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The Treatment of Histrionic and Narcissistic Personality Disorder Behaviors: A Single-Subject Demonstration of Clinical Improvement Using Functional Analytic Psychotherapy

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This article presents single-subject data for the treatment of histrionic and narcissistic personality disorder behaviors using a relatively brief course of an interpersonal therapy, Functional Analytic Psychotherapy (Kohlenberg & Tsai, 1991). The treatment produced significant changes in these behaviors both statistically and qualitatively. Empirical methods for analyzing the changes across sessions and for determining that the therapist engaged in the proposed mechanism of clinical change are discussed. While these data are for one subject, the results of treatment provide both a method of treating difficult and long-standing client behaviors such as these, and for assessing the progress of therapy.

KEY WORDS: functional analytic psychotherapy; personality disorder treatment; histrionic personality disorder; narcissistic personality disorder; single-subject design.

Though considerable research exists on empirically supported therapies for DSM Axis I diagnoses (American Psychiatric Association, 1994) such as depression and posttraumatic stress disorder, the body of empirical literature is scant when it comes to scientific investigations of how to treat those long-standing, characterological, or personality disorders found on Axis II. The exception to this appears to be found with Linehan's Dialectical Behavior Therapy (DBT) for Borderline Personality Disorder (Linehan, 1993), which is gaining support as effective for some clients meeting criteria for this disorder. With the exception of DBT, there is little empirical research to guide clinicians how to treat personality disorders (e.g., Bateman & Fonagy, 2000).

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Writings on the conceptualization and treatment of personality disorders, particularly those in Cluster B of the DSM have historically come from psychoanalytic and psychodynamic frameworks, (e.g., Adler, 1986; Hingley, 2001). Treatments for narcissistic and histrionic problems have included more traditional psychodynamic approaches (e.g., Kernberg, 1980; Kohut, 1977; see McNeal, 2003, for discussion on contemporary use of hypnosis from this approach) and interpersonal therapies (Benjamin, 1996). Long-term therapies using psychodynamic approaches have been considered the best method of treatment (Turner, 1994). Recently, cognitive behavioral treatments have emerged emphasizing a reconceptualization of these disorders (Kraus & Reynolds, 2001). For example, Nelson-Gray and Farmer (1999) describe how to assess and conceptualize personality disorders from behavioral and functional analytic framework. Similarly, radical behavioral discussions of personality disorders have appeared in the literature (Koerner, Kohlenberg, & Parker, 1996). These more behavioral approaches have emphasized the need for coherent and consistent formulations of the problem behaviors of each client. They are consistent with recent criticisms of syndromal models of personality disorders such as those by Rivas (2001) who suggests the need for a broader conceptualization with an emphasis on contextual issues related to clients' difficulties in functioning. These behavioral understandings do not minimize the importance of the interpersonal problems of clients; rather, they attempt to clearly specify how to treat them and assess for changes over time (e.g., Horowitz, 1997; Kraus & Reynolds, 2001).

Personality disorders are difficult to diagnose and tend to overlap with other disorders (Morey, 1988). This makes the deficit in the empirical literature on specific treatments especially challenging to overcome (Westen & Shedler, 1999a, 1999b). Moreover, it is very difficult to know how to treat clients who fail to meet criteria for one specific personality disorder when they evidence characteristics multiple diagnoses (Rivas, 2001; Westen, 1997). In the case that such a client meets partial criteria for one or more personality disorders, the diagnosis Personality Disorder Not Otherwise Specified is given (PDNOS; American Psychiatric Association, 1994). Despite the difficulty with diagnosing these problems and planning treatment, it is clear that such clients experience pain and suffering, and that they would benefit from some type of psychotherapeutic intervention (Klein & Miller, 1994; Perry, Banon, & Ianni 1999).

This paper presents single subject data for the treatment of a client meeting criteria for PDNOS with prominent features of Narcissistic Personality Disorder (NPD) and Histrionic Personality Disorder (HPD). Though the client did not meet full criteria for either of these disorders, it was clear to both the client and therapist that his interpersonal repertoire had caused him considerable disruption in his life for many years. The treatments typically provided to clients meeting criteria for NPD or HPD are psychodynamic, though there is no clear empirical evidence for this choice of therapy. As discussed above, these treatments tend to be longer-term

and focus on interpersonal process (e.g., Andrews, 1984; Nurnberg, 1984). The interpersonal psychotherapy approach used here, Functional Analytic Psychotherapy (FAP; Kohlenberg & Tsai, 1991), allowed the therapist and supervisor to gather data to demonstrate the effectiveness of this treatment for this type of client consistent with other behavioral and cognitive behavioral approaches. The discussion highlights the empirical analysis of client change at an idiographic level.

