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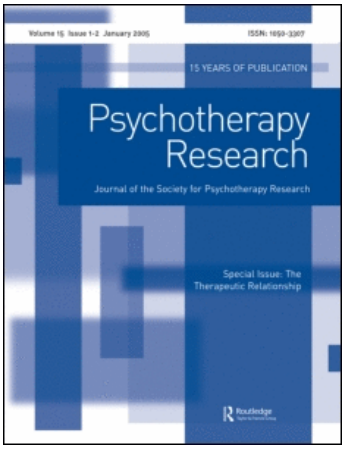

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Affective scripts: A systematic case study of change in psychotherapy

Paul Siegel[a]; Amy Demorest[b]
[a] School of Natural and Social Sciences, Purchase College, State University of New York, Purchase, New York [b] Department of Psychology, Amherst College, Amherst, Massachusetts, USA

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Affective scripts: A systematic case study of change in psychotherapy

PAUL SIEGEL[1] & AMY DEMOREST[2]

[1]*School of Natural and Social Sciences, Purchase College, State University of New York, Purchase, New York &* [2]*Department of Psychology, Amherst College, Amherst, Massachusetts, USA*

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Abstract
This article presents a systematic case study of maladaptive interpersonal schemas. These schemas are conceived of as *affective scripts*, or sequences of behaviors that regulate emotion in interpersonal relationships. Part I presents a test of the method for identifying affective scripts. Independent raters applied FRAMES (Fundamental Repetitive and Maladaptive Emotion Structures; Hoelzer & Dahl, 1996) to a representative sample of transcripts of a long-term psychotherapy. Empirical checks of each assessment procedure verified the identification of five maladaptive scripts in hundreds of narratives and enactments with the therapist. In Part II, these scripts were tracked across treatment to identify adaptive changes. Statistical analyses indicated a reduction in maladaptive scripts and an increase in adaptive changes. The evolution of the most pervasive script is described in detail. Strengths and weaknesses of the method are discussed.

Keywords: process research; qualitative research methods; interpersonal schemas; scripts; FRAMES; transference

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In the beginning of psychotherapy, it seems like patients have myriad stories to tell about their difficulties with others. In interpersonal situations that tend to activate their personality pathology, it eventually becomes evident that there are really only a handful of basic stories to tell. The characters and settings change, but, as the saying goes, "The story remains the same." Indeed, it becomes clear that the clinician is no less susceptible to being viewed by the patient, sooner or later, as playing similar roles in similar dramas time and again (Freud, 1912/1958; Luborsky & Crits-Christoph, 1990; Sullivan, 1953).

A variety of theories in the social, personality, and clinical literatures propose that the mechanism that underlies such repetition is an interpersonal schema: organized knowledge about the nature and sequence of motives, cognitions, feelings, and actions in a self–other relationship (e.g., Baldwin, 1992). Interpersonal schemas are considered central to the study of personality pathology and change in psychotherapy (Demorest, Crits-Christoph, Hatch, & Luborsky, 1999; Horowitz, 1991; Westen, 1991). Methods for assessing such schemas in life narratives are based on a variety of templates composed of prototypical sequences of "self" and "other" components (e.g., the wish/response of other/response of self template of Luborsky and Crits-Christoph's, 1990, core conflictual relationship theme). This article demonstrates an alternative approach for understanding interpersonal schemas and for assessing their person-specific structure and change in psychotherapy.

Template methods allow investigators to focus on those schema components that they deem salient and to expedite the assessment of schemas (Luborsky & Crits-Christoph, 1990; Horowitz, 1991; Schacht & Henry, 1994). A limitation of such methods is that they assess interpersonal schemas according to a predetermined structure (Demorest & Siegel, 1996; Luborsky, personal communication, June 1999). A match between patterns derived from different narratives may reflect the structure of the template rather than one intrinsic to an individual's patterns. In its strong sense, an interpersonal schema is a script that indicates the specific sequence in which various events occur (Abelson, 1981). For example, in Mischel and Shoda's (1995) influential social-cognitive theory, the cognitive-affective personality system, behavior is scripted from interpersonal perception to cognition, emotional experience, and action:

> The rejection-sensitive person who wants to spend time with his partner is likely to perceive a

This article is dedicated to the memory of Dr. Hartvig Dahl, the creator of FRAMES.

