The Challenge of Understanding Process in Clinical Behavior Analysis: The Case of Functional Analytic Psychotherapy

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Whether explicitly acknowledged or not, behavior-analytic principles are at the heart of most, if not all, empirically supported therapies. However, the change process in psychotherapy is only now being rigorously studied. Functional analytic psychotherapy (FAP; Kohlenberg & Tsai, 1991; Tsai et al., 2009) explicitly identifies behavioral-change principles used to bring about therapeutic improvements in adult outpatients whose clinical problems stem from ineffective interpersonal repertoires. These principles include contingent responding to behavioral excesses and deficits by a therapist who has established him- or herself as a salient source of social reinforcement. Empirical support for FAP is emerging, but a variety of pragmatic and theoretical questions warrant investigation. Among the issues described in this paper are the training and dissemination of procedures for how to conduct a functional analysis, how to train therapists to identify functional stimulus classes, how to best address decreasing problem behavior without creating an aversive environment, how to enhance generalization, and how to account for the principle of equifinality when trying to specify therapeutic procedures. These and other issues stem largely from trying to disseminate a behavioral principle-based intervention rather than a topographically specified intervention. These issues present challenges and research opportunities for applied clinical behavior analysts if they wish to extend their science to address clinical issues important to the treatment of adult outpatients with normal intellectual functioning.

Key words: functional analytic psychotherapy, clinical behavior analysis

As clinical behavior analysis (CBA) expands its influence, the next challenge is for clinical researchers to address the problems of adult outpatient populations with normal intellectual functioning (i.e., free-feeding adult humans). The history of clinical behavior analysis has been chronicled elsewhere (e.g., Dougher & Hayes, 2000; Woods, Miltenberger, & Carr, 2006), so we will review only that which demonstrates that behavior analysts have productively contributed to the understanding of behavior change in adult outpatients when they have focused on these issues. The primary purpose of this paper is to present some of the contemporary research issues and opportunities that present themselves more specifically when one works with higher func-

tioning individuals in less controlled clinical settings.

THE APPLICABILITY OF BEHAVIOR ANALYSIS TO CLINICAL PROBLEMS

Ferster's (1973) functional analysis of depression was a seminal article in applying behavior-analytic principles to one of the most common clinical problems in the psychotherapy literature. That article described a host of functional interpretations of depressive behaviors and the therapy change process, including possible functions of therapeutic verbal behavior, the need to attend to the reliability and density of reinforcement, and the need to increase behavioral variability and momentum if improvement is to occur. Ferster's work was followed by that of Lewinsohn (1974) and Lewinsohn, Biglan, and Zeiss (1976), who argued that depression was maintained by a decrease in response-contingent rein-

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forcement and a recognition that social environmental variables can exacerbate and maintain depressive behaviors regardless of what initially led to them. Biglan, Hops, and Sherman (1988) and Hops et al. (1987) provided data that depression can be maintained when depressive behaviors control aversive family interactions. More recently, Jacobson, Martell, and Dimidjian (2001) reasserted the importance of environmental variables in the maintenance of depression. Their work has led to a proliferation of behavioral activation treatments for depression, with manualized treatments now available (see Kanter, Busch, & Rusch, 2009; Lejuez, Hopko, & Hopko, 2001, 2002; Martell, Addis, & Jacobson, 2001). The kernel of behavioral activation was easily extrapolated from Ferster's writings a quarter of a century earlier.

In spite of the success derived from applying behavior analysis to adult outpatient problems whenever it has been attempted, clinical behavior analysts have been relatively slow to examine the processes of change that occur during psychotherapy itself and the mechanisms by which changes are produced.

However, behavior analysts have outlined some of the important principles of behavior change that can occur during interpersonal processes, such as those that occur during psychotherapy. Ferster (1967) made the important distinction between behavior that is under the control of natural reinforcers and behavior that is under the control of arbitrary reinforcers. Arbitrary reinforcers are supplied by the therapist but are of a different kind than those that would sustain behavior in the natural environment. Thus, following Ferster's reasoning, changes in interpersonal functioning should be shaped through control of natural interpersonal contingencies between the therapist and client rather than praise for completing homework assignments or noncontingent moral support.

Those contingencies should include effective, natural responses to both useful and problem behavior.