It should be noted that this is clearly not an efficacy trial or controlled outcome study for the therapy used in this study. There are confounds in the study that prevent either generalization to a larger sample of individuals with all types of problems or the conclusiveness of findings offered by a controlled experimental design. The potential strength of this study and its place in clinical literature is twofold. First, it describes the use of a straightforward methodology that can be easily utilized by therapists in practice or research settings to treat clients who do not fit criteria for outcome studies. Instead, this is an effectiveness study for a client who cannot be treated by any known empirically supported treatment (EST; see for example Chambless and Ollendick, 2000). Second, these data are offered as demonstration for the clinical change that occurred for this client using an interpersonal psychotherapy and a methodology to assess that change.

BRIEF OVERVIEW OF FUNCTIONAL ANALYTIC PSYCHOTHERAPY

The following overview is provided as a background to understand the treatment and rationale for using Functional Analytic Psychotherapy with the client described below. The overview is brief, and readers are directed to the articles referenced in the text for a more thorough explanation of this therapy.

Functional Analytic Psychotherapy and Clinically Relevant Behaviors

Functional Analytic Psychotherapy (FAP; Kohlenberg & Tsai, 1991; see also Callaghan, 1996; Callaghan, Naugle, & Follette, 1996; Follette, Naugle, & Callaghan, 1996; Kohlenberg, Hayes, & Tsai, 1993; Kohlenberg & Tsai, 1995) is an interpersonally oriented psychotherapy that uses basic, behavioral concepts to specify the process of clinical change as a function of the therapeutic relationship. This therapy is especially helpful with client problems that are interpersonal in nature. The two key assumptions of psychotherapy from a Functional Analytic Psychotherapy perspective are (1) the problems clients experience with others outside of session can also occur during the session with the therapist, and (2) the therapist has direct access and the best ability to help change client behaviors that occur during the therapy hour. While a focus on client behaviors that occur

in-session is not new, Functional Analytic Psychotherapy differs from traditional psychodynamic approaches in that it requires the therapist to directly consequate client problem behaviors as they occur. In-session client behaviors are assumed to be examples of the same interpersonal problem (or effective) behaviors that occur in other relationships and are not considered instances of neurotic defenses to be worked through as part of transference.

As discussed below, the therapist's task in this treatment is not to interpret or provide insight about these problem behaviors, but to respond to them as they occur, shaping more effective client interpersonal behaviors. These interpersonal responses comprise a broad repertoire of behaviors. Traditional behavioral approaches such as social skills or assertiveness training focus on very specific behaviors. These approaches do not provide a complex enough constellation of behaviors for clients with a pervasive pattern of interacting with the world that are associated with personality disorders.

FAP therapists identify three types of client responses that occur in the therapeutic relationship, called Clinically Relevant Behaviors (CRBs). The first type of Clinically Relevant Behaviors (CRB1s) are problem behaviors that occur in-session and represent those interpersonal difficulties the client has with the therapist as well as with others outside of therapy. In-session client improvements are termed CRB2s, and these behaviors indicate improvements with the therapist. The goal remains to help the client generalize these improvements to relationships outside of therapy. Another type of improvement that a client engages in is a description of the variables responsible for the client's problem and improved behaviors (CRB3s) that allow the client to be more successful in meeting his or her goals. Clinically Relevant Behaviors of the third type are not the same as traditional definitions of insight in that the client must specify what gave rise to and sustains the behavior for it to count as this type of Clinically Relevant Behavior. The hypothesized mechanism of client change in Functional Analytic Psychotherapy is the therapist's response to Clinically Relevant Behaviors in-session. The therapist attempts to identify then respond to these client behaviors as they occur by punishing or failing to support problem behaviors and by prompting and reinforcing client improvements in-session.

Clinically Relevant Behaviors are groups, or classes, of behaviors defined idiographically for each client and his or her goals for treatment. These CRBs are grouped based on their similar effect on others, regardless of the form or appearance they take. For example, a client feeling lonely, isolated, or depressed may have difficulties talking about how he or she feels toward other people, particularly when doing so serves to develop a desired level of intimacy or trust between the client and another person. This client may engage in a variety of responses both during session and outside therapy that serve to distance him or her from others. These behaviors could include crying, making jokes, changing the subject, or any number of topographically diverse responses that serve to decrease the closeness that he or she feels with another person. Regardless of how these behaviors appear,

in this case if they have the end result of making the client less close to others, they are understood as one class of behaviors.

When the client engages in a more effective behavior (CRB2), the therapist responds to the client by reinforcing or supporting that behavior and then conveys how much more effective that behavior is. Responses to more effective client behaviors should be representative of what others would do outside of treatment. For example, if the client described his or her level of discomfort in making a request for social support from the therapist, then the therapist would attempt to reinforce this response naturally by providing that support and possibly commenting on how easy it is to be supportive when the client makes a clear request.