Correspondence concerning this article should be addressed to Paul Siegel, School of Natural and Social Sciences, Purchase College, State University of New York, 735 Anderson Hill Road, Purchase, NY 10577, USA. E-mail: paul.siegel@purchase.edu

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> partner's "need for space to devote more time to work" as a sign of potential rejection. In turn, fears of abandonment, feelings of anxiety, and impulses of anger become activated internally and expressed in aggressive behavior *in a distinctive sequence* . . . *If* (the person) sees himself as being rejected, *then* he thinks about abandonment, feels panic, and erupts with anger, aggression, and insults against his partner. (Mischel, Shoda, & Smith, 2004, p. 283)

The patterns of maladaptive behavior that characterize an individual's personality pathology are "distinctive sequences" of interpersonal behavior, or *interpersonal scripts*. While the construct of interpersonal scripts has been seminal in theories of personality (Alexander, 1990; Demorest, 1995; Mischel & Shoda, 1995; Murray, 1938/1962; Tomkins, 1987), there has been little research on identifying them because scripts require assessment according to a person-specific rather than an a priori structure (Demorest et al., 1999). Although such a method of assessment would provide a more clinically sensitive measure of interpersonal schemas, those that have been developed typically involve interpretation of an individual's words before sequencing them as narrative events (Alexander, 1990; Dahl & Teller, 1994; Demorest & Siegel, 1996). In addition to placing high demands on the skill of the interpreter, the lack of standard categories to code narrative events has made it difficult to establish interrater reliability. A script method that incorporates standard categories would standardize narrative content and provide specificity in sequenced events, making it more systematic and potentially reliable.

Hoelzer and Dahl (1996) introduced a method for assessing interpersonal scripts that combines these virtues of coding narrative events with standard categories and sequencing them according to the plot of a story. FRAMES (Fundamental Repetitive and Maladaptive Emotion Structures; Dahl & Teller, 1994; Siegel, Sammons, & Dahl, 2002) is a potentially useful measure of personal consistency and change in interpersonal schemas. Unlike other methods that sequence narrative events to develop person-specific scripts, standard content categories are used in order to code narrative events for interpersonal behaviors. The result is a representation of an interpersonal schema with idiographic structure but nomothetic content: a specific sequence of standard categories—a coded sequence—that uniquely identifies a maladaptive pattern. Thus, the pattern can be systematically tracked across psychotherapy.

While FRAMES has been clinically illustrated in particular sessions of a number of psychotherapy cases (Dahl & Teller, 1994; Siegel & Sammons, 1999), it has yet to be used in empirical research. In this article, it is employed in a two-part systematic case study of the archival psychotherapy of Mrs. C. Part I presents a test of FRAMES itself as applied to hundreds of narratives and interactions with the therapist in this case. Rigorous empirical checks are used to test independent verification of scripts. Part II tests whether change occurred in these scripts across Mrs. C's 6-year psychotherapy. Prior studies of this case have employed nomothetic measures, most notably Jones and Windholz's (1990) groundbreaking Q-sort study, which provided the first reliable battery of clinically relevant characterizations of the state of a psychotherapy. As Jones and Windholz pointed out, a Q-sort study "cannot provide complete information about the content (of sessions) . . . what was actually talked about" (p. 1012). The current study builds upon Jones and Windholz's Q-sort study of Mrs. C by examining a clinically relevant dimension of this content.

Theoretical Framework: Personality Psychopathology as Affective Scripts

A number of theories of personality psychopathology hold that emotion is the primary dimension of schematization of maladaptive patterns of interpersonal behavior (e.g., Bowlby, 1973; Linehan, 1993; Mischel & Shoda, 1995; Sullivan, 1953). Behavior is scripted in order to regulate distressing emotions that arise in interpersonal interaction at the ultimate expense of interpersonal effectiveness. For example, in the illustration of the "rejection-sensitive" person, the anxiety and panic elicited by the rejection of one's desire to be close is coped with by becoming enraged. We refer to such sequences of affectively charged behavior as *affective scripts* (Demorest & Alexander, 1992). Such scripts are "affective" in two basic respects: They concern one's motives vis-à-vis others and their emotional consequences for the self, which depend on how others respond to them.