The notion that the therapist could be an important provider of social reinforcement was described by Krasner (1962), when he emphasized that therapy could be considered to be a social environment in which significant behavior change could occur. Krasner argued that the therapist–client interactions could be understood as a context in which social influence was fundamentally important for the effective application of behavioral principles to meaningfully affect a client's life. The interface between behavior therapy and social influence was stated clearly by Krasner (1971):

It is important to emphasize that behavior therapy involves *both* the technology and its social influence base. Some of the behavior therapy investigators are clearly cognizant of this fact, but most ignore it. The behavior therapist is a compound social reinforcing and discriminative stimulus. He is the source of meaningful stimuli that alter, direct, and maintain another individual's behavior. Viewing the therapist as a "social reinforcement machine" means that he is *deliberately* applying current behavioral principles within the relationship defined in social reinforcement terms to bring about change in another person's life situation. (p. 486)

At about this same time, Kanfer and Phillips (1969) described several variants of behavior therapy that to some extent all described therapy as a context to create a relationship in which verbal influence by a therapist during psychotherapy could affect behavior.

Behavior analysis has made significant contributions to addressing adult outpatient problems, including the treatment of anxiety and fear responses by exposure and response-prevention strategies (see Foa & Goldstein, 1978; Lang & Lazovik, 1963). However, many problems for which clients present involve behavioral excesses or deficits that impair social functioning that results in

inadequate access to satisfying social reinforcement, unpredictable relationships, and the distress that results from a too-lean reinforcement schedule. These are not merely problems in social skills, but are problems in discriminating opportunities for positive relationships, failing to notice interpersonal deficits, not recognizing stimulus classes that represent challenges nor fully understanding their own stimulus functions on significant others.

In clinical psychology the empirically supported treatment movement has identified several interventions that are associated with clinical improvement. Because of the methodology used to establish efficacy, most of these treatments are manualized and address topographical rather than functional understandings of behavior. The “third wave” behavior therapies have tried to apply behavioral principles to understanding and changing complex interpersonal behavior. These efforts present unique opportunities for clinical behavior analysts to understand, explain, and influence the complex interactions that occur during psychotherapy.

Functional analytic psychotherapy (FAP) presents a unique opportunity to study the application of behavioral principles to psychotherapy (Kohlenberg & Tsai, 1991; Tsai et al., 2009). In FAP, process and outcome are more explicitly linked than in most other forms of therapy. The clinical problems and improvements that emerge in the context of the client–therapist relationship are considered to be of the same kind as those the client experiences in the natural environment. In this kind of psychotherapy, behavior and behavior change are understood as acts in context, which then entail a host of theoretical and pragmatic difficulties for researchers and clinicians alike. We will briefly describe elements of FAP and highlight conceptual and practical problems that hinder our ability to describe and disseminate

FAP. These same problems present opportunities for behavior-analytic researchers to make significant contributions to the psychotherapy literature.

A brief description of FAP. FAP is a treatment based on a behavior-analytic understanding of the therapeutic relationship as an agent of change (Kohlenberg & Tsai, 1991; Tsai et al., 2009). Although much of behavior analysis focuses on environmental manipulation, FAP presumes that significant change occurs in the context of the therapeutic relationship during the traditional weekly psychotherapy session. Because many problems that lead to distress and impaired role function are the result of interpersonal deficits, the therapy environment can be made to have features much like the natural environment. The therapist and client develop a case conceptualization based on the client’s description of clinical problems and the therapist’s interactions with the client in the context of an intense interpersonal relationship. Change occurs as the therapist helps the client to discriminate opportunities to behave in more adaptive ways and then shapes the client’s repertoire so that social interactions result in meaningful social reinforcement. In therapy, the therapist establishes him- or herself as an important mediator of interpersonal reinforcement. It is the contingent responding of the therapist to clinical problems and improvements that occur in the therapy session that produces change that will be maintained outside the therapy setting.

In the FAP model, each client is thought to exhibit in-session behaviors that are functionally similar to the behaviors he or she emits in daily life. Client problematic and functional behaviors (referred to as clinically relevant behaviors; CRBs), as determined by a functional idiographic assessment, are contingently responded to in the session. A FAP therapist seeks to reduce (functional-

ly punish or extinguish) the client's dysfunctional behavior (CRB1) while increasing the probability of (functionally reinforce) more appropriate alternative behavior (CRB2) by using naturalistic, rather than arbitrary, feedback and reactions.

