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Persuasion Criteria in Research and Practice: Gathering More Meaningful Psychotherapy Data

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Psychotherapy research should ultimately benefit the psychotherapy client. Unfortunately, traditional psychotherapy research continues to have little influence on practicing clinicians and, therefore, does not benefit psychotherapy clients. As behavior analysts begin to show interest in this area of research, they may be in a position to improve its quality. We argue that traditional psychotherapy researchers have become prematurely wedded to a methodology that does not address the concerns of clinical audiences. Furthermore, we make a case for defining and evaluating psychotherapy data in terms of its capacity to influence both researchers and clinicians. We also suggest several alternative methods for gathering psychotherapy data based on the case formulation approach. We argue that this approach may be one of the most promising methods for gathering useful psychotherapy data.

Key words: psychotherapy research, persuasion criteria, psychotherapy practice, case formulation, audience variables, clinical behavior analysis

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Psychotherapy research should ultimately benefit the psychotherapy client. Unfortunately, most psychotherapy research to date has been of little benefit to psychotherapy clients because it has had little influence on psychotherapists (Barlow, 1981; Barlow, Hayes, & Nelson, 1984; Cohen, Sargent, & Sechrest, 1986). The primary audience for psychotherapy research tends to be other psychotherapy researchers. Practicing psychotherapists find comparative outcome studies of little use in their day-to-day practices and therefore rarely consult them. As a result, any value to clients that may be derived from standard psychotherapy research is lost in the breakdown of communication between researchers and clinicians.

The problem is that the goals of psychotherapy researchers and clinicians differ in important and sometimes fundamental ways. Researchers are primarily interested in issues of internal validity; the goal is to control for alternative explanations. Clinicians are primarily interested in issues of clinical utility; the goal is to ease the suffering of their clients. Behavior analysts are unlikely to abandon the criteria of the researcher in favor of the criteria of the clinician. However, psychotherapy researchers must strive to gather data that will ultimately benefit psychotherapy clients. How then might behavior analysts solve the problem of bridging the gap between clinical and research goals?

We believe the solution to the problem lies in gathering data that are persuasive to *both* audiences. In order to influence both research and clinical audiences, psychotherapy researchers must be fully aware of what each audience finds persuasive and by what criteria they evaluate research data. Psychotherapy data should be evaluated according to their ability to persuade both clinical and research audiences.

In presenting this argument, we will first examine the state of psychotherapy research as it is currently conducted. We will present an argument for evaluating research according to its persuasiveness to the intended critical audience. We will then examine what types of data persuade researchers and clinicians. The second crucial step toward contributing clinically useful research is to advance our analyses beyond critiques of the mainstream and into development of methods grounded in our alternative perspective. Therefore, we devote the second part of

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the article to suggestions and illustrations of some ways in which behavior analysts might bridge the gap between researchers and practicing clinicians.

PSYCHOTHERAPY DATA: FORM VERSUS FUNCTION

One of the primary reasons that psychotherapy researchers continue to have little impact on practicing clinicians is that they have become prematurely wedded to a particular approach to conducting research. This approach has its philosophical roots in logical positivism and is passed from generation to generation of psychotherapy researchers through their training in programs based on the Boulder model. Graduate students in these programs are trained to ask a particular set of questions, to guard against well-spelled-out threats to validity and reliability, to gather and analyze data in specified ways, and to report results within a particular format. Once established, this approach to conducting research is maintained by grant and publication requirements that reflect the general contingencies of the research community. The end result is a firmly established approach to gathering data that then is evaluated in terms of its adherence to an accepted form. Although some variability is tolerated within the boundaries of the formal system (some alternative methodologies are funded), the validity of the established perimeter is rarely questioned (by far, comparative outcome studies receive the bulk of funding for psychotherapy research).

Most current psychotherapy data is nomothetic, but "a prediction of what the *average* individual will do is often of little or no value in dealing with a particular individual" (Skinner, 1953, p.19). Although clinicians might derive some benefit from the general knowledge provided by nomothetic data, it tells them little about what to do when they step into the room with a particular client. Furthermore, the methodological assumptions governing most psychotherapy research emphasize the importance of homogeneity. Both selection of clients and delivery of treatment are standardized to such an extent that they bear little resemblance to typical clients seen or services delivered in practice. These emphases serve the needs of researchers well, but work directly against the variability that is the reality facing clinicians. Clinicians simply never see the "average" depressive or agoraphobic and, therefore, seldom administer standardized treatments. Practicing psychotherapists know that the homogeneity of research samples is imposed and believe that the true heterogeneity of the clients they see has therapeutic implications. Despite these inadequacies, the standard approach to gathering psychotherapy data has become entrenched. We argue that psychotherapy researchers' adherence to the established approach to gathering data has led them to neglect considering the function that data ought to serve. As psychotherapy researchers leave graduate school, they know what research data should look like, but they have often not thoroughly considered what the data should do.

