-recording and self-reinforcement techniques whenever possible.
7. When generalizations occur, reinforce at least some of them at least sometimes, as if "to generalize" were an operant response class (Stokes and Baer 1977, p. 364).

Stokes and Baer suggested that researchers ought to proceed as if generalization never occurs naturally, but always requires programming and the active regard of the researcher and practitioner.

Summary

This review of literature suggests that the Kanfer and Saslow (1969) model represents a viable procedure for conducting a functional analysis of behavior interview and that a structured behavioral interview appears to be a pragmatic method for collecting data relevant to the analysis. However, research efforts demonstrating the explicit training of clinicians to conduct the assessment are lacking. Most importantly, efforts related to the training of functional analysis interview skills

have either failed to produce generalized results (Goodwin et al. 1971) or have ignored the issue of generalization entirely (Brown et al. 1980). Emergent technology for promoting generalization of treatment effects suggests that specific tactics, such as those advanced by Stokes and Baer (1977), might be utilized within a microsetting training program to produce the necessary generalization of functional analysis interview skills.

The major purpose of the present study was the determination of generalization of trained functional analysis interview skills across subjects, settings, and time. Results of the investigation would have implications for the clinical training of prospective psychologists for conducting behavioral interview assessments.

CHAPTER 3

METHOD

Subjects

Five graduate students enrolled for the second year of doctoral training in the School Psychology program at The University of Arizona volunteered to participate in the study. Subjects were screened as eligible to participate based on their not having completed previous course work experience in conducting behavioral interviews. The subjects, two females and three males, ranged in age from 24 to 32 with a mean age of 26.6 years.

Clients

The client for the role-play interviews was represented by an undergraduate student enrolled for independent study credit. The role-play client was trained to the interview format and content by the experimenter. Training consisted of behavioral rehearsal of scripted responses to interviewer probes. The client employed a scripted format for making plausible responses to interviewer questions in order to insure consistency of responding across subjects. Responses for each interviewer probe were generated by the experimenter with the assistance of the client and are listed in Appendix A.

Four adolescents, three females and a male, with ages ranging from 16-1 to 18-1 years, volunteered to serve as clients during the generalization phase. The youths were randomly selected from a referral list for counseling service to the special education coordinator at a local public high school. The experimenter conducted a problem identification interview with each student in order to generate an appropriate topic for the subsequent functional analysis interviews conducted by the subjects. The generalization clients were naive to the interview procedure and content.

Settings

The baseline, training, and post-training sessions were conducted in a School Psychology program conference room at The University of Arizona. The generalization interviews were performed in a conference room at a local public high school setting. Subjects and clients faced each other across a 1.5m x .9m table during all sessions. All interviews were audiotaped by a portable cassette recorder located approximately 1m from the client and the subject.

Observers

The observers for the rating of interview skill were two behavioral school psychologists trained at The University of Arizona and employed by local school districts. The raters were trained to use a Motivational Analysis Interview Checklist

(Appendix B) for rating consultation interviews. The training of the raters was conducted by the experimenter and consisted of reading and discussing two transcripts of appropriate and inappropriate functional analysis interview statements, behavioral rehearsal of the assignment of the statements to corresponding categories on the checklist, and performance feedback from the experimenter.

Each observer rated approximately one-half of the total number of interviews and reliability checks were performed for four randomly selected interviews within each of the experimental phases. The subjects' interview statements and client responses were transcribed and blindly presented to each rater in a randomized order. The observer contrasted the statements to the operational definition of each target skill (Appendix C) and assigned the statements to the corresponding category. In this manner, the occurrence or nonoccurrence of each target skill was established. The probability of interviewer agreement for the assignment of interviewer statements within the Motivational Analysis Checklist was determined through use of the quasi-equiprobability model developed by Bergan (1980). After a determination of rater bias for disagreement responses, the procedure established the probability of agreement between raters across each experimental phase. A probability statement was also made for all interviews considered together.

A second set of three expert observers naive to the experimental conditions responded independently to a series of questions regarding the qualitative competence of the interviewer. Again, the raters were school psychologists employed by local school districts. Each rater read the randomly ordered transcripts and completed a rating scale evaluating the performance of the interviewer. These ratings comprise a social validation measure that is discussed in detail later in this chapter.

Procedures

The procedures employed in the current investigation were analagous to those used by Brown et al. (1980) for the training of problem identification interview skills. Subjects were trained in motivational analysis interview skills and instructed to demonstrate the skills with a client. An additional component of the present study required the subject to generalize those skills across settings, clients, and time.

The training sessions were conducted individually within a training package format (Kazdin and Wilson 1978) in an analog setting (Nay 1976). Post-training skills were measured one day after completion of the training phase and on a bi-weekly basis thereafter. Three generalization measures were obtained one week subsequent to completion of post-training assessment. One generalization across time follow-up measure was collected one month subsequent to the final training session. For data analysis and discussion purposes, this latter measure was considered to be a

generalization phase interview. Procedures during baseline assessment, introduction of the instructional training package, and during assessment of performance under post-training and generalization conditions are discussed individually in the following sections.