PROCESSES IN FAP AND THE ATTENDANT RESEARCH ISSUES

Within the behavior-analytic tradition, behavioral principles primarily have been applied by individual behavior analysts for particular individual subjects. Proof that an analysis was adequate was demonstrated by showing that changing one or more environmental features is temporally linked to changes in targeted behavior. In much of clinical psychology, assessment has been done using nomothetic self-report data. One of the great challenges and opportunities for CBA is to demonstrate the treatment utility of assessment, which means that assessment yields data that inform treatment in such a way as to produce better outcomes (Hayes, Nelson, & Jarret, 1987).

The Challenges in Assessment

Assessment in FAP, and CBA in general, relies on conducting a functional analysis. CBA strategies in assessment have been described elsewhere (Follette, Naugle, & Linnerooth, 2000). In FAP, the analogous activity is the case formulation, which specifically focuses on the client's behavior. It seeks to identify behaviors that function in a problematic manner while identifying more appropriate, alternative behaviors to replace them. The assessment is also useful for identifying the competing contingencies that prevent client change. In early sessions, this includes identifying both client problem behaviors and strengths in interpersonal functioning. In the initial sessions, client self-report and per-

haps even standardized instruments can help the therapist to organize information. These behaviors are then categorized into functional classes to form a case conceptualization. Like traditional functional analyses, the case conceptualization is a starting point. Before the therapist begins to target behaviors for change, the case conceptualization is a functional assessment, meaning that it awaits empirical validation. The validation comes when the therapist tries to influence client behaviors. If the targeted behaviors change, then the assessment becomes a functional analysis supported by data.

So what is the problem? In fact, there are several problems. One emerges when CBA starts to compete with more established therapy treatment strategies. For CBA to become an important player in the normal functioning adult outpatient world, it must be able to meet or address some reasonable scientific conventions that have emerged as a result of the empirically supported therapy movement (see Chambless & Hollon, 1998; Chambless & Ollendick, 2001; Follette & Beitz, 2003). Among the important methodological considerations for empirically supported treatments are how to replicate therapy in other research settings, and how to disseminate the treatment to clinicians. CBA has not risen to these reasonable challenges.

Going back to FAP as an illustration, the case-formulation portion of therapy presents two problems. The first is that there is little practical empirical research about how to conduct a functional analysis of adult outpatient clinical problems in which the behavior analyst does not enjoy the same opportunities for observation and control as he or she does with more restricted clients. There have been significant advances in conducting a replicable functional analysis in some constrained domains (e.g., Iwata, Dorsey, Slifer, Bauman, & Richman, 1982/1994), but the

clinically rich approach described long ago by Kanfer and Saslow (1969) has not been translated into a procedure that meets traditional reliability standards. Hayes and Follotte (1992) raised this issue and described strategies for meeting this challenge. Others have described approaches to the problem (e.g., Haynes & O'Brien, 2000; Haynes & Williams, 2003), but as yet no easily replicable, practical method for doing a functional analysis has made its way into the treatment-outcome literature for outpatients.

The second problem related to case conceptualization and functional analysis is that intellectually well-functioning individuals who present for therapy frequently do not have problems with a specific topography of behavior that is easily amenable to a functional analysis. There are notable clinical exceptions, such as a discrete phobic or obsessive compulsive disorder, but in many instances the clinical behavior analyst has to identify complex stimulus and response classes. In many functional analyses validated by using a single-subject design, the frequency or rate being graphed is most often that of a discrete behavior. In therapy, rarely are clinically relevant behaviors targeted for change so discrete. For example, the clinician may identify avoidance of intimacy as a target to decrease while trying to establish a more robust disclosure repertoire in the client (for a single-subject attempt to identify and track such broad definitions of response classes with respect to FAP, see Kanter et al., 2006). What makes the case formulation difficult is that there are many topographies that can all have the same function, making it difficult to identify and monitor the larger functional response class. A client may remain quiet, cry, be late to session, compliment the therapist, or be angry with the therapist. These different topographies may be instances of avoiding talking about feelings of

closeness with the therapist. What makes this even more difficult to assess is that the therapist is the object of the client's behavior. The therapist's response to these varying topographies is what determines whether they continue to cease to function as part of an avoidance response class. It is not uncommon for clients to raise the issue of suicidal thoughts or intention. If the therapist has targeted avoidance behavior for intervention, what does the therapist do now? Should the therapist ignore the topography and intervene, with the assumption that this is just a topographical variant within an avoidance response class? Or should the therapist respond as if this were an imminent risk to the client's well-being? These are tough calls.