PERSUADING A CRITICAL AUDIENCE: STRONG DATA

What should the function of data be? We propose that data serve their function within the context of a persuasive argument delivered to a critical audience. Therefore, data are *any* carefully gathered information presented as grounds for belief in the truth or utility of one's claims. By what criteria, then, are we to judge the strength or weakness of data? We propose that data be defined as strong or weak by their utility in serving the function of persuasion. To the degree that gathered evidence is persuasive to an intended audience, it can be considered strong data. To the degree that it fails in this effort, it can be considered weak data. The strength of data depends on the persuasion criteria of the intended audience.

An audience's persuasion criteria are those criteria that must be met in order to convince that audience of the truth or utility of one's claims. For example, some behavior-analytic audiences are more interested in demonstrations of effective

action than in demonstrations of prediction. For those audiences, a demonstration of prediction, void of implications for effective action, fails to meet their persuasion criteria and therefore will be judged to be of little merit. Regardless of how phenomenally accurate the demonstration of prediction might have been, it will still be considered weak data.

Although this criterion may appear too subjective to evaluate the relative strength of gathered evidence, there is some support for this argument in the works of many contemporary philosophers of science (e.g., Kuhn, 1970; Lakatos, 1970). For example, Lakatos has proposed a model of scientific progress that assumes that scientists interpret the data presented to them in light of biases built into their research programs to protect their basic assumptions. He suggests that a community of scientists protects the basic assumptions of their particular research program from question and refutation by constructing around them a "protective belt" of auxiliary assumptions. Thus, the "hard core" of a research program (the basic assumptions) is *never* directly challenged by negative evidence. Instead, "it is the protective belt of auxiliary hypotheses which has to bear the brunt of tests and get adjusted and readjusted, or even completely replaced, to defend the thus-hardened core" (Lakatos, 1970, p. 133). Proponents of a program can either accept data presented to them as compatible with their established ideas or make one of several choices if the evidence is incompatible. They may let the evidence stand as an anomaly and do nothing until further evidence is generated; they may ignore it as irrelevant; or they may modify some part of their auxiliary assumptions to incorporate the new evidence.

We can turn to the research program developed around cognitive treatments for depression for an example of Lakatos's model. Within this research program, theorists assume that cognitive variables play a causative role in the etiology and treatment of depression. This assumption can be considered to be this program's "hard core" and is essentially invulnerable to negative evidence. For example, two thorough reviews (Barnett & Gotlib, 1988; Brewin, 1985) suggest that the evidence does not support cognitions as stable antecedent precursors to depression. The evidence instead suggests that depressive cognition is a concomitant, or symptom, of depression. Nor is there strong evidence that improvement in depression during cognitive therapy is mediated by changes in cognition. Rather, there are similar changes in cognition whether the person receives cognitive therapy or pharmacotherapy (e.g., Blackburn & Bishop, 1983; Rush, Kovacs, Beck, Weissenburger, & Hollon, 1982; Simons, Garfield, & Murphy, 1984; however, also see Evans et al., 1991.).

These findings can be interpreted as casting doubt on the assumption that cognitions play a causal role in depression. Yet proponents of the cognitive research program maintain that the evidence that negative cognitions seem to vary with, rather than precede, depression can be accounted for without threatening their foundational assumption. Thus the assumption that cognitions play a causative role in depression becomes invulnerable.

Other factors that can account for the mood dependency of cognitive measures (e.g., arguments that the measures are insufficiently sensitive and need to be refined—Muran & Segal, 1990; or that depressive schema remain latent and so must be activated before they can be properly measured—Miranda & Persons, 1988) form the "protective belt" that bears the brunt of this negative evidence. Thus the merit of the presented data is determined by the audience. An audience that does not share this particular "hard core" assumption may take the mood dependency data to suggest that measuring cognitions may be a dead end in the study of treatments for depression. Either way the data are the same, but the ability to influence depends on the audience. This is essentially our argument: The capacity of the data to influence a particular audience is a function of the persuasion criteria of that audience. The strength of data must be defined at the level of the

audience. Therefore, as it is evaluated by the persuasion criteria of clinical audiences, current psychotherapy research is not gathering strong data.