Experimental Design

A multiple-baseline across subjects design (Hersen and Barlow 1976; Kratochwill 1978) was implemented. The number of post-training assessments varied inversely to the number of baselines assigned to each subject. All subjects completed four generalization interviews. The instructional package was introduced sequentially across subjects in order to allow the training of the second subject to follow completion of training by the first subject and so forth.

Dependent Measures

The target skills selected for training consisted of the motivational analysis segment of the functional analysis of behavior interview outline developed by Kanfer and Saslow (1969). This interview segment, as adapted for this investigation, is composed of 12 statements designed to elicit information concerning the motivational aspects of problem behavior. Each of those statements and corresponding operational definitions are listed in Appendix C.

Dependent measures for the analysis of the training effect and the strength of skill generalization were the frequency counts of criterion achievement of subject interview skills. The frequency counts of criterion performance were converted to percentages of total criterion skills emitted during a given interview.

Data regarding the training effect across subjects were analyzed by computation of the R_n statistic (Kazdin 1976; Revusky 1967). The statistical test allows a comparison of data points across subjects within a multiple-baseline design to determine the probability that the performance of a trained subject is significantly different from that of control subjects within the baseline condition.

Data regarding the strength of skill generalization were analyzed by visual inspection (Parsonson and Baer 1978) of a graph of the performances of the subjects across the experimental phases. Specifically, the levels of criterion performance achieved by subjects during the generalization phase interviews were compared to levels of criterion performance during post-training phase interviews.

Data regarding the qualitative training main effect depicted by social validation ratings were examined by an analysis of variance with three repeated measures (Myers 1972) representing baseline, post-training, and generalization trials. A post-hoc analysis of the difference among the experimental means was performed using the Tukey HSD procedure (Myers 1972).

Baseline

Subjects were randomly assigned to baseline conditions. Prior to each interview, the subject was provided with information relevant to an identification of the client's problem in behavioral terms. This information consisted of a brief summary paragraph outlining the specification of the behavior, and the behavior strength, antecedent, consequent, and sequential conditions surrounding the expression of the problem. The order of presentation of these statements was randomized prior to the experiment so that each subject was presented the identical problem being confronted by his experimental counterparts across the phases of the study. The statements are listed in Appendix D.

Each subject was then given standardized instructions by the experimenter to conduct an interview and "obtain any information relevant to an analysis of the problem that might prove useful to the development of a treatment program." All interviews were conducted under identical conditions in terms of verbal instructions, setting, and procedures.

Instructional Package

The package employed to teach the motivational analysis interview skills was modeled after the instructional format implemented by Brown et al. (1980) for the training of behavioral interviewing skills. After each subject had completed the baseline phase, training was initiated and required approximately three hours for completion. The experimenter distributed the

written model forms (Appendices E and F) which provide an outline of the functional analysis interview segment to be trained. Each subject was requested to read the forms prior to instigation of the actual training effort.

The 15 microsetting training components are listed below in their order of their presentation.

A.

1. Written Model Form I: A step-by-step outline of the motivational analysis segment with exemplars of clinician verbalizations (Appendix E).
2. Written Model Form II: A step-by-step outline of the motivational analysis interview without examples of verbalizations (Appendix F). This form was used during the interview as a cue and to provide a form on which to record responses.
3. Modeled Audiotape: A presentation of an audiotape to the subjects demonstrating a motivational analysis interview conducted appropriately.
4. Verbal Prompts: A verbal statement by the experimenter during the demonstration of the audiotape model which referred the trainee to the corresponding category on Model Form I.
5. Discussion: A verbal response made by the experimenter to any trainee question prior to Training Interview I.

B.

1. Training Interview I: An interview conducted by a subject during which the subject practiced the previously demonstrated interview skills with the experimenter. The paragraphs containing demographic data and problem information and experimenter responses were randomly assigned.
2. Feedback Session I: The experimenter informed the subject of his/her performance by referring to the frequency count of the trainee's appropriate verbalizations noted on the Functional Analysis Interview Checklist.

3. Descriptive Praise: A verbal statement by the experimenter to a subject indicating the appropriateness of an interview statement accompanied by a verbal description of the appropriate statement.
4. Corrective Feedback Session I: A verbal statement by the experimenter indicating that a subject's interview verbalization was incorrect and a statement providing a more appropriate example.

C.

1. Training Interview II: A second role-play interview conducted by a subject immediately following Feedback Session I. Random assignment of summary paragraphs and responses was again effected.
2. Corrective Feedback Session II: An explanation of the subject's performance during Training Interview II based on frequency counts of the number of appropriate verbalizations. The experimenter again employed Descriptive Praise and Corrective Feedback.

D.

1. Post-Training Interview I: An interview conducted by a subject with the role-play client. All information and client responses were randomly ordered. The experimenter cued the subjects to employ Model Form II when conducting the interview.
2. Post-Training Feedback Session I: Subjects were informed of their performance regarding attainment or nonattainment of criteria upon completion of Post-Training Interview I. Criterion performance was set at 100% mastery for demonstration of target interview skills. The experimenter used both Descriptive Praise and Corrective Feedback.