FRAMES represent the maladaptive affective scripts that underlie the repetitive stories that patients tell about their life experiences and relive with the therapist. For instance, the description of the rejection-sensitive person would be represented as: I want to spend time with my partner → My partner rejects me → I feel abandoned and feel anxious → I get angry and aggressive. The arrows indicate the order in which these events have been sequenced according to the plot of a narrative. As a FRAME structure, this script would be represented in terms of standard categories of interpersonal behavior (presented later), recur with significant others in the person's life (e.g., not only one's

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partner but also one's mother), and relate directly to the complaints that brought the person to psychotherapy (e.g., anxiety).

Affective scripts are believed to form in an individual's intimate relationships that involve managing difficult and distressing emotions (Demorest, 1995; Linehan, 1993; Tomkins, 1979, 1987). In Tomkins's (1979, 1987) classic theory, scripts are guides that form in order to anticipate and cope with such emotions in particular. Although affective scripts are originally constructed from specific emotional interactions, they become general rather than specific so as to function as a personal model for how to manage similar interactions in the future, indicating what the person should expect to occur (Demorest, 1995). Although a script may thus originally serve this adaptive function, it becomes maladaptive when subsequently brought to bear upon other interactions to which it does not apply. In the example of the rejection-sensitive person, reacting with fury when distressed by the rejection of a significant other might have originally proven effective with a childhood caregiver, but it probably won't work as well with a spouse or a boss.

FRAMES represent affective scripts that have generalized and rigidified well beyond the particular interactions for which they were originally designed. Thus, they are maladaptive not only by virtue of their association with unpleasant outcomes but especially by virtue of their relative inflexibility. Why would a person continue to engage in such patterns of behavior even when they result in undesirable outcomes with others? The function of such scripts is still to regulate distressing emotion. The rejection-sensitive person becomes furious when he perceives that his wish for closeness is rejected because it serves to protect him from emotional harm (i.e., feeling abandoned and anxious). Given that the person is prone to perceiving rejection of his wish for closeness, this sequence of affective behavior is likely to be repeated with others because the coping response of becoming angry is negatively reinforced by eliminating emotional distress. FRAMES thus become overlearned and automatic patterns of behavior that tend to persist. This example also illustrates how FRAMES involve interpersonal processing and behavior associated with psychopathology: the perception of one's partner's "need for space" as rejection creates much anxiety, and the consequences of the ensuing fury (eventually, actual rejection) are likely to be depressogenic.

Originally, FRAMES referred to maladaptive sequences of emotion expressions (or "emotion structures"; Dahl & Teller, 1994). For some researchers, this conception lacked a coherent theoretical basis because it was not clear why maladaptive patterns of behavior would consist of only emotions. There was an attending problem with the method for identifying FRAMES because it relied on a coding system of 12 emotion categories (Dahl, 1995) that did not fit most researchers' definitions of emotions (e.g., Davidson, 1992; Ekman, 1992; Izard, 1977; Plutchik, 1980). Development and application of the method showed that the events that compose FRAMES were not only emotions but a variety of affectively charged behaviors that express the wishes of the self/others and their emotional consequences, including perceptions of, thinking and feeling about, and actions of the self/others (Siegel et al., 2002). For example, the rejection-sensitive person *wants* to be close to his partner (his primary wish), *perceives* that his partner does not feel similarly (his partner's wish), *believes* that his partner is abandoning him and *feels* anxiety and panic (cognitive and emotional responses to his partner's wish), and *acts* aggressively as a result (his ensuing wish to hurt his partner). Thus, we regard FRAMES as interpersonal scripts of affective behaviors.

In Part I of this case study, independent raters used FRAMES in an attempt to identify a patient's distinctive interpersonal scripts in a representative sample of sessions of a long-term psychotherapy. As developed next, empirical checks were used to test each step of the method.