Again, the assumption of Functional Analytic Psychotherapy is that the problems the client has with others outside of therapy will occur during the session with the FAP therapist. Provided the client wishes to gain more interpersonal closeness, and that this will help with the client's problems of social isolation, then the above behaviors are considered problems. When these problem behaviors occur in-session, they require the therapist to respond to the impact that these behaviors have on the therapist, given the client's goals for therapy. The therapist provides feedback to the client about how that behavior affects the therapist and then attempts to evoke a more effective response from the client. In the case above, the therapist might try to see if the client can experience interpersonal closeness while conveying his or her feelings to the therapist about discomfort, happiness, or whatever he or she is feeling. In this therapy client improvements are defined relative to that client (i.e., idiographically). An improvement for a client is assessed relative to the changes that the client has made in the direction of his or her goals. More improvements in any session, particularly in comparison to problem behaviors the client engages in, indicate greater benefit to that client.

In the initial assessment sessions of Functional Analytic Psychotherapy, the client describes his or her goals for treatment. With the therapist, these goals are specified as behaviors that the client would need to engage inside and outside of session. Clinically Relevant Behaviors are also defined by what the therapist observes in-session during interactions with the client, particularly in the early sessions of therapy. In many ways, then, the early assessment of in-session problems and improvements serves as an initial baseline to compare progress over treatment.[1] These behaviors are observable in-session, are capable of being documented using a behavioral coding system, such as the one described below, and demonstrate changes over time.

To denote behaviors that are clinically important which occur outside of session, Functional Analytic Psychotherapy researchers use the terminology Outside Problems (O1s) and Outside Improvements (O2s). These behaviors are the same

[1]The difficulty with using Clinically Relevant Behaviors as a baseline measure can lie with how early the therapist evokes them in treatment. A more skilled therapist may evoke many in-session behaviors quite early, while a novice therapist will evoke them later in treatment.

functionally (and sometimes even topographically) as those Clinically Relevant Behaviors described above. The therapist, however, does not directly observe Outside Problems and Outside Improvements; the client reports them after the fact. In this way they are not consequated in-session directly by the therapist, but the therapist does verbally support improvements and assists with problem solving as needed. The therapist's response to Outside Problems and Outside Improvements (denoted as RO1 and RO2, respectively) is considered generally supportive therapy, and is not specifically Functional Analytic Psychotherapy. These outside of session behaviors can provide indices of the generalization of client change from in-session improvements to out-of-session, provided the therapist asks the client directly about those changes.

Coding Client and Therapist Behaviors

The description above illustrates two issues central to FAP. The first is the need to understand client problems and improved behaviors idiographically. The second involves the importance of the therapist responding to client behavior in-session, as each behavior occurs. This second issue is assumed to be the primary mechanism by which clinical improvement occurs and has been investigated using a coding manual developed to assess client and therapist behavior (Callaghan, Linnerooth, Ruckstuhl, & Follette, 2002).

Because Functional Analytic Psychotherapy is rooted in a behavior analytic tradition, the therapy readily lends itself to empirical examination. While the factors in any interpersonally oriented treatment are complex and outcomes are multiply determined, an analysis of specified client and therapist behaviors can yield important information about the impact that treatment has on the client both in and out of the therapy session. The Functional Analytic Psychotherapy Rating Scale (FAPRS; Callaghan, 1998) was developed to document client and therapist behaviors over the course of FAP treatment sessions. One of the primary advantages of the FAPRS is its ability to reliably identify the purported mechanism of clinical change in Functional Analytic Psychotherapy, the therapist's responses to in-session client behavior. Research on multiple therapist-client dyads using multiple different raters indicates that the FAPRS system is very reliable (Callaghan et al. 2002). The hypothesized mechanism of change for Functional Analytic Psychotherapy can be documented by coding sessions using the manual. These codes can then be examined with lag sequential analysis to determine if the data indicate that the therapist responds to the client as the treatment stipulates. Using descriptive and basic nonparametric statistics, comparisons can be made over the course of a session or the entire length of treatment between frequencies of in-session problem behaviors and improvements to determine the effectiveness of the therapy for that case.

Codes Used in the Present Study

The following discussion details the types of behaviors examined in Functional Analytic Psychotherapy. Codes that occurred in this study include those client behaviors that are both FAP-specific in-session behaviors (in-session problems and improvements, CRB1s and CRB2s) and outside of the therapy room behaviors (Outside Problems and Outside Improvements). A code of Client Session Progression (CRR) was used to identify any client behavior not captured by the definitions and examples provided for CRB and Outside codes. Specific definitions of improvements and problems for this client are provided in the section below on case conceptualization. Therapist codes observed in this study include FAP-specific responses to in-session client behaviors and verbal reports of outside behaviors. Therapist codes include Therapist Responds to Clinically Relevant Behavior that are problems for the client (TCRB1), responses to client improvements (TCRB2), and responses to the client descriptions of important variables impacting the client's behavior (TCRB3). Therapist behaviors that are made in response to client Clinically Relevant Behaviors are not inextricably tied to the client behavior that immediately preceded it. For example, if the client engaged in an improved behavior in-session (a CRB2), the subsequent therapist turn would not automatically be the corresponding therapist response (Therapist Response to a CBR2). The therapist could do a number of things at this point, including failing to respond to that improvement, changing the subject, or even responding to that client behavior as if it were an in-session problem behavior. Therapist Responses to Clinically Relevant Behaviors (TCRBs) are coded when the therapist responds appropriately and effectively to the client behaviors as they occur. If the therapist misses or otherwise fails to respond to a client Clinically Relevant Behavior when it occurs, the event is coded as a Missed CRB1, 2, or 3 (M1, M2, M3), depending on the type of Clinically Relevant Behavior that the client exhibited. The coding system also defines a code for bringing client behavior into the room, or Evoking a Clinically Relevant Behavior (ECRB), or more plainly, bring the behavior more explicitly in-session between the client and therapist. This code indicates the therapist is attempting to engage in Functional Analytic Psychotherapy when the client is discussing issues that occur outside of therapy. Therapist Session Progression (TPR) is used to identify therapist behaviors not captured by the definitions and examples provided for the codes above.