PERSUASION CRITERIA OF RESEARCHERS AND CLINICIANS

If the strength of data is its utility in persuading a critical audience, then in the context of the practicing clinician, the data currently being produced by psychotherapy research are inadequate to the task. Therefore, if behavior analysts are to study psychotherapy, it is important to decide beforehand whether or not they are interested in having an impact on clinical audiences. Again, our premise is that psychotherapy is in the service of psychotherapy clients and, following from that, psychotherapy research is also ultimately in the service of psychotherapy clients. Psychotherapy research that does not influence clinicians does not benefit clients. As important as influencing clinicians is, however, it remains of equal importance to continue to meet the persuasion criteria of research audiences. We would not want to perpetuate the mistake of attending to one audience at the expense of the other. As it stands, behavior analysts may very well be in a position to bridge the gap between research and clinical audiences, and to make their research influential to both clinicians and fellow researchers.

The Criteria of Researchers

To influence both research and clinical audiences, we must be fully aware of what each audience finds persuasive. By what criteria do psychotherapy researchers evaluate data, and how are these different from the criteria of clinicians? Researchers are persuaded by data when the data adhere to their ideas of correct methodology and fit their own interpretation of prior substantive findings. The definition of "correct" methodology held by the psychotherapy research audience is generally taught in introductory methodology classes. If not adequately learned there, researchers quickly learn it through the process of peer review. These persuasion criteria include internal and external validity, reliability, and appropriate statistical analyses. Of these, the primary concern of research audiences is the control of alternative explanations. In other words, research audiences want to be assured that the findings presented to them can be relatively unambiguously attributed to the variables of interest and not to some unintended factor, such as an anomalous event or changes over time (Kazdin, 1992). These issues of internal validity are at the heart of the standard approach to psychotherapy research. They influence the types of questions asked, the procedures, methodologies, and instruments used, and the format within which most psychotherapy data are presented. In fact, it can be argued that internal validity concerns are what distinguish science from other human endeavors.

A second persuasion criterion is the research audience's relative predisposition to agree or disagree with particular findings. If a researcher's premises, inferences, and conclusions agree with those that his or her audience is prepared to accept, then his or her data will have relatively little trouble persuading them. If, however, the audience disagrees with a researcher's premises, inferences, or conclusions, then the data will likely be subjected to more rigorous criticism (cf. Kuhn, 1970; Lakatos, 1970). As we have stated, data are not wholly objective, and their power to persuade a given audience is to a large degree relative to that audience's prejudices toward the argument they support. This prejudice may be considered to be either an unconscious social bias (Kuhn, 1970) or a rational program choice (Lakatos, 1970).

The Criteria of Clinicians

If these are the persuasion criteria of the research audience, then what are the persuasion criteria of the audience of psychotherapy practitioners? What is it that psychotherapists want from research data? As of yet, we know very little about what psychotherapists find persuasive. A comprehensive needs assessment has

simply not been conducted; therefore, what we know of the needs of psychotherapists is derived primarily from our own needs as research-practitioners.

At the most basic level, we assume that clinicians are primarily interested in the health of their clients and, therefore, that their treatment decisions are based on their own past and current observations of clinical improvements in their clients. From our own work, we know it would be helpful to have information that facilitated all levels of treatment decisions, from those of the initial clinical assessment to the evaluation of outcome. At the onset of therapy, the therapist conducts some form of assessment (i.e., clinical interview, diagnostic interview, psychological testing), and "among the mass of information collected, the clinician must decide what is and is not an item worthy of further investigation or attention" (Turkat, 1988, p. 187). Data to guide these decisions would be useful.

Psychotherapists also assume that, to some extent, the client's problems are related to one another and that it is not by chance that the client has a particular combination of difficulties. Therefore, data in the form of taxonomies that imply treatment (and therefore that are improvements over the DSM III—R) would also be useful. Given that the client's problems are interconnected, interventions aimed at a specific target can affect the other problems. Having a number of potential clinical targets may facilitate a client's general improvement. Furthermore, emphasizing certain aspects of the client's problem over others may be critical for the best outcome. Research data will enhance treatment efficacy to the extent that they yield an understanding of the relationship among the client's problems that in turn leads the therapist to intervene most effectively and efficiently. Research data should help the therapist choose a treatment modality, choose an intervention strategy, choose an intervention point, and make decisions about extratherapy issues (e.g., scheduling extra sessions). In short, we assume that clinicians are interested in clinical utility and, therefore, that this type of data should be useful to them (cf. Hayes, Nelson, & Jarrett, 1987).

Clinicians, therefore, are interested in more than whether or not a researcher's propositions are "true" in the standard sense. They are also interested in whether or not a researcher's findings are useful, relevant, and applicable. In light of these criteria, psychotherapy research reports are typically found to be seriously wanting. Clinicians continue to complain that research is irrelevant to their work and that researchers, because of their focus on meeting the persuasion criteria of their research peers, render their results clinically meaningless. Often the nomothetic study of psychotherapy fails miserably to translate into useful recommendations at the idiographic level. Although clinicians may appreciate the psychotherapy researcher's data because of their own training as researchers, there is simply no turning that appreciation into something of genuine benefit to their clients.