E.

1. Post-Training Interview II: Identical to Post-Training Interview I. These interviews were conducted two days after the initial interview.
2. Post-Training Feedback Session II: Identical to Post-Training Feedback Session I.

Generalization

Subjects were assigned in a random order to conduct three generalization interviews and one follow-up generalization interview with the naive clients in the novel field setting described above. Thus, data were collected for the measurement of skill generalization across subjects, settings, and time. Each subject was given the same type of information regarding problem identification provided during baseline and post-training interviews prior to the sessions. This information is represented by problems 9 through 12 in Appendix D. The clients for the generalization interviews were naive to the experimental procedure and regarded the interviews as part of the process of referral for student services. All interviews were conducted under procedural conditions identical to baseline and post-training interviews. In addition, the subjects were instructed to "generalize skills acquired during training." The first three generalization interviews were conducted one week subsequent to completion of the final post-training assessment. The follow-up generalization interview as performed approximately one month after the final training session.

Social Validation

Social validation of the qualitative performance of the subjects was obtained from the subjective evaluation of three expert judges. The evaluation format was modeled after the procedures established by Minkin et al. (1976). The procedure suggests

data collection for analysis of the change in social validation ratings subsequent to training, measurement of the interjudge agreement across raters, and determining the correlation between the ratings and the target skills.

The raters responded to an eight-item, five-point Likert scale rating form (Appendix G) assessing a qualitative judgment of interviewer competency. The items were generated by the experimenter to conform to the standards for appropriate behavioral interviewing outlined by Haynes (1978). These ratings were obtained by having each judge respond to the scale subsequent to a blind review of the randomly ordered set of transcribed audiotapes of the subjects' interviews. The ratings of each of the items were averaged to produce a mean rating for that particular interview. Each interview was given a total mean rating by averaging the ratings across the three expert judges. For computational purposes, the ratings of each subject's performances within each of the three experimental phases were averaged to produce a mean rating for that phase.

In order to establish the degree of interjudge agreement with regard to the ratings assigned to a particular interview across judges, Pearson product-moment correlations were computed among the judges' ratings for the series of interviews. These findings may be interpreted to demonstrate the extent to which each of the judges similarly ordered the performance of the subject with regard to qualitative competence.

To provide an estimate of the relationship between the frequency counts of criterion performance and increased ratings of competence, a Pearson product-moment correlation was computed between the number of criterion skills evidenced and the mean rating across the judges for the interview tapes. This measure may be interpreted to establish the degree to which the ratings of competence were related to and reflect a corresponding increase in molecular target skills.

CHAPTER 4

RESULTS

Criterion mastery of the 12 dependent measures interview skills was examined for the target skills as a group. For data analysis and discussion purposes, the follow-up measures of skill generalization across time were considered as generalization phase interviews. Results of the study regarding the training effect, measurement of skill generalization, and social validation of the training treatment effect are each considered in turn.

Using Bergan's (1980) quasi-equiprobability model, the probability of inter-rater agreement for the assignment of interviewer statements across baseline, post-training, and generalization phase interviews was .95, .96, and .88, respectively. The probability of inter-rater agreement for all interviews considered as a group was .93.

Figure 1 presents the percentage of criterion behaviors emitted across baseline, post-training, and generalization phases for the five subjects. Results of the computation of the R_n statistic depicted a statistically significant ($p < .001$) difference in skill level achievement across subjects between performance during the baseline and post-training conditions. The criterion performance of Subject 1 ranged from 0% to 24.9% during baseline.