Let us expand on the therapist's role in this functional analysis. In FAP the therapist's response is the contingency that affects the client's behavior. In the above examples, for the therapist to identify a response class, he or she must recognize the effects of the client's behaviors. In more controlled environments in which discrete behaviors can be counted, it is easier to identify the controlling and maintaining variables. In therapy, the therapist has to be present in the therapy situation while at the same moment monitor what is controlling his or her own (the therapist's) behavior. In supervision it is not uncommon for the therapist to say something like, "I was planning to talk about how being late for sessions was putting distance between us, in fact I even pressed the issue, but then he started to talk about termination." It is not simple to notice that this new topography again derailed discussions of intimacy.

We could go on, but what are some of the basic issues we have identified that beg for research if we are to disseminate our technology? First, how does one standardize a functional analysis to export it to other

researchers? Second, how does one train the reliable recognition of a response class, which is the real unit of analysis in outpatient CBA? Addressing these problems is difficult enough, but let us add another dimension to the problem. One could argue that because a functional analysis is ultimately self-correcting, does it matter where one starts the analysis? In some ways the answer could be no. It might not matter, in that sooner or later one will stumble onto the correct analysis because a functional analysis targets a problem, manipulates the putative controlling variables, and if that does not produce behavior change, the analysis iterates until the controlling variables for the target are identified. Second, in many instances of outpatient treatment, interpersonal clinical problems are generally not orthogonal. For the sake of argument, one could readily find that avoidance of intimacy was related to a deficient tacting repertoire to express feelings. It might not be important to order correctly which of those problems to target first, because ameliorating either is likely to have beneficial spillover to the other problem. So how much precision is necessary?

Does having pointed out the theoretical self-correcting nature of the functional analysis and the frequent interrelatedness of clinical problems handle the criticisms? No. For one reason, clients will not stay in treatment if they do not recognize progress. In FAP, because the mediator of change is presumed to be contingent responding by an important social reinforcer (i.e., the therapist), a lengthy time before the client determines that the therapist can be helpful undermines that relationship. Second, if, as behavior analysts, we believe that we have an important technology that will improve the quality of life for tens of thousands of clients, we simply have to be able to compete in the arena of scientific ideas. We assert that it is a gap in our

knowledge base not to know how to train a reliable functional analysis and identify functional units such as response classes to clinical behavior analysts who attempt to treat this large population of clients. The demands of funding agencies for the development of treatments that can be disseminated are quite sensible.

Identifying the Mechanism of Change

In simple terms, client behavior change in FAP results from the therapist, a strong mediator of social reinforcement, contingently responding to behavioral excesses, deficits, and improvements that occur in the context of the therapeutic relationship. Problems best addressed by FAP are those in which the same problematic behaviors that occur outside the therapy room will occur between the client and therapist in the therapy situation so that the therapist can contingently shape more useful behavior. This includes a vast number of problems that have their roots or effects in impaired interpersonal functioning.

The research process question we are raising is how to best empirically demonstrate that this is indeed how FAP produces change. Note that even attempting to answer this question presupposes that we conduct a case formulation or functional analysis that correctly identifies the relevant response classes. The above section already presents some of the reasons why one might be circumspect regarding that ability. Behavior analysis has long claimed to be able to demonstrate influence, precision, and control. However, in studying adult outpatient populations, many methodological problems emerge that are ripe for research.

The unit-of-analysis problem. For CBA the ideal unit of analysis is the behavior in context. Merely counting behaviors without considering context means that one would consider a client's tears when crying about a lost

love, tears of joy from successfully beginning a new love, or tears from a spring allergy were all the same responses. Clearly they are not. The methodological issue that makes CBA research difficult is how to consider context and how to define contingent responding.