Psychotherapists normally want effective interventions, and they will pursue the necessary knowledge wherever it may be available. Therefore, when psychotherapists have questions to ask and puzzles to solve, they turn to each other rather than to the work done by researchers. When presented with a clinical puzzle, psychotherapists ask the advice of colleagues, supervisors, and workshop leaders because they provide more useful idiographic information (e.g., case histories and clinical anecdotes) (Cohen et al., 1986). Although clinicians are aware of the limitations of these sources, the immediacy of their need coupled with the inadequacy of the research literature leaves them with few alternatives. Researchers, however, are quick to label these sources "unscientific" and "soft," given that they do not adequately control for alternative explanations. Often they wonder where they have gone wrong in the training of these clinicians who so negligently ignore the research literature. Researchers even occasionally make recommendations for changes in graduate training or requirements for continued licensure to persuade clinicians to judiciously attend to the current literature.

However, clinicians will turn to psychotherapy research only when psychotherapy research provides useful information. As long as the presentations of researchers are not relevant to clinicians, clinicians will continue to be persuaded by other sources. Some of what they are persuaded by will be genuinely useful to their clients, and some of it will be wishful thinking. Regardless, psychotherapy research will have no clinical influence if it continues its current tradition.

SUGGESTIONS FOR MORE USEFUL PSYCHOTHERAPY RESEARCH

As we have discussed, the primary function of psychotherapy research should be to benefit therapists and their clients directly. This goal can be achieved by providing information relevant to treatment decisions and through the discovery and improvement of effective interventions. We have argued that the typical form of psychotherapy research is too biased toward nomothetic research questions and designs to be of use to therapists. We have argued that the criteria for meaningful psychotherapy research should be derived from its intended audience and that the criteria that persuade clinicians differ in important ways from those that persuade researchers. In this final section, we describe a way to balance idiographic and nomothetic levels of analysis (the case formulation) that should be useful to both therapists and researchers. Using this approach, we provide illustrations of how data can be collected and presented in more meaningful ways.

The first step toward bridging the gap between researchers and clinicians is to study more directly what clinicians are influenced by and what questions they would have researchers address. As noted above, we have only cursory knowledge of what clinicians find persuasive or how satisfied they are with their current sources. We also know relatively little about what types of questions they are interested in and what types of answers they find useful. Are clinicians more interested in questions about coherent systems of psychotherapy or specific interventions for given problems (e.g., given a particular set of client behaviors, what therapist behaviors are most effective in what contexts)? Do they get all the information they need from presentations of inferential statistics, or might they find other formats more relevant?

It seems safe to assume that psychotherapists want more idiographic information incorporated into research. But as soon as one begins to diverge from the beaten path of nomothetic research, the dilemma arises: How does one find and convey an analysis of the therapeutic process at a more meaningful level? Useful research should say something about the meaning of a particular behavior for a particular client in a particular context, as well as what therapist actions facilitate the desired experience for the client. On the one hand, an adequate and useful account would include more idiographic information than is included in nomothetic designs. On the other hand, the work should not become either so idiographic that generalization to other clinical situations is impeded or so idiosyncratic that the findings are doubted by others.

The search for meaningful levels of analysis in psychotherapy research has been a perpetual problem. Various levels and strategies of analysis to convey more clinically meaningful data have been suggested, including intensive study of single cases (Hersen & Barlow, 1976), study of significant events in therapy (e.g., Elliott, 1983), study of "good" and "bad" moments in therapy (Stiles, Shapiro, & Elliott, 1986), strategies for linking immediate and intermediate outcomes to more distant outcomes (e.g., Greenberg, 1986; Safran, Greenberg, & Rice, 1988), strategies for discovery-oriented research (Mahrer, 1988), individualized outcome measures (e.g., Phillips, 1986), and inclusion of statistics that yield information about the clinical significance of change rather than only the statistical significance (e.g., Jacobson & Truax, 1991).

Strategies with the most promise of

bridging the gap, however, should blend nomothetic and idiographic levels of analysis with practices or conventions already familiar to therapists. The best strategies will maintain scientific rigor while simultaneously maintaining clinical sophistication. *Case formulation* may be just such a strategy (e.g., Curtis, Silberschatz, Sampson, Weiss, & Rosenberg, 1988; Koerner, 1993; Persons, 1991; Turkat, 1985).