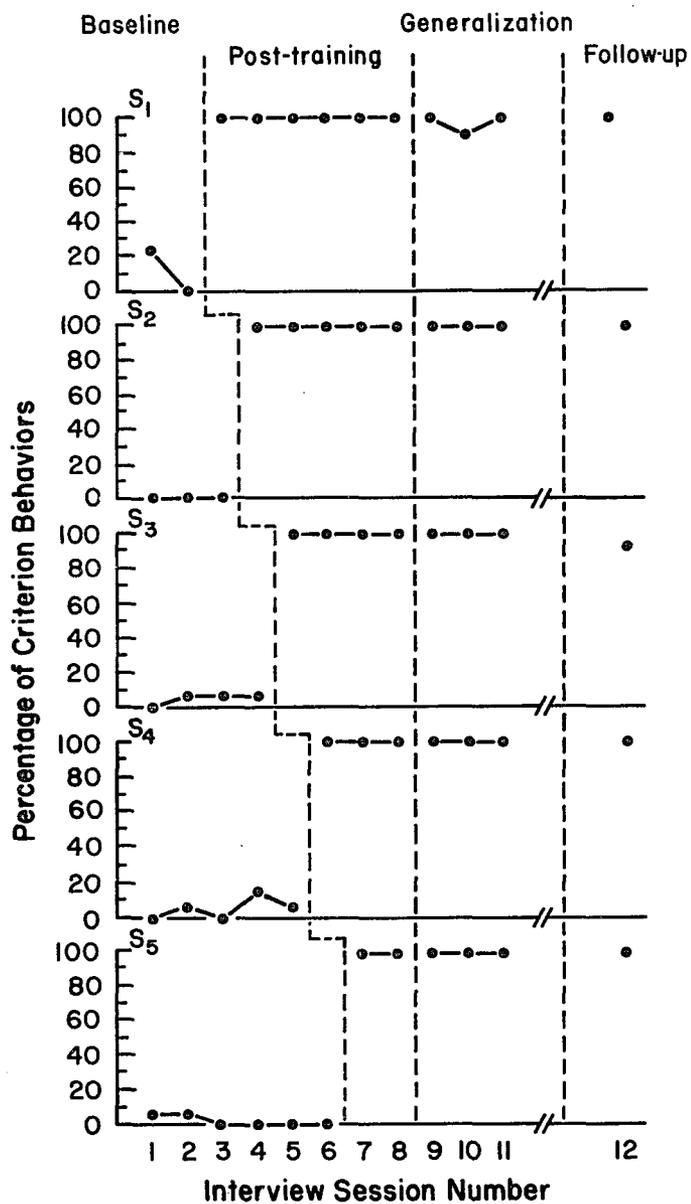


Figure 1. Percentage of Criterion Behaviors Emitted across Baseline, Post-Training, and Generalization Phases for Five Subjects

This level of performance increased to and remained stable at 100% during post-training assessment. Subject 2 evidenced 0% criterion skills across baseline interviews and performed at a level of 100% mastery for all post-training interviews. Subject 3 demonstrated baseline skills ranging from 0% to 16.6% criterion mastery. Consistent post-training achievement for the third subject was demonstrated at 100% criterion performance. Subject 4 produced baseline performance levels ranging from 0% to 16.6% criterion mastery with post-training performance levels at 100% for all interviews. Subject 5 emitted criterion skills during baseline interviews within a range of 0% to 8.3% mastery. Post-training interviews by the fifth subject were all conducted with 100% accuracy for criterion skill performance.

Visual inspection of Figure 1 allowed a comparison of criterion performance across subjects between post-training and generalization phases. On only two occasions during the series of 20 generalization interviews was subject performance not scored as 100% criterion mastery. Performance for both of those interviews was scored at 91.9% mastery. Subject 1 demonstrated 91.9% criterion achievement for one of the three generalization across setting interviews. The remaining Subjects 2 through 5 evidenced 100% criterion performance for all generalization across setting interviews. Subjects 1, 2, 4, and 5 attained 100% levels of criterion performance for the generalization across time and setting follow-up measure; the level of performance for Subject 2 was scored at 91.9% mastery.

Data for the examination of the social validation of the training treatment effect were analyzed using an analysis of variance with repeated measures across the baseline, post-training, and generalization trials. Descriptive statistics for the social validation ratings for each phase are presented in Table 1. A summary of the analysis of variance is presented in Table 2.

A statistically significant main effect was found for the trials variable ($F=306.78$, $df 2, 8$, $p<.001$). Post-hoc comparisons were performed among the mean ratings for the experimental phases using the Tukey HSD procedure. Pairwise comparisons indicated a statistically significant ($p<.01$) difference between the baseline and post-training ratings. A statistically significant ($p<.01$) difference was also indicated for the comparison of baseline and generalization phase interview ratings. However, no statistically significant difference was found between the post-training and generalization ratings.

Pearson product-moment correlations were computed to determine the inter-judge agreement among the raters for the entire series of social validation ratings assigned to the interviews. The statistically significant ($p<.01$) correlations obtained between Judges 1 and 2, Judges 1 and 3, and Judges 2 and 3 were .89, .93, and .92, respectively.

A statistically significant ($p<.01$) correlation of .94 was obtained between the percentage of criterion skills emitted

Table 1. Means and Standard Deviations of Social Validation Ratings for Baseline, Post-Training, and Generalization Phase Interviews

Experimental Phase	\bar{X}	SD
Baseline	1.91	.071
Post-Training	4.23	.002
Generalization	4.30	.198

Table 2. Summary of Analysis of Variance of Social Validation Ratings

Source	df	MS	F	P
A (Trials)	2	9.19	306.78	<.001
S (Subjects)	4	.03		
AS	<u>8</u>	.03		
Total	14			

and corresponding mean social validation ratings across subjects and interviews. Thus, 88% of the total variance was shared between those two variables.

CHAPTER 5

DISCUSSION

The results of the present study indicated that a packaged microsetting training program conducted within an analog setting was effective for teaching five doctoral level school psychology graduate students functional analysis interview skills. More importantly, performance of these skills was generalized across subjects, settings, and time. Finally, social validation of the training treatment effect indicated that the prospective school psychologists exhibited qualitatively more competent interview skills subsequent to training and under generalization conditions. The findings of the study provided evidence addressing recent concerns in the behavioral assessment literature regarding the generalizability of behavioral interviewing skills acquired under analog conditions (Brown et al. 1980; Drabman et al. 1979). The investigation also contributed to an expanding body of empirical efforts establishing procedures for the training of clinical interviewing skills (Brown et al. 1980; Hay et al. 1979; Haynes and Jensen 1979).