Table I shows a very brief hypothetical example of a transcribed segment between a client and therapist that was coded. There are typically over 150 floor-changes, or turns, when one person is speaking, during a 50-minute therapy session. This example shows how different codes might be applied during a session. In-session problems and improvements (CRBs), outside problems or improvements (Os), as well as the therapist's responses to the client are all based on a conceptualization idiographically tailored to each client.

Table I. Hypothetical Example of Coded Turns Using FAPRS Manual with Partial Transcript of Session (T = Therapist Turn, C = Client Turn)

Code	Transcribed Dialogue
Hypothetical Transcript	
ECRB	T: Tell me how you feel coming in here today
CRB2	C: Well, to be honest, I was nervous. Sometimes I feel worried about how things will go, but I am really glad I am here.
TCRB2	T: That's great. I am glad you're here, too. I look forward to talking to you.
CRB1	C: Whatever, you always say that. (becomes quiet). I don't know what I am doing talking so much.
TCRB1	T: Now you seem to be withdrawing from me. That makes it hard for me to give you what you might need from me right now. What do you think you want from me as we are talking right now?

METHOD

Both client and therapist provided informed consent to examine and code videotapes and to publish the outcome from these analyses. The treatment consisted of 23 50-minute therapy sessions, including the intake session.

Participants

The Therapist

The therapist providing treatment was a 29-year-old Caucasian female completing her degree requirements for a Masters of Science in Clinical Psychology. She was a senior-level graduate student receiving 1 hour of individual supervision each week. The lead author, an experienced FAP therapist, provided the supervision for this case.

The Client

The client, a 30-year-old Caucasian male, sought therapy for a number of problems he had in relationships in his life. At intake the client reported being very sad and distressed. While the assessment interview ultimately revealed the client did not meet criteria for an affective disorder, the client was administered the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) prior to the intake and at termination of treatment. The BDI score at intake was 8, indicating there was no or minimal levels of clinical depression (Beck, Steer, & Garbin, 1988). While the BDI was not sensitive to the client's level of distress, it was given again at termination, just as a point of comparison across

treatment. The posttreatment BDI score was 4. Given the idiographic nature of the conceptualization and treatment approach, no other standardized assessments were administered during treatment; however, considerable process and outcome data are provided below.

At intake, the client evidenced features of both Narcissistic and Histrionic Personality Disorders, but he met full criteria for neither one of these, nor did one of the classifications appear to capture all of the interpersonal deficits presented by the client. With respect to Histrionic Personality Disorder features, the client reported feeling uncomfortable in situations in which he was not receiving a great deal of attention, his style of interaction was provocative, his emotions appeared to shift quickly making it hard for others to know what he was feeling, and he often exaggerated or even inaccurately reported his feelings making it hard for others to respond to him. The client also evidenced features of Narcissistic Personality Disorder in that he exhibited unreasonable expectations of others and appeared to expect others to automatically comply with his expectations, he lacked empathy or recognize the feelings of others as reasonable, and he displayed arrogant behaviors towards others.

The client reported that his goals for seeking therapy were to form better relationships with others and to develop the skills to enter and maintain a close intimate relationship. The client stated he desired stability in his life, but was unclear why he was unable to maintain good relationships. Clearly the problems described prevented the client from meeting his goals, but he lacked an understanding of the relationship between his behaviors and his interpersonal problems. At the time of intake, the client asked, "Am I doomed to go through life single?"