The technological deficits that we described in identifying response classes present problems in identifying mechanisms of change. In therapy the coin of the realm is speech. In a better circumstance we would know how to reliably identify the flow of a conversation that constituted the most meaningful functional unit. That might be one 5-min exchange between client and therapist punctuated by some clear signal that the unit was complete. We know of no way to identify such a variable and potentially large unit. We have settled on a less satisfying but sufficiently reliable unit of analysis but would be pleased to have better methods presented. Borrowing from marital interaction coding, we have been using floor changes, in which the speaker changes from one person to another, excluding meaningless utterances, as our unit to code. We can identify floor changes with high reliability and have some evidence that this procedure has an informative level of validity.

The data-analytic approach. Many of the strategic decisions that pertain to case formulation must also be made in relation to the assessment of mediational variables. When assessing in-session behaviors, FAP therapists rely on training in the basic principles of the three-term contingency, schedules of reinforcement, and their history of learning to discriminate clinically relevant behaviors. As with other issues we have already raised, this latter discrimination task is not one we know how to train systematically and efficiently. Skill in this area often comes only with experience in conducting therapy sessions and watching video re-

cordings of other sessions. These experiences amount to multiple-exemplar training in identifying the functions of behavior. FAP (and CBA as a field) would be much improved if research identified additional strategies for training these skills. Assessment of in-session behaviors is also aided by having a thorough understanding of a client's case conceptualization.

FAP research to date has typically placed its focus on turn-based coding to document CRBs and contingent responding. In this approach, therapist and client verbalizations are examined as units, starting with the beginning of the verbalization and ending when another individual speaks (Callaghan, 1998). For a simple demonstration of turns, take the example of two individuals greeting one another:

Turn 1. Individual A: "Hello."

Turn 2. Individual B: "Hi. How are you doing?"

Turn 3. Individual A: "OK. How about yourself?"

Turn 4. Individual B: "Just fine, thank you."

The coding system currently used in FAP research is the Functional Analytic Psychotherapy Rating Scale (FAPRS; Callaghan & Follette, 2008; Callaghan, Follette, Ruckstuhl, & Linnerooth, 2008). This coding system is designed to capture all processes currently being studied in FAP. For the sake of simplicity, only the five codes from this system directly related to contingent responding will be highlighted here. These codes include a stimulus provided by the therapist likely to evoke clinically relevant behavior from the client (E, evoke), the occurrence of a client's dysfunctional behavior during the session (CRB1), the client behaving in a more appropriate manner (CRB2), and therapist functional responses to these client problem behaviors and improvements (TCRB1 and TCRB2, respectively). The following fictitious example

demonstrates the use of these codes. In this example, emotional avoidance is a problem behavior for the client. The therapist attempts to evoke emotional expression by the client and redirects after blocking an attempt at escape from the topic.

Therapist (T): "How does it feel to have relapsed?" (E)

Client (C): "I don't know. I'm never going to do it again, so it doesn't matter." (CRB1)

T: "That is the goal of what we're doing in therapy, but I think it's important for us to talk about your relapse. Lots of people feel shame after relapsing. Does that sound right?" (TCRB1)

C: "I feel like I let myself down. [Client begins to cry.] I feel like I'll never amount to anything." (CRB2)

The use of the FAPRS system can accomplish two goals. First, it can be used to assess the baseline rates of client CRBs as well as changes in these rates. This allows tracking of a client's progress during the course of therapy. The question of whether or not a client's behavior changes during the course of therapy is relatively straightforward to answer with a coding system like the FAPRS. Frequency counts of turns that contain problem behaviors or their more functional counterparts can be used. Second, this measure of rate of behavior can demonstrate that contingent responding has occurred. Actual effects of therapist contingent responding can be seen in increases and decreases in the rate of CRBs. In principle, behaviors that increase have been reinforced and behaviors that decreased have been punished or extinguished. The actual demonstration that contingent therapist responding is the mechanism of change is demonstrated using lag sequential analysis (see Bakeman & Gottman, 1997, for a presentation of this technique). In this approach the base rates of codes are determined, and the probability of a code (the base rate) is statistically compared to the probability of that code when followed or preceded by a particular

other code. That is, the probability of a CRB1 should be lower when the therapist contingently responds to it (TCRB1) than when other codes follow it or when it occurs with no therapist contingent responding. Similarly, a CRB2 should increase if FAP works as posited, when the therapist reinforces that class of responding (the CRB2 receives consequences from the TCRB2). The statistical test is a simple *Z* test of the difference between the base rate of a CRB code and the rate of a CRB code when followed by a therapist contingent response.