As expected, findings indicated that the microsetting training produced statistically significant levels of performance over baseline levels during post-training interviews. Baseline

performance was similar across the subjects with levels of criterion performance ranging from 0 to 24.99% of the target skills demonstrated. Analysis of the baseline interview transcripts reveals that the trainees occasionally requested information from the client regarding reinforcing or aversive conditions related to the problem behavior. These statements were coded as target skill requests for the naming of reinforcing and aversive conditions. This type of interview behavior during baseline conditions would not be unexpected for a group of graduate students possessing an introductory knowledge of behavioral assessment and intervention procedures.

Indeed, it is interesting to note the striking inability of the trainees to consistently elicit information relevant to an analysis of the motivational components related to problem behavior. It would seem reasonable that a discussion of the reinforcing and aversive conditions surrounding problem behavior would be undertaken by second year doctoral students charged with the analysis of a client's difficulties. The absence of these types of interviewer behaviors supports the contention that behavioral interviewing skills must be explicitly trained for generalization to occur (Brown et al. 1980; Ford 1979).

Criterion performance subsequent to training was at a 100% mastery level for all subjects and interviews. In that the total training effort required only three hours per subject, it would appear that the effort represented a cost efficient method

for facilitating the acquisition of interviewing skills regarded as essential to the practice of the behavioral psychologist. Without exception, the subjects anecdotally reported that the training provided a valuable opportunity to acquire a repertoire of skills neglected during their clinical training.

Of primary importance are the findings of the study which indicated that the subjects maintained stable and consistently high levels of criterion performance for all target skills throughout a series of interviews conducted under generalization conditions. The generalization of trained skills was demonstrated by all subjects in a natural setting regardless of the nature of the problem posed by actual clients. This level of performance remained consistently high during a generalization across time follow-up measure. These results may be conceptualized within the generalization map developed by Drabman et al. (1979) to depict generalization of trained skills in the absence of continued treatment across subjects, settings, and time. It may be concluded that aspects of the training treatment hypothesized by Stokes and Baer (1977) to facilitate generalization, e.g., training sufficient exemplars, programming common stimuli, and providing instructions for generalization, did indeed effect generalized results.

Results of the social validation measure indicated that expert judges similarly rated the qualitative competency of interviewer performance. These ratings accurately reflected a

parallel increase in quantitative criterion skill achievement. Thus, expert judges noted a treatment effect for increased interviewer competency in addition to the mastery of molecular skills. Results of post-hoc analyses indicated that this treatment effect was evidenced during post-training interviews and was maintained under generalization conditions.

Anecdotal reports by the role-play client provided additional subjective information regarding the training treatment effect. Prior to the initiation of training, the performance of the interviewers was characterized as terse and confrontive. Questioning was apparently conducted in a disjointed manner consisting of a series of rapid, close-ended queries. The anecdotal reports of the role-play client regarding interviewer performance during post-training phase interviews paralleled findings established by the social validation measure.

In summation, trained functional analysis interview skills were reliably rated to have been acquired under analog conditions and generalized across subjects, settings, and time. A parallel increase in qualitative competency was also evidenced.

Attempts to generalize the results of this investigation must be tempered by the recognition that the generalized treatment effects in the effort were demonstrated by a small number of graduate students predisposed to behavioral assessment and intervention. The study represents a preliminary attempt to operationalize and effect the generalization of one segment of the

functional analysis model of Kanfer and Saslow (1969). Future research should be conducted in order to measure the psychometric properties of the completely operationalized interview format. The use of a psychometrically sound clinical interviewing system might reduce the input or interviewer variance which attenuates the reliability and validity of the behavioral interview (Hay et al. 1979). Finally, efforts might be directed to a determination of the predictive validity of the resultant data for appropriate intervention decisions. Ford (1979) emphasized this point in his conclusion that it is ultimately essential to demonstrate that training interventions produce therapists who consistently provide effective therapy. The validation of a comprehensive functional analysis interview procedure would be a contribution to that line of research.

APPENDIX A

SCRIPTED CLIENT RESPONSES

1. Opening Statement Responses
 - a. That sounds fine.
 - b. Okay.
 - c. Sure, let's get started.
 - d. Fine, that seems easy enough.
2. Complete RSS Responses
 - a. Okay, I do it when we are finished?
 - b. Sure, it doesn't look too long.
 - c. Whatever you say.
 - d. Fine.
3. Naming Reinforcers Responses
 - a. I enjoy being with my family very much.
 - b. I enjoy playing tennis.
 - c. I like payday when it comes around.
 - d. I enjoy buying something new.
 - e. I would like a day off from work.
 - f. I like spending money.
4. Naming Most Salient Reinforcer Responses
 - a. I would have to say being with my family.
 - b. I suppose that would be playing tennis.
 - c. Buying new clothes would be my favorite of those.
 - d. I would say that payday is the most rewarding.
5. Estimate of Past Success Responses
 - a. Being with my family has been very successful as an influence on what I do.
 - b. I usually try to get my work done before I play tennis, so I guess that it has a strong influence.
 - c. Well, when I'm depressed I reward myself by going out and buying something new.
 - d. That has been very successful.