The Functional Idiographic Assessment Template

The Functional Idiographic Assessment Template (FIAT; Callaghan, 2000; Callaghan, Summers, & Weidman, 2001) was developed primarily as a way to standardize the assessment process for Functional Analytic Psychotherapy. It defines five classes of interpersonal functioning and specifies instances within these classes that may be particular problems for a client. Instances are specific problems the client has under the general topic of each class. The FIAT was developed in collaboration and consultation with expert therapists and currently represents all behaviors that are a focus of this treatment. Classes in the FIAT are: (1) *Problems with identifying and asserting needs or values*; (2) *Problems with identification and response to feedback and impact on others*; (3) *Problems with interpersonal conflict*; (4) *Problems with disclosing or developing and maintaining a prosocial repertoire*; and (5) *Difficulties with identifying and responding to emotional experience*. An example of a specific instance within a class would be "unable to accurately describe emotional experiences" under the class *Difficulties with identifying and responding to emotional experience.* All of the classes and instances

of client behavior identified in the FIAT ultimately serve to disrupt or prevent interpersonal relationships that clients have with others. The purposes of using the FIAT are to (1) create a common language between therapists conducting Functional Analytic Psychotherapy to promote consistent and accurate communication and ease the continuity of care between therapists, and (2) guide the case conceptualization and specify for the therapist the targeted client behaviors in order to assist therapist responding.

Specific Functional Analytic Psychotherapy Case Conceptualization for This Client

Four classes were identified as being problematic for this client. The first and primary class of problem behaviors [for both in-session problems (CRB1s) and outside problem behaviors (O1s)] was defined as *Difficulties with identifying and responding to emotional experience*. Specifically, this client would engage in inaccurate identification and labeling of his emotional experiences. For example, the client would report or express anger when he felt sad or would laugh when describing painful topics. The client also had a restricted range of emotional expression that tended toward extreme reactions, and he would amplify feelings to produce an effect on others. In addition, the client's report of mood would change quickly, making it difficult for the therapist and others to know how he was feeling. The targets for improved behavior for this class (CRB2s) were to develop the client's skills to accurately identify and label his emotional experiences, to express these feelings clearly to the therapist (and then to others outside of session), and to exhibit a broader repertoire of emotional expression with the therapist and others.

The second group of targeted client problems consisted of *Problems with identifying and asserting needs or values*. The client exhibited difficulties with clearly identifying and requesting what he needed from others. Instead, the client typically would state that decisions made by others were fine but would engage in behaviors to try to change those decisions to better reflect what he would like to have happen without clearly requesting that change. These expressions of dissatisfaction were often sarcastic, and the client would deny that he wanted things done differently. Often times, the client reported that he expected others to know his wishes without having expressed them. Improvements for the client with respect to this class occurred when he clearly identified what he wanted from others and then made a direct request for that. If the client were questioned about wanting something different from the therapist or others, an improvement would occur if the client acknowledged this were the case, even if he was unclear what he desired to occur.

Another important targeted class of responding for this client entailed the client's *Problems with identification and response to feedback and impact on others*. This client was largely insensitive to the impact he had on others, engaged

in excessive self-focused talk, and often left listeners feeling uninvolved in social interactions with him. Often the client reported that he already knew what others would say and displayed a lack of interest in what the other person actually said. The client was both unaware of his aversive impact on others and was unclear about how to engage in any other, more effective, responding. Improvements for this client were those behaviors the he engaged in that demonstrated his awareness and attempts to notice his impact on others. The goal was not to create a hypersensitivity to his impact, but to recognize when his impact may be one that distances others and to engage in a different response if he so chose.

The last class of problems concerned the client's *Problems with disclosing or developing and maintaining a prosocial repertoire*. This set of problems included the client engaging in a restricted range of over-practiced responses with the therapist and others. Doing this tended to make the client appear superficial and less interested in a social interaction, even when this was not at all the case for him. The client also assumed that he knew what others were thinking about him instead of asking them. Improvements in this area included more spontaneous interactions, asking others their thoughts, and being interested in what they had to say.

Coding Client Behavior to Demonstrate Clinical Improvement

The FAPRS coding system provides a mechanism to empirically demonstrate whether or not this client improved as a function of the treatment he received. If a client begins his or her therapy evidencing interpersonal problems, the client will demonstrate lower frequencies for codes of effective behaviors and more codes for ineffective or counterproductive behaviors. In Functional Analytic Psychotherapy, this would appear as a higher frequency of problem Clinically Relevant Behaviors (CRB1s) and Outside Problems (O1s) and a low frequency of improved Clinically Relevant Behaviors (CRB2s) and Outside Improvements (O2s). Effective behaviors, CRB2s and CRB3s and Outside Improvements, should increase over the course of therapy. As described above, a comparison of effective and ineffective client responding can be made across treatment sessions to demonstrate whether the client's skills are improving. This simple comparison employs a chi-square analysis of frequencies to demonstrate the changes in responding across sessions. Both the therapist and author coded the therapy sessions. A check on percent agreement between coders yielded a satisfactory level of agreement (percent agreement averaged 86% across coded sessions).