In clinical practice, case formulation is a method through which the therapist systematically and coherently organizes the available information in order to understand the relationship among a client's problems. The case formulation is derived from the synthesis of initial clinical assessment data. A case formulation consists of a set of conceptually coherent hypotheses regarding the nature of the difficulty responsible for the client's problems or disorder (cf. Friedman & Lister, 1987; Persons, 1989; Turkat, 1985). These hypotheses are based on a synthesis of a wide range of (preferably longitudinal) data about the client, including biological, psychological, and social factors related to the client's problems. Case formulation may include, but is not limited to, a DSM III—R diagnosis. Similarly, a case formulation may include, but is not limited to, the results from psychological testing (e.g., the Millon Clinical Multiaxial Inventory or the Minnesota Multiphasic Personality Inventory).

When adapted to research, case formulation becomes a powerful tool combining nomothetic and idiographic levels of analysis. One can study clients who meet DSM III—R criteria for major depression while simultaneously specifying the particular factors contributing to each individual's depression. One can use a standardized treatment and simultaneously specify how it must be tailored to meet the individual's needs. One can look at nomothetic constructs (e.g., defensiveness) and simultaneously be able to interpret variability in manifestation of the construct in light of a given individual's history (e.g., to avoid feeling sadness, one client talks intellectually whereas another one becomes irritated at the therapist).

Case formulation lends itself to many different research applications. Several groups of psychodynamic researchers have designed formats for developing reliable formulations of an entire case (Curtis et al., 1988), relationship patterns (Crits-Christoph et al., 1988), and the central dynamic conflict (Horowitz, Rosenberg, Ureno, Kalehzan, & O'Halloran, 1989). Such formulations can be used to study the effects of therapist behavior to produce within-session change (Silberschatz, Fretter, & Curtis, 1986) and to devise individualized outcome measures (cf. Silberschatz, Curtis, & Nathans, 1989). The same case can be formulated by researchers from diverse theoretical orientations to pinpoint similarities and differences across different therapies (e.g., Persons, Curtis, & Silberschatz, 1991; Collins & Messer, 1991). Research guided by case formulation can be used to develop treatment, especially for disorders that are not well understood (Turkat, 1988; Turkat & Maisto, 1985). Thus, this is a particularly promising method to increase the relevance of psychotherapy research to therapists.

To illustrate how a case formulation might guide or unify research, we provide an extended illustration using therapy material from a radical behavioral therapy called *functional analytic psychotherapy* (FAP; Kohlenberg & Tsai, 1991). The purpose is to illustrate how one might use a case formulation approach to examine and convey what is helpful about FAP.

Theory of FAP

Functional analytic psychotherapy is a radical behavioral approach to outpatient psychotherapy developed by Robert Kohlenberg and Mavis Tsai. It is based on the principle that many of the problems experienced by the psychotherapy client will manifest themselves during the therapy session. For example, if a client avoids intimate relationships in his or her life and fears that he or she could be irreparably hurt due to past experiences

in relationships, a FAP therapist will expect a client to avoid a warm and caring therapist. FAP interventions are centered around dealing with these clinically relevant behaviors during the session by providing a supportive environment in which manifestations of problematic behavior decrease in frequency and manifestations of more adaptive behaviors increase in frequency.

The therapist assumes that meaningful change is most effectively fostered within the context of the relationship between therapist and client. For example, a client who fears intimacy may be disdainful towards the therapist because being disdainful has protected him or her from the affection of others and subsequent vulnerability to rejection. In this case, a FAP therapist may simply continue to demonstrate genuine caring for the client on the assumption that it is within a caring relationship that such intimacy-avoiding behavior will be extinguished. If the client avoids talking about things that place him or her in a vulnerable position, the FAP therapist will stay particularly attuned to that type of discussion and will assure that any move toward less avoidance is treated with utmost respect and attention. Again, the therapist's behavior is based on the premise that intimacy-enhancing behavior can be shaped over time within the therapeutic relationship.

The primary effect of assuming a FAP orientation is to increase the therapist's sensitivity to the client's in-session behavior, to the ways in which the client's problem occurs in the moment-to-moment interactions with the therapist, and to the ways in which the therapist's responses help or hinder improvement. Therefore, one research question of relevance to understanding FAP would be: How does the therapist's focus on the therapeutic interaction affect the client's behavior?

To answer these sorts of questions meaningfully, the researcher needs a case formulation that is clearly tied to the theory of change particular to that therapy approach. FAP assumes that client improvement is largely a function of the contingencies present in the therapeutic relationship. Therefore, the FAP case formulation specifies both the problems and the improvements that are likely to occur during the session.