Although this approach would provide a more functional and accurate test of the presence of contingent responding, the FAPRS system places focus on the interpretation of a therapist's intended and likely effect on a client's behavior. While coding any one particular exchange, coders using the FAPRS system must infer the impact of a therapist's response to CRBs and assign the appropriate code. Sometimes it is easy to observe the direct effect of a therapist's response. At other times coders must make some inferences about the longer term function of a particular therapist response.

Conceptually, coding and the application of lag sequential analysis are consistent with the behavior-analytic tradition. The analysis maps onto the notion of contingent responding nicely and makes very few statistical inferences other than identifying the interdependence of certain hypothesized codes. The clear liabilities with the application of this coding system are the arbitrary unit of analysis (the floor or speaker change) and the degree of inference the coders must make about the impact of the client's and therapist's behaviors. At one level, these problems seem significant. In our experience so far, the main drawback to this approach is that it is extremely labor intensive. The other problems of arbitrary units of coding and coder

inference can be treated as noise in the system (error). Our and others' data thus far suggest that despite these drawbacks, the effect of contingent therapist responding on behavior is still detectable (Busch et al., in press; Callaghan, Summers, & Weidman, 2003).

UNDEREXPLORED PROCESSES

FAP should be of interest in CBA because it is one of the most straightforward applications of the three-term contingency to psychotherapy. We have described what FAP is, how it depends on simple principles of behavior change, and some of the research problems that need to be addressed if FAP is to become a strong example of CBA moving into new domains for intervention. That said, this research program has been slow to progress even at the simplest interpretation of what occurs during treatment. Let us now pose some additional research issues intended to inspire more research in the area.

Basic Parametric Research

FAP posits that contingent therapist responding to client problems and improvements is what accounts for the most variance in observed behavior change. There is good single-subject design evidence that FAP produces change by therapist contingent responding (Busch et al., in press; Callaghan et al., 2003). This leaves the question of how much contingent responding is optimal. The simplest principles of behavior change would support a rich reinforcement schedule for therapeutic improvement that progresses to a leaner variable reinforcement schedule in preparation for a client's return to an exclusively natural environment. The actual change process is complex. At one level, therapy could be viewed as shaping by successive approximations. In reality, what is shaped changes over time. So, one parametric question is, what is the

optimal reinforcement schedule to initiate and later sustain behavior change?

A second parametric question is, at what rate should the therapist change the target behaviors as the therapist moves the client to develop increasingly sophisticated repertoires? At the beginning of therapy, the goal is for the therapist to shape coming to therapy and the willingness to engage in change. Clients often begin therapy with a significant misunderstanding of the difficulty and duration of the change process. One significant attrition point occurs when clients actually contact the fact that change, even towards more adaptive behaviors, is extremely difficult. It is important to build a tolerance and expectation for difficulty without demoralizing the client. Then, after the therapist has established him- or herself as a salient social reinforcer, contingent shaping of behaviors targeted for change occurs (Callaghan, Naugle, & Follette, 1996; Follette, Naugle, & Callaghan, 1996). At this point, the determination of how long to spend in this early stage of general support is made subjectively by the therapist. Research on pacing change would be welcome.

A third area in which parametric research is needed is the empirical determination of the rate at which one should target behavioral excesses versus behavioral improvements. Once therapy has moved into the phase in which significant behavioral change is being shaped, we have had to balance two concerns. On the one hand, clients present with high frequencies of problematic behaviors that are readily available to target. However, targeting problem behaviors involves extinction or punishment in the technical sense combined with differential reinforcement strategies. Punishment strategies can be aversive for both the therapist and the client if not done properly. Because it is common for behavioral excesses to dominate early therapy,

the therapist has to decide when and how frequently to contingently respond to problematic behaviors.