Lag Sequential Analysis

Lag sequential analysis is especially useful for non-parametric data (e.g., Bakeman & Gottman, 1986; Gottman & Roy, 1990) and was conducted to demonstrate the therapist responded contingently to the client's in-session behavior as

required by Functional Analytic Psychotherapy. Lag sequential analysis begins with the base rate frequencies of a targeted event (a simple frequency count of the number of times the behavior occurs) and compares these with their occurrence following some other event. This difference of the targeted behavior following a given antecedent event from the base rate of that behavior is reported as a *z*-score. For example, if FAP is occurring as specified by the model, a therapist should engage in a response to a client in-session problem behavior, or CRB1 (coded as TCRB1) more often when a client problem has actually occurred relative to the base rate of TCRB1s. The therapist should also engage in a TCRB1 following a CRB1 and not following another client behavior such as a client improvement (CRB2), which would serve to punish the client's change in-session. The number of the lag (e.g., lag 1 or lag 3) simply refers to the position of the targeted behavior following the antecedent event. For instance, a *z*-score for a lag 1 therapist TCRB1 refers to the likelihood that the TCRB1 occurs after one client turn of CBR1. A *z*-score for a lag 3 therapist TCRB1 refers to the likelihood that the TCRB1 occurs after two client turns, where the first of those was a CRB1. One interesting question here is whether the therapist responds to a CRB1 two turns after the CRB1 (i.e., at lag 3), if the therapist did not respond immediately following the turn (i.e., at lag 1). Demonstrating the serial dependence of behaviors provides statistical evidence of the linkage between one's behavior and the subsequent behavior by the other person.

Selection of Sessions and Segments

Four sessions were sampled and coded from the 23 treatment sessions. The first and second sessions entailed intake and case conceptualization, so beginning with session 3, every sixth session was coded. Session 22 was coded because the videotaping for session 21 was faulty. Therefore, data are presented for sessions 3, 9, 15, and 22. Fifteen-minute segments were coded from each session. Coding of each segment began 10 minutes after the beginning of the session to minimize coding only initial session talk. The four 15-minute segments yielded a total of 197 client and therapist turns (average of 49 turns per segment). Because the number of client and therapist responses are different for each segment, data for each session are presented as a proportion of responding (e.g., the number of client behaviors for each code divided by the total number of client behaviors for that segment).

RESULTS

Analysis of Improvements Across Treatment

Data for in-session problems and improvements are summarized into broader categories of therapist effective Functional Analytic Psychotherapy response and as therapist problem responses, respectively, and are presented graphically in Fig. 1.

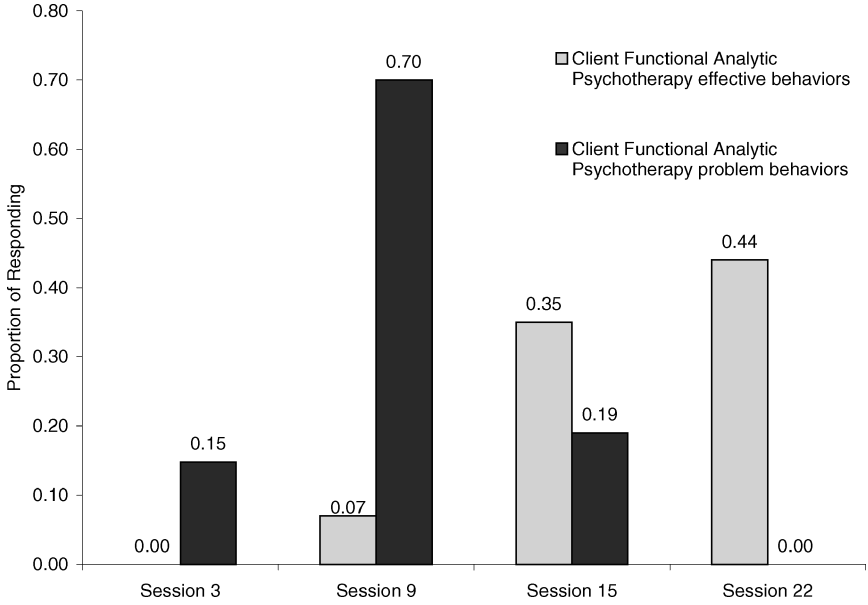

Fig. 1. Changes in client Functional Analytic Psychotherapy behaviors over treatment.

CRB2s and CRB3s are combined in Figure 1 to show the total client in-session improvements relative to problems. Figure 1 demonstrates that the proportion of client improvements increase and client problem behaviors decrease over the course of therapy. The rise in frequency of problems from sessions 3 to 9 demonstrates the increased focus on in-session behaviors during the progression of Functional Analytic Psychotherapy. Because there were so few CRB1s in session 3, a chi-square analysis was conducted on the client's problem behavior between sessions 9 and 22 and revealed that the decrease in problem behaviors across therapy was statistically significant; $\chi^2(1, N = 46) = 20.6$, $p < .000$. This can be seen in the observable decreases in in-session problems shown in Fig. 1. The increase of in-session client improvements (CRB2s and 3s) shown in Fig. 1 was also significant; $\chi^2(1, N = 43) = 14.1$, $p < .000$.