A FAP Case Formulation

To illustrate, we will develop a very abbreviated case formulation for a client seen in FAP. The client was a white 24-year-old heterosexual woman who worked as a secretary. This was her first time in therapy. She had never married but lived with a stable loving man while dating an unstable "exciting" man. Her presenting complaints were headaches, anxiety and depression, and distress about her relationships. She had come to view herself and others in ways that interfered with her ability to develop intimate relationships. In relationships, she experienced herself as being "without impact" and as having "no presence." She reported a pattern in her relationships, especially with men, that maintained distance and actively avoided intimacy. She was "in awe" and felt "inferior" to others who she felt could "take or leave" her. She constantly anticipated abandonment and assumed responsibility for making things go smoothly so that the other person would not leave. On the other hand, she also feared that if she let herself feel close and equal to the other, her feelings would change—the awe would decrease and she would become critical and "malicious," which would then provoke the other person to leave.

For this client, then, the therapist might anticipate some of the following problems in daily life to occur in the session, especially because the therapist is a man similar to those toward whom she tends to feel awe.

1. She will fear that the therapist's view of her agrees with her own negative view of herself in relationships and will discount anything the therapist does that disconfirms this. She will feel awkward, inadequate, incompetent, worthless, and unimportant. She will distrust and discount the therapist's liking and caring.
2. She will act in ways that will pre-

vent the therapist from rejecting her but that will simultaneously interfere with the development of an intimate relationship. She will act overresponsibly in therapeutic interactions. She will present an image of being intelligent and interesting, not anxious or defensive. She will say what she thinks the therapist wants to hear and worry about how to keep things interesting and going smoothly.

Thus, improvements that may occur in the session include:

1. She accepts, seeks, and understands the therapist's liking and caring as genuine and deserved. She states positive attributes about herself and expects the therapist to share these views.
2. She seeks intimacy despite the possibility of rejection. She expects more reciprocity in the relationship. She feels more relaxed, doesn't worry about how she "comes off," and expresses thoughts and feelings regardless of what she thinks the therapist wants to hear.

Obviously, the most convincing way to convey fully the effects of the therapist's focus on the therapeutic interaction would be to provide the audience with videotaped or transcribed material that would allow them to assess the effects for themselves. Although this sort of material can be extremely useful (cf. Labov & Fanshel, 1977), such an intensive analysis is not practical for most purposes, and therefore some data reduction is necessary.

One way to reduce the data to convey the effect of the therapist's interventions is to ask the therapist to explain what happened. This sort of data forms the backbone of clinical training, and is the kind of information one continues to get in clinical workshops and from discussions of cases with colleagues. The following is a verbatim written account from the therapist in response to a request for a description of what occurred in a session with the client described above.

> At the very beginning of (the session), I notice that she is anxious and I hypothesize that she is engaging in clinically relevant behavior (i.e., her daily life problems right at that moment with me). I also notice an improvement—that is, she tells me about the difficulty she is experiencing. I try to do two things—one is to clarify what is transpiring between us and also to reinforce her openness. To accomplish this, I become active and both tell her she doesn't have to be responsible (to encourage via rule-governed behavior), and by taking responsibility myself for the interaction, taking her off the spot for having to perform. I feel that being passive at this point would be countertherapeutic.
>
> I try to relate the present interaction to the previous session and to problems she has during daily life. The purpose is to aid transfer of improvements from the therapy session. During the session I ask her if what she is doing with me is similar to her daily life problems and thus (a) increase the salience of her problematic behavior to herself and (b) obtain information that allows me to refine my list of clinically relevant behaviors. As a result of this, I have a better description of her self-experience of not being important to others and that this occurs with me. I attempt to change this by taking her seriously, listening carefully, etc. (i.e., having her be important to me).
>
> I try to keep our interaction in the present and to evoke clinically relevant behavior by frequently asking her about our relationship. This resulted in numerous interactions in which she responded to me in problematic ways as she has to others in her daily life. This included her fears of abandonment and her reluctance to form intimate relationships.
>
> Overall, I believe the client was reinforced and prompted to take less responsibility in our relationship. This included taking the risks of being rejected and hurt by me when she is "being herself." This, in turn, makes being in a relationship easier with less distress, and less likely to have the bad outcomes they have had in the past.

Some of the advantages of this sort of data are that it is accessible and tells the therapist what to do in a particular situation; it makes maximum use of clinical wisdom; and it directs researchers toward the theory of change that is relevant to clinical decision making. Systematic collection of therapists' commentary on their work might lead researchers to understand more clearly what is helpful to therapists.

A second way to convey what happened is to use one or more of the developed categorization schemes or other measurement devices relevant to a given case conceptualization. There are several measures that are directly relevant or easily tied to clinically relevant behaviors. As an example, we will use the Client Voice Quality (CVQ) scale developed by Laura North Rice and her colleagues at York University (Rice & Wagstaff, 1967). The CVQ scale is a nominal classification measure derived from a humanistic, cli-

ent-centered perspective that can be used to assess the quality of emotional involvement in the moment-to-moment therapy interaction.