6. Example Responses
 - a. When I have problems or I am depressed, I go spend time with my grandparents and they listen to me and give good advice.
 - b. Last night, for instance, I was invited to play tennis, so I finished all my homework and chores and then I was able to go out and play.
 - c. This past semester I received good grades so I went out and bought a new dress to reward myself.
 - d. Well, I make sure that I don't miss any work days because that would cut my paycheck.
7. Reinforcing Person Responses
 - a. I enjoy being around my grandmother very much, she really does have an impact on me.
 - b. I would have to say my grandfather.
 - c. My boyfriend Scott seems to influence what I do.
 - d. I guess that my roommate, Sarah, is the person closest to me.
8. Aversive Consequences Responses
 - a. I despise cleaning my bathroom, especially the toilet.
 - b. I hate doing the dishes at night.
 - c. I really dislike getting bad grades.
 - d. Emptying the trash and doing those types of chores.
9. Loss of Reinforcement Responses
 - a. I would lose that alertness and the daily pickup if I cut down on drinking coffee.
 - b. I guess that I would have to give up snacks and sweets if I try to lose weight.
 - c. I give up long phone conversations, I'd miss out on the gossip and not keep in such close touch with my girlfriends.
 - d. If I go to class on time, I'd not be able to sleep late, or read the paper, or just relax.
 - e. I would have to stop indulging myself when I go out with friends, maybe go out less.
 - f. I suppose I would have to find something else to occupy my attention other than a cigarette; also, I might go through a withdrawal period.
10. Utilization Responses
 - a. My grandmother knows how coffee effects me. I suppose that I could have her regulate how much I consume.

- b. Well, I think that for every five pounds that I lose, maybe I could put back five dollars for a new dress.
- c. Maybe for every hour I cut back on phone conversation, I could get an allowance increase.
- d. Playing tennis could be used as a reinforcement. If I go to class on time for a week, then I could play as much as I wanted during the nights.

11. Summarization Responses

- a. Mm-hmm.
- b. That's right.
- c. Okay.
- d. Yes, I said that.

12. Validation Responses

- a. That's very accurate.
- b. That sounds like all of it.
- c. That is pretty close.
- d. Yes, that's it.

APPENDIX B

MOTIVATIONAL ANALYSIS INTERVIEW CHECKLIST

Stmnt	Open Stmnt	RSS	Name Rein	Most Rein	Past Succ	Exam	Rein Pers	Aver Cons	Loss Rein	Util	Sum	Val	Oth
1													
2													
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7													
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APPENDIX C

TARGET SKILLS FOR MOTIVATIONAL ANALYSIS INTERVIEW

<u>Behavior</u>	<u>Operational Definition</u>
Opening Statement	A statement explaining the purpose of the interview, time required, and procedural details.
Ranking of Incentives	A statement securing the client's cooperation in completing the RSS at the close of the session.
Naming of Reinforcers	A statement which requires the client to identify reinforcing conditions operating in his/her natural environment.
Most Salient Reinforcer	A statement requesting that the client name the strongest reinforcer of those identified.
Estimation of Past Success	A statement prompting the client to estimate the degree of previous influence exerted by the reinforcer on his/her behavior.
Example of Success	A statement by the interviewer asking the client to provide a recent example of an occasion when the reinforcer influenced behavior.
Naming Reinforcing Agent	A statement requesting that the client identify a significant other who influences his/her behavior or might administer reinforcement.
Aversive Conditions	A statement asking client to name several aversive consequences.

Loss of Reinforcement	A statement prompting the client to infer whether successful treatment would effect a loss of currently reinforcing conditions.
Utilization of Reinforcers	A statement requiring the client to provide an example of how the named reinforcers might be utilized in a behavior change plan.
Summarization	A statement reviewing the major topics of the session.
Validation	A statement affirming the accuracy of the summarization.
Other Verbalizations	All other statements.

APPENDIX D

PROBLEM IDENTIFICATION INFORMATION

#1. Study Behavior

Behavior Specification	The client identified increasing the amount of time engaged in studying activities as the problematic behavior. Goal is to increase engaged study time.
Behavior Strength	Client currently spends 15-30 minutes daily in study activity. The client wants to increase this time to two hours daily.
Antecedent Conditions	The client stated that she becomes bored and thinks of activities to pursue other than studying. Friends often interrupt and prompt her to stop working and engage in those activities.
Consequent Conditions	Client stated that her grades are lowered as a result of her lack of preparation for classwork and tests.
Sequential Conditions	The student identifies work to be done; avoids studying by engaging in leisure activities; and suffers lower grades as a consequence.

#2. Cigarette Smoking

Behavior Specification	The problem behavior identified by the client was excessive cigarette smoking. Goal is to stop entirely.
Behavior Strength	The client smokes at least one pack per day and would like to stop entirely within one month.