The occurrence of outside of session problems and improvements discussed during therapy were infrequent in the coded sessions. While there are too few data to analyze statistically, the trend is consistent with the improvement shown in-session. The number of reported outside of session problems decreases from 7% of client responding in session 3 to not occurring at all in session 22. Similarly, the rate of outside improvements increases over time from not occurring at all in session 3 to 13% of client behaviors in session 22.

The proportions of specific therapist responding to in-session client behavior are graphically depicted in Fig. 2 at a global level of Functional Analytic Psychotherapy effective and ineffective therapist behaviors. Figure 2 demonstrates

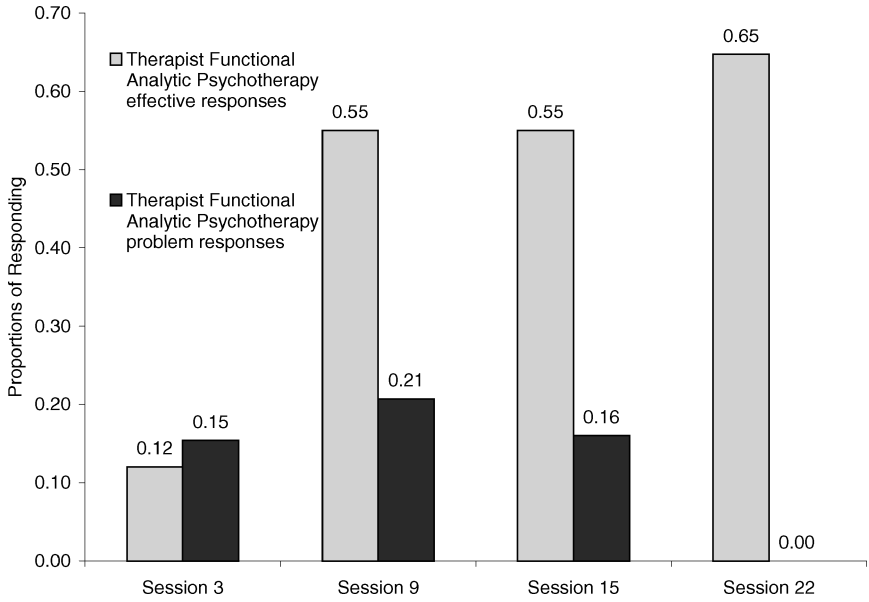

Fig. 2. Changes in therapist Functional Analytic Psychotherapy responding over treatment.

that the therapist was responding more effectively to and evoking Clinically Relevant Behaviors (codes TCRB1, 2, 3, and Evoke CRB) in sessions 9, 15, and 22 compared to therapist ineffective responding. Figure 2 is consistent with the data in Fig. 1 that very little FAP occurred in session 3. The therapist missed or did not respond to very many of the client problem behaviors (CRB1s) that occurred in-session and engaged in very few other Functional Analytic Psychotherapy behaviors (FAP ineffective responses).

Summary of Client Report of Clinical Improvement

The client improved considerably during his treatment. These improvements occurred in-session with the therapist, and they generalized outside to relationships the client had or developed with others. Consistent with the data discussed above, overall, the client improved his ability to maintain and create meaningful relationships. He was able to better discriminate what relationships he wanted to be in with others, and what he brings to those relationships. The client exhibited much less dramatic behavior in-session and with others and, by the end of therapy, infrequently focused discussions on himself. His overall aversive responding decreased to an almost nonexistent level, and the client became much more enjoyable for the therapist and others to engage in interpersonally close interactions.

With respect to the specific case conceptualization, the client made substantial improvements in all of classes targeted for this case. In the area of the client's problems with expression of emotional experiences, he learned to accurately identify and label his emotional experiences and to clearly express these feelings with the therapist and with others in his relationships outside of therapy. With the second class of problems, effectively asserting his needs or values with others, the client reported being able to clearly identify and request what he wanted from others in a way that that made it likely he would get his needs met. The client reported an improved ability to appreciate the needs of others while asserting his own requests. In the area of the client's problems noticing his impact on other people, he demonstrated a higher degree of sensitivity to his impact on others and changed his behavior in an appropriate manner. With regard to his general problems with an insufficiently developed prosocial repertoire, the client was becoming much more successful at engaging in more spontaneous interactions with others. The client reported asking others about their thoughts, rather than simply "mind reading" what he thought they would say to him.

Lag Sequential Analysis of Therapist Functional Analytic Psychotherapy Responding

Lag sequential analyses show that the therapist responded to in-session client problems and improvements consistent with the model of Functional Analytic Psychotherapy.[2] The therapist responded effectively to in-session client problems more often following their occurrence at lag 1 ($z = 7.96$) and lag 3 ($z = 5.83$). The therapist effectively responded to these client problem behaviors as often as she missed or did not respond them ($z = 8.34$) at lag 1,[3] ($Z = -0.27$, $p > .05$). However, the therapist responded only to the problems and did not engage significantly in any other response at lag 3 (including missing them), indicating that she often waited one turn to determine what her response would be to the client's in-session problem behavior. Negative z-scores for other therapist responses indicated that she was highly unlikely to ever engage in that type of response following the antecedent event. In the case of client problem behaviors the negative z-scores indicated the therapist was highly unlikely to respond as if these behaviors were improvements ($z = -0.97$) or specifications of relevant controlling variables ($z = -1.79$).