In this example, the videotape of the session the therapist described above was used. Using the CVQ scale, every client utterance of at least several words was classified into one of four categories determined by its stylistic vocal qualities. These vocal qualities (perceived energy, accent achieved by loudness, change of pitch or drawl, accentuation pattern, terminal contours, and pace and disruption of speech pattern) form discriminable patterns. The first pattern is a "focused" voice quality that seems to involve the process of tracking private experience with a sense of discovery, with little attention paid to the listener. The second category is "externalizing," in which the client seems directed outward, as in "putting across" ideas that have already been thought through or "talking at" the listener. The third category, "limited voice," involves the quality of "holding back" or "walking on eggshells," as if the client were remaining distant from what he or she was saying and experiencing due to aversive contingencies. The final category, "emotional," occurs when the client's speech becomes distorted (e.g., when the voice breaks, trembles, or rises to a shriek).

Each client utterance in this session was coded into one of these four types of voice qualities. FAP's theory of change includes the common notion that the more a client can be influenced by his or her private emotional experience, the more likely he or she will be to improve. Given this, one can look at the effect of therapist interventions on the relative increase or decrease in the frequency of various emotional voice quality categories. For this particular client, her problems in intimate relationships can be conceptualized as due in part to her inhibition of private experience and her overconcern with her effect on the listener. This should be evidenced by limited or externalizing voice qualities. Thus, for her, focused voice quality and emotional voice quality would be improvements, because they would indicate contact with private experience that is potentially less influenced by the listener.

The overall frequency of the four categories are shown in Figure 1. Figure 1 shows the proportion of total client utterances coded as focused (F), externalizing (X), limited (L), and emotional (E). Although Figure 1 does provide descriptive information, this sort of data summary is more informative when considered in terms of the settings hypothesized to be important by the case formulation. For example, in FAP, the therapist draws attention to the here-and-now relationship between the therapist and client by frequently raising questions about it. Figure 2 gives the frequency distribution of CVQ ratings for client responses following variations of the therapist's question, "How do you feel about me?" The majority of the client's responses were coded as focused, indicating emotional involvement in what she was saying. Contrast this with Figure 3, which describes the client's voice quality following variations of the therapist's question, "How do you think I feel about you?" Here her dominant response category was "limited" voice quality, which indicates a constriction of the expressive quality in the voice as if she were avoiding aversive social contingencies. If these ratings were compared over time, improvement for this client would be indicated by an increase in focused voice quality (i.e., a more relaxed and emotionally involved voice quality) in response to the therapist's questions regarding how she thinks he feels about her.

It is important to note that the use of these types of topographical measures is most informative when they are interpreted in light of the case formulation (i.e., in terms of their function). For example, although for this client an increase in emotional voice quality due to crying might indicate improvement, for another client it might indicate avoidance. Crying can be a response to more immediate or "full" contact with relevant contingencies, but it can also indicate avoidance, as when a woman who is angry and needs to state her grievance in a clear angry

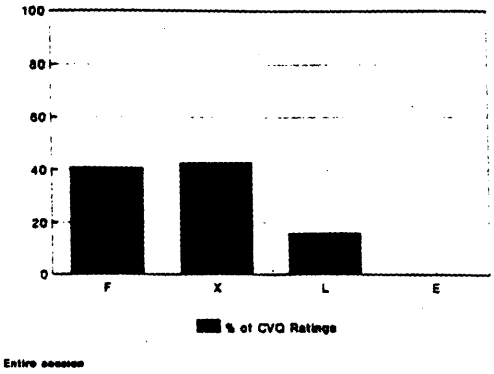

Figure 1. Distribution of CVQ ratings.

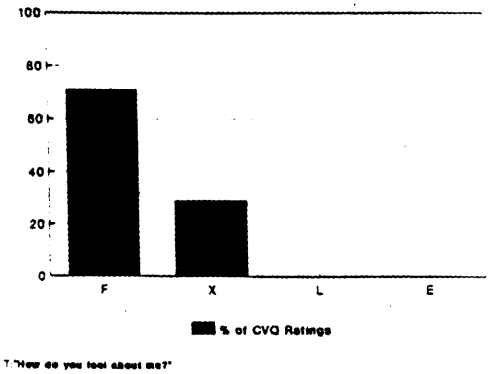

Figure 2. Distribution of CVQ ratings by topic.

voice begins to cry instead. Research guided by case formulation encourages the researcher to select behavior on the basis of its function, or contextual meaning, rather than its topography alone. Topographical coding without interpretation in light of the case formulation misses this sort of important distinction.

Nevertheless, use of standardized measures such as the CVQ scale can provide a useful summary of clinically relevant behavior. Measures that have good psychometric properties and well-developed training materials (Rice, Koke, Greenberg, & Wagstaff, 1979a, 1979b) and that are useful to researchers from multiple theoretical orientations can be powerful tools to facilitate communication about the process of therapy.