Antecedent Conditions	Client stated that she typically is harried and very busy at work and often pauses to smoke. She reports feelings of tension prior to smoking.
Consequent Conditions	The client returns to work and reports lessened levels of anxiety. Physiological effects, e.g., coughing, shortness of breath are discomforting.
Sequential Conditions	The client takes a break from an activity, usually at work, when she feels tense; cigarette smoking occurs; client returns to work with lessened tension and some physiological discomfort.

#3. Coffee Drinking

Behavior Specification	Client drinks 8-10 cups of coffee per day reportedly to remain alert. Goal is to reduce amount of consumption.
Behavior Strength	Client consumes coffee throughout the day with total intake of two quarts. She would like to reduce intake to two cups per day.
Antecedent Conditions	Client reports feelings of tiredness and drowsiness, consumes coffee at those times across settings.
Consequent Conditions	Client reports increased alertness subsequent to consumption. She states that stomach pains, irritability, and indigestion occur also.
Sequential Conditions	Client apparently feels sluggish; drinks large amounts of coffee; reports feeling more alert; suffers physiological discomfort.

#4. Telephone Conversation

Behavior Specification	Client identified problem as spending an excessive amount of time talking on the telephone. Goal is to reduce duration of conversations.
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Behavior Strength	Client talks on the telephone at least 10 times daily for a total time of 10 hours. The client wants to reduce this amount to one hour daily.
Antecedent Conditions	Client reports that friends call on the telephone to talk about college and social activities. Client seems unable to curtail the conversation.
Consequent Conditions	Due to the length of conversations, the client completes neither homework nor chores. Parents provide verbal punishment for excessive conversations.
Sequential Conditions	Friends call and engage the client in conversation; client is unable to excuse herself; work is left unfinished; parents verbally punish the client.

#5. Obesity

Behavior Specification	Identified problem behavior is the obese condition of the client. Goal is to effect large weight loss.
Behavior Strength	Client currently weighs 58 pounds over desired weight. Consumes a total of 8,000 calories daily across three meals and four snacks.
Antecedent Conditions	Client states that she seems to eat before doing homework, going on a date, prior to a test, and other potentially anxious situations.
Consequent Conditions	After eating, client reports temporary bloated feeling; no other negative consequences. The client remains obese and dieting plans are unsuccessful.
Sequential Conditions	The client appears to frequently ingest an excessive amount of calories prior to anxiety producing situations; aversive consequences are delayed and result in weight maintenance.

#6. Class Attendance

Behavior Specification	Problematic behavior reported as poor class attendance. Goal is to reduce frequency of class cuts and tardies.
Behavior Strength	Client fails to attend over 50% of her college classes and is tardy to 25% of the remainder.
Antecedent Conditions	The client states that she often forgets when classes begin, makes conflicting plans, or misplaces class materials.
Consequent Conditions	The grades of the client have been severely lowered as a result of poor attendance record. Currently failing English 101 and Psychology 1A.
Sequential Conditions	The client appears to forget about or ignore attending class; engages in alternative leisure activities; and suffers reduction in grades as a result.

#7. Swearing

Behavior Specification	Client frequently exhibits inappropriate language usage characterized by swearing at younger sister. Goal is to reduce frequency of cursing behavior.
Behavior Strength	The client swears eight to 10 times daily with a duration of approximately one minute.
Antecedent Conditions	Profanity directed at sister is preceded by irritation or lack of patience regarding some action of the sister.
Consequent Conditions	The client reports feelings of remorse and verbalizes self-punishing statements. Parents verbally punish the client for each swearing incident.
Sequential Conditions	The client's sister's behavior prompts an outburst of profanity; client self-punishes and is verbally rebuked by the parents.

#8. Rudeness

Behavior Specification	Client identified problem as temper loss at work which results in rude behavior directed at customers. Goal is to reduce frequency of inappropriate tone of voice and improve body posture.
Behavior Strength	Rude behaviors are evidence an average of three times nightly, always between the hours of 11-12 P.M.
Antecedent Conditions	Client reports fatigue and subsequent impatience for customer requests. Rude behaviors follow request by customer.
Consequent Conditions	Patrons complain to management and the client has received a reprimand in her file.
Sequential Conditions	Client becomes fatigued and consequently irritable; harsh responses to customer requests have resulted in sanctions by the management.

#9. Homework Completion

Behavior Specification	Problematic behavior identified by client as failure to complete math homework. Goal is to increase percentage of assignments completed.
Behavior Strength	Student has completed 10% of assignments for the current grading period.
Antecedent Conditions	Client usually attempts homework in the evening but is interrupted by friends. Client avoids completing work by engaging in leisure activities with peers.
Consequent Conditions	Client is failing math class and has been restricted to the house by his parents.
Sequential Conditions	Student begins homework in the evening but is interrupted by peers; engages in leisure activities to avoid working; suffers failing grades and restriction as a consequence.