Some therapists prefer to shape only clinical improvements in order to minimize aversive experiences for the client. Therapy can be a slow process when problematic behaviors occur at high rates. There are clients who are quite aware that their behavioral excesses cause interpersonal problems and will express displeasure if these behaviors are not addressed early in sessions. Assuming that the therapist addresses excesses constructively and differentially reinforces improvements at the same time, we have not seen many instances in which therapy becomes an overall aversive experience even when behavioral problems are addressed (Kanter et al., 2006). Still, an issue that remains to be researched is, what is the optimal level of contingent responding to reduce or strengthen target behaviors? It may be that clients are willing to discount "failures" in any particular therapy session and only attend to successes when their behavioral improvements are reinforced.

Specifying Therapist Behavior

Perhaps the largest process impediment to the dissemination of a principle-based therapy such as FAP is that it generally runs counter to the dissemination technology most commonly used in training empirically supported treatments. Treatment manuals have evolved but still present problems for the dissemination of principle-based therapies (see Addis, Wade, & Hatgis, 1999; Goebel-Fabbri, Fikkan, & Franko, 2003; Strosahl, 1998; Weingardt, 2004; Wilson, 1997). Although more flexible manuals have evolved, adherence measures often rely on the identification of a specific topographical therapist behavior in any particular session. In a principle-based therapy like FAP, therapist behavior is diffi-

cult to specify because the therapist is not teaching techniques or providing discrete, rule-governed problem-solving skills. Rather, the therapist shapes complex social behavior and behavioral flexibility.

We have already discussed the difficulty of performing a replicable functional analysis and reliably discriminating stimulus classes. The next process obstacle is, how does the therapist serve as a discriminative stimulus for a wide variety of interpersonal behaviors? In addition, how does the therapist reinforce behavior change? The conceptual problem with both of these issues is that there are no prescriptive rules the therapist can follow. The principle of equifinality recognizes that there are multiple paths to the same end. In the case of evoking clinically relevant behavior, a middle-aged male therapist with some degree of confidence in the therapy situation is not likely to have the same stimulus or reinforcing properties as a young attractive female graduate student. In supervision, one often finds that beginning therapists ask, "How should I respond when the client does X?" Although it is tempting to give specific examples of how to respond, we give multiple examples in which different response topographies could all function similarly. It is then up to the therapist to determine which is most natural for him or her. At the same time, the answer implies that one does not know precisely what to do until the therapist tries something and observes the result.

There is no clear way to specify how a therapist should evoke or contingently respond to a particular client action. It is interesting that both clients and therapists often explicitly ask for rules to follow in order to achieve some desired outcome. For both the therapist and client, behavior change emphasizes the critical importance of having a specific goal during an interaction, recognizing the appropriate time to

act on that goal, noticing the effect one has on the other member of the dyad, and when appropriate, actively reinforcing a desired effect. Therapists and clients alike want to seek refuge in rule-governed behavior. It is not easy to resist supplying rules. Some rules can be supplied, but they are of a limited kind. Most of the time, such rules entail behavioral proscriptions that are applicable across such a broad set of conditions such that any rigidity that results from rule following is not a serious liability. For example, a rule for therapists such as "Don't get angry at clients when they exhibit the behavior that brought them into therapy" is almost always applicable. To clients, one can give the rule "Don't disclose your undying love for someone on the first date." Proscriptive rules can be constructed, but they are often not very informative about what one should do to achieve a goal.

Another therapist behavior that is difficult to specify is how to continue to shape improvement, even when the client functions adequately with the therapist. Therapists and clients can find it challenging to avoid settling into ways of interacting that do not promote sufficient sensitivity to changing contingencies or to promote sufficient response variability so that more sophisticated repertoires emerge. Both therapist and client eventually develop enough history with the other that the therapist can effectively respond to an otherwise ineffective statement by the client because the history of their interactions supplies enough context for the therapist to know what the client intends. Through experience the client learns how to respond to his or her particular therapist to get his or her point across. Unfortunately, unless the therapist continues to shape increasingly effective behavior, client behavior change can plateau at a level that will not function with other people. The client develops informal

rules for interacting with the therapist that may not be effective outside therapy. In supervision, therapists are often reminded that they are doing too much work for the client because the same client behavior exhibited outside therapy will not be reinforced by the verbal community. In some situations, rule following is an efficient way to maximize reinforcement, but it can impair the client's ability to recognize changing contingencies, such as those that are common to interpersonal relationships (Kudadjie-Gyamfi & Rachlin, 2002).