The third and final way to illustrate the effects of the therapist's interventions on the client's behavior is to create a picture via a graphical account of the frequency of behavior. Again, with such data-reduction strategies it is important that the unit be meaningfully interpretable. This is done by counting and graphing complex behaviors from the case formulation.

For example, in the above-described session, one can count each instance of clinically relevant improvement. For this client, that means counting each time she (a) accepted, sought, or understood the therapist's liking and caring as genuine and deserved; (b) stated positive attributes about herself and expected the therapist to share these views; (c) sought intimacy despite the possibility of rejection; (d) expected more reciprocity in the relationship; and (e) felt more relaxed and unworried about how she "came off" and expressed thoughts and feelings regardless of what she thought the therapist wanted to hear.

For example, Figures 4 and 5 show the cumulative frequency of improvement over the course of an early session and a session later in therapy. This sort of graph illustrates improvement over time that is specifically relevant to the particular client. Frequency counts of relatively simple behaviors (e.g., the number of head nods or crying) are usually not useful, whereas counts of more complex, clinically relevant behavior are more informative.

Case formulation has its own conceptual and methodological problems (Messer, 1991; Schacht, 1991). For example,

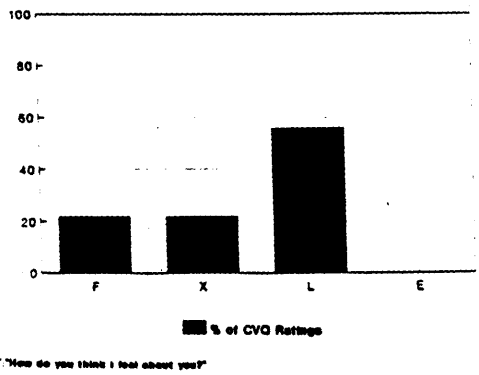

Figure 3. Distribution of CVQ ratings by topic.

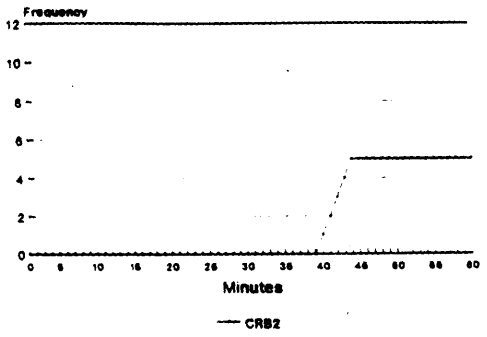

Figure 4. In-session improvements early in therapy.

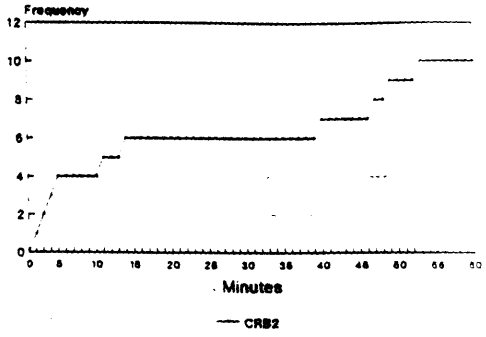

Figure 5. In-session improvements later in therapy.

one conceptual problem concerns the breadth or scope that a formulation must have in order to be called a "case" formulation. Some theoretical orientations might consider a formulation to be adequate if it fully specifies the variables that currently maintain the problem, whereas from other perspectives a detailed developmental history is needed to be considered an adequate case formulation. Another conceptual and methodological problem concerns the link between case formulation and treatment implications. Although cognitive–behavioral case conceptualizations may straightforwardly lead to treatment planning, psychodynamic formulations may instead yield multiple, equally valid, treatment implications. Problems such as these must be resolved for case formulation to become a more useful research tool. Nevertheless, it is one promising avenue toward the goal of more clinically relevant research.

CONCLUSION

In this article, we have argued that the standard approach to psychotherapy research has become prematurely entrenched and that psychotherapy data (defined and evaluated by its capacity to influence) should influence both researchers and clinicians. Furthermore, we have argued that alternative methodologies, such as the case formulation method, may contribute substantially to more meaningful psychotherapy research. Bridging the gap between psychotherapists and researchers will require more careful attention to audience variables. If behavior analysts are to influence both psychotherapists and researchers, they will need to attend to meaningful audience variables and determine more useful methodologies. Behavior analysts may very well be in a unique position to improve the quality of psychotherapy research currently being conducted. However, it remains to be seen whether or not we will attempt the task, given that behavior-analytic interest in psychotherapy research is in its infancy and the task at hand is so daunting.

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