#10. Eating Behavior

Behavior Specification	Problem identified by client as excessive eating of snacks between meals. Goal is to reduce the number of snacks between meals and to control calorie intake.
Behavior Strength	Client currently eats six snacks daily of approximately 500 calories each.
Antecedent Conditions	Client typically eats while reading, studying, watching television, or engaging in other activities classified as "boring."
Consequent Conditions	Client success in losing weight across a variety of diet plans has been nil. Weight gain occurs at a rate of one pound per week.
Sequential Conditions	Client recognizes feelings of boredom; eats a calorie-laden snack; consequently incurs a weight gain.

#11. Study Skills

Behavior Specification	Client reports that she has inadequate study skills for college study. Goal is to improve study habits, particularly organization of time.
Behavior Strength	Client scored at the tenth percentile on the Johnson Study Skills Survey with the lowest performance for organizational skills and dictionary usage.
Antecedent Conditions	Student does not have prerequisite skills for dictionary usage, does not employ an assignment book, and has poor skills for organizing tasks for completion.
Consequent Conditions	As a result of poor study habits, the client's skills may produce poor grades at the college level.
Sequential Conditions	Client demonstrates inappropriate study skills; expresses concern for future performance in school; requests intervention to improve skills.

#12. Social Skills

Behavior Specification	Client reports inappropriate social skills in the areas of tone of voice, eye contact, and body posture during peer conversations. Goal is to increase skill levels in those areas.
Behavior Strength	Client engages in appropriate behavior for the target skills with a 10-15% frequency during naturalistic observation.
Antecedent Conditions	Client reports that she feels anxious during peer conversation and does not know how to conduct the interaction.
Consequent Conditions	Client reports that she has only minimal peer interaction at school and feels inadequate at social settings.
Sequential Conditions	Client approaches peer interactions with trepidation; reports anxious feelings; evidences inappropriate social skills; frequency and quality of social interaction is decreased as a result.

APPENDIX E

MODEL FORM I--MOTIVATIONAL ANALYSIS INTERVIEW

CLIENT _____ CASE No. _____ INT. No. _____
INTERVIEWER _____ DATE _____

1. OPENING STATEMENT "For the next 10 or 15 minutes I will be asking you some questions to identify things or activities that you find rewarding. I will be taking notes so that I can keep a record of what we discuss."
2. COMPLETE RSS "When we are finished, I would like you to complete this survey about activities that are reinforcing for you so that I can place a record in your file."
3. NAMING OF REINFORCERS "Tell me several things or activities that are rewarding or pleasurable and that occur naturally during your everyday life."
4. MOST SALIENT REINFORCER "Of those that you mentioned, which do you find the most rewarding?"
5. ESTIMATE OF PREVIOUS SUCCESS "In the past, how successful has (the reinforcer) been at influencing what you do? For example, on a scale of 1 to 10, how would you rate that influence?"
6. EXAMPLE "Tell me an example of a recent instance in which (the reinforcer) influenced your behavior."
7. IDENTIFY REINFORCING AGENT "Who is someone close to you that seems to influence what you do?"
8. AVERSIVE CONDITIONS "What are several activities or things that you dislike and would try to avoid?"
9. LOSS OF REINFORCEMENT "If we successfully deal with (the problem), in what way might you have to give up something that is currently rewarding, i.e., a disadvantage to the success of the plan?"

10. EXAMPLE OF UTILIZATION "How might we use (the reinforcer) as part of a plan to help solve (the problem)?"
11. SUMMARIZATION "To review, you have said that"
12. VALIDATION "Is that an accurate summary?"

APPENDIX F

MODEL FORM II--MOTIVATIONAL ANALYSIS INTERVIEW

CLIENT _____ CASE No. ____ INT. No. ____

INTERVIEWER _____ DATE _____

1. OPENING STATEMENT _____

2. COMPLETE RSS _____

3. NAMING OF REINFORCERS _____

4. MOST SALIENT REINFORCER _____

5. ESTIMATE OF PREVIOUS SUCCESS _____

6. EXAMPLE _____

7. IDENTIFY REINFORCING AGENT _____

8. AVERSIVE CONDITIONS _____

9. LOSS OF REINFORCEMENT _____

10. EXAMPLE OF UTILIZATION _____

11. SUMMARIZATION _____

12. VALIDATION _____

OTHER NOTES _____

APPENDIX G

SOCIAL VALIDATION RATING SCALE

1. The interviewer provided appropriate structure to the session.				
Strongly Agree		Neutral		Strongly Disagree
5	4	3	2	1
2. Interview data was collected in a disorganized manner.				
SA		N		SD
5	4	3	2	1
3. The techniques of the interviewer seemed professional.				
SA		N		SD
5	4	3	2	1
4. The interviewer involved the client in treatment planning.				
SA		N		SD
5	4	3	2	1
5. The interviewer failed to reflect client statements.				
SA		N		SD
5	4	3	2	1
6. Open-ended questions were most typically employed.				
SA		N		SD
5	4	3	2	1
7. The focus of the interview was too broad and vague.				
SA		N		SD
5	4	3	2	1
8. Questions were concisely asked one at a time.				
SA		N		SD
5	4	3	2	1

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