With respect to client improvements in-session (CRB2s and CRB3s), the therapist was more likely to respond effectively to these behaviors than to engage in any other behavior, including missing or failing to respond to a client improvement (TCRB2, $z = 11.68$, M2, $z = 5.17$; TCRB2 vs. M2, $Z = 4.60$, $p < .05$). By these

[2] All z scores are significant using 197 coded events, $p < .05$ when z equals or exceeds 1.96.
[3] Z-scores are compared and calculated using $Z = (Z_1 - Z_2)/\sqrt{2}$ (Rosenthal & Rosnow, 1991).

data it appears the therapist responded effectively to client improvements, though on occasion she did fail to respond immediately to the CRB2 immediately following its occurrence [at lag 3, the therapist responded only to the client improvement ($z = 2.70$) and did not miss this client behavior]. The therapist was more likely to respond to CRB3s than engage in any other type of responding.

Data from these lag sequential analyses are not intended to conclusively demonstrate that the mechanism of Functional Analytic Psychotherapy is responsible for clinical change in all cases. The data are offered here to provide evidence that the therapist was engaging in the therapy as specified by the model. The data provide limited support that the effectiveness of FAP is impacted by the occurrence of the hypothesized mechanism of clinical change, specifically in-session therapist responding.

DISCUSSION

The data from the proportions of responding and the client's self report of improvements outside of session are consistent and indicate the client improved as a result of the treatment. Based on the empirical findings and the client self-report data, both the narcissistic and histrionic behaviors decreased noticeably over treatment. These behaviors were supplanted with a much more effective prosocial repertoire in the areas of emotional responding and relating, asserting needs, noticing and responding to his impact on others, and engaging in more effective interpersonal relationship skills. At termination, the client no longer evidenced problem behaviors sufficient to warrant a diagnosis of Personality Disorder Not Otherwise Specified.

The lag sequential analyses support the assertion that Functional Analytic Psychotherapy occurred as the model of clinical improvement is specified by the therapy. The therapist responded contingently and effectively to client problem behaviors and improvements as they occurred in-session. Taken together, the data indicate that the therapist's responding brought about the client improvement over therapy. That the therapist did not respond to the client's problems immediately after they occurred but more often after another client turn suggests that the therapist may have been determining the function of the client's behavior and deciding what her response would be. This method is also very useful to empirically demonstrate the changes in therapist behavior over the course of a case and the course of their training, data sorely missing in the field of clinical psychology (e.g., Ellis, Ladany, Krengel, & Schult, 1996).

The level of improvement shown with this client is both encouraging and must be taken with the necessary caveats. As described earlier, treatments for personality disorders, particularly those narcissistic and histrionic repertoires, have historically been long-term and have not been empirically demonstrated as effective. These data suggest that Functional Analytic Psychotherapy may be an effective way to

approach the amelioration of these behavioral excesses and deficits and a way of creating new more effective behaviors. Moreover, the empirical approach described above provides a very basic model of consistently demonstrating client outcome for psychotherapy focusing on complex repertoire problems.

Of course, the caveat remains that this is a single-subject design. More data are necessary for a greater number of clients to support the claim that FAP is an effective treatment for these repertoire problems or that the data analytic method used here generalizes to other clients and other therapists. Still, these data are encouraging, and it is the authors' hope this is the first in a line of research demonstrating the effectiveness of this treatment and the utility of demonstrating clinical change at the idiographic level. In many ways an idiographic analysis is the most appropriate level of research to demonstrate the effectiveness of Functional Analytic Psychotherapy as an intervention for any disorder because it allows for a highly detailed examination of specific client variables (e.g., see Kazdin, 1994). We urge readers to consider that this case applies principles that are applicable to a variety of clients and client problems, and that other therapists can utilize the therapy and data analytic methods described here.

With the rise in empirically supported treatments, it is unclear how individuals who do not meet specific diagnostic criteria will be treated. It could be that different components from these technologies will be used to address the specific problems that clients may have, but it will be unclear how to assess changes when they occur as these treatments are dismantled. In this single subject design study, a process-oriented assessment was tied directly to the treatment of specified problem behaviors. This approach allows a variety of complex and hard to specify client deficits to be addressed and evaluated. A detailed analysis demonstrated the effectiveness of therapy for this case in reducing the client's targeted problems and increasing prosocial behaviors in a relatively short course of treatment. The empirical approach described here can be used with a variety of cases with different problems using different interventions. One of the advantages of using Functional Analytic Psychotherapy lies in its ability to specify variables to be used in idiographic assessments as illustrated here.

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