This section presented a variety of examples in which there are difficulties in specifying exactly what the therapist should do to effectively shape behavior change. We often make use of multiple-exemplar training when training therapists in FAP. At this point, we do not yet have an entirely satisfactory way of disseminating a principle-based therapy.

Nomothetic Versus Idiographic Therapist Responding

One particularly complicated issue is ensuring that a client's behavior change will generalize outside the therapy sessions. Some classic writings have addressed generalization (e.g., Horner, Dunlap, & Koegel, 1988; Stokes & Baer, 1977), but this process has not been well studied in interpersonally focused therapies that address the acquisition of complex social skills. One important issue that complicates generalization is that therapists have unique interpersonal histories. This means that a particular client-therapist dyad will have unique properties. As mentioned above, there are many ways in which a client can learn to behave effectively with a particular therapist. Some therapists are more accepting of (i.e., will reinforce) behavioral improvements that are not sufficiently refined to be reinforced by the broader verbal community. Thus, how is the

therapist to respond to behavioral improvements as therapy progresses?

Initially, the therapist accepts a client's problematic behavior in a way the client's natural environment does not (or the client most likely would not seek therapy). As treatment progresses, the therapist comes to understand the controlling variables for the client's behavior and uses his or her own reinforcing repertoire to bring about change. Two questions often emerge as therapy progresses. The first is whether the response repertoire shaped by the therapist has shown sufficient improvement that the therapist considers therapy termination to be appropriate. The second is whether the behavioral repertoire the therapist reinforces is going to be reinforced by the community at large.

In the first instance, some therapists are so sensitive to how difficult change has been for a client that they reinforce the effort to change but not the degree to which the change has reached a functional threshold. When watching recordings of sessions during supervision, the therapist may show a section of a session that indicates how much the client has improved. On some occasions many others on the supervision team may agree, but then someone will say, "Yes, he has improved and you've both worked hard, but what would happen if you were meeting this person as a stranger and holding a conversation? How likely are you to want to establish a closer relationship with him if this were how he behaved?" It is not uncommon for all to note that the critique has merit. The question then becomes one of further assessment. Can the client readily improve if the therapist raises his or her expectations? What is difficult is when the therapist says, "I'd love to talk more with him—he's quirky but interesting." The idiographic responding of the therapist may not be a good proxy for other situations, even if the therapist

truly does find the client responses to be adequate.

This brings into question how to know if the client has reached an adequate level of responding across a broad enough set of circumstances to function well outside of therapy. There is almost no research to guide therapists on this assessment. While FAP training is being refined, multiple therapists often act as supervisors. The supervisors can act as a sort of Greek chorus that represents a broader view of the adequacy of the client's responses. They are making a more nomothetic assessment of how favorably others would respond to the same behaviors the therapist is reinforcing. We have no data on how well individual therapists can make this determination without consultation. Certainly the client reports successes and failures outside therapy, but the reasons for failure may be perplexing to both the client and the therapist if one does not consider the idiosyncratic nature of a particular therapy dyad.

At the level of technique, the therapist can vary his or her own behavior in session so that the client must discriminate what the therapist wants and how many different ways there might be to achieve a goal. Likewise, the therapist can shape response variability in the client. The therapist can systematically alter his or her behavior during sessions and record the different topographies of behavior the client exhibits to accomplish a particular interpersonal goal.

SUMMARY

FAP, as an example of clinical behavior analysis, presents new challenges and familiar research issues in unfamiliar settings and with less control than behavior analysts might prefer. Although behavior analysis has made important contributions in many domains, the application of behavior-change principles to outpa-

tient adults with normal intellectual functioning presents many difficulties and opportunities. Not the least among these challenges is improving our ability to reliably train fundamental skills so that dissemination can occur. Basic methods of identifying functional classes, conducting a replicable functional analysis, and developing a means to functionally describe and distribute that knowledge base represent research opportunities and obstacles to expanding the applicability of the science to a broader constituency.

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