Part I: Testing the Method

A common criticism of assessments of a patient's maladaptive patterns is that they are not arrived at in ways that allow for their falsification (e.g., Horowitz, 1991; Spence, 1982). In order for such claims to be falsifiable, a narrative-based method of personality assessment should include standardized procedures to accomplish three tasks (Demorest & Siegel, 1996):

1. *Identification of patterns*. Systematic procedures should be used to identify patterns in independent narratives. To avoid the aforementioned pattern-matching bias, patterns should be identified according to the specific sequences, or scripts, in which they are narrated.
2. *Verification of patterns*. This should be tested by assessing the agreement of independent raters with respect to each systematic procedure.
3. *Pattern matching*. The final task is to test repetition of patterns with a procedure for matching patterns derived from different narratives.

The method of the current study is presented next in terms of the standardized procedures and

empirical checks that were used to meet each of these standards.

Method

Case. The data are fully transcribed sessions from the archival psychotherapy of Mrs. C (cf. Jones & Windholz, 1990). This case was selected for several reasons. It is one of a handful of long-term psychotherapies (1,100 session hours over a 6-year period) that was audio-recorded in its entirety, more than one third of which has been transcribed verbatim. A multiyear psychotherapy provided a comprehensive sample of maladaptive patterns and set the stage for longitudinal studies of change in patterns (cf. Jones & Windholz, 1990). This case has also been studied using a number of different methods, which sets the stage for comparative studies.

Like other studies that assess maladaptive patterns across a long-term psychotherapy (e.g., Jones & Windholz, 1990; Weiss & Sampson, 1986), a stratified sample of session blocks at regular junctures was used. Like these studies, session blocks at the very beginning and at the very end of treatment were deliberately selected in order to assess maladaptive patterns longitudinally. The remaining seven blocks of sessions were randomly selected, approximately 9 months apart. To test clinical theories of personality pathology and change in future studies, five additional sessions were selected that figured prominently in a clinical case study of Mrs. C (Hours 8 and 38; Dahl, 1991) or corresponded to a period of treatment highlighted by the aforementioned Q-sort study (Hours 726–728; Jones & Windholz, 1990). Sessions were assigned code numbers by the case archivist so that raters were blind to session number and the order in which sessions occurred. The data sample consisted of nine blocks, totaling 39 sessions: Block 1 included Sessions 1–4, 8, 38; Block 2, Sessions 91, 95, 97, 100; Block 3, Sessions 259, 261, 264, 267; Block 4, Sessions 430, 433, 435, 437; Block 5, Sessions 597, 600, 602–604, 600–604; Block 6, Sessions 726–728; Block 7, Sessions 766, 768, 769, 772, 774; Block 8, Sessions 937, 941, 943, 945; and Block 9, Sessions 1111–1114.

The second of four children born to a housewife and a professionally employed father, Mrs. C was an attractive social worker in her late 20s who had been married for about 2 years to a successful businessman when treatment began. She had myriad complaints at the beginning of treatment, including generalized feelings of insecurity and low-self-esteem, a lack of emotional support from significant others, especially her parents and husband, feeling controlled by these same people, and general inability to speak out on her own behalf. Mrs. C was particularly dissatisfied with her marriage, which was marked by excessive anger, fighting, and sexual difficulties. As described by Weiss and Sampson (1986),

> Mrs. C sought treatment at the insistence of her husband, who had threatened to divorce her if she did not overcome her sexual difficulties. She did not enjoy sex, did not have orgasms, and indeed was reluctant to have intercourse. There were other complaints as well. She was unable to relax and enjoy herself, felt tense and driven at work and at home, was very self-critical, and worried whenever she made even a minor mistake. Mrs. C experienced herself as emotionally constricted, inhibited and fearful in her behavior. She felt she was unable to hold her own opinions, that she did not have the strength of her own convictions. Especially difficult was disagreeing with either her parents or her husband. She was uncomfortable with her co-workers and her clients, especially her female clients, with whom she believed herself to be overly strict and impatient. (pp. 155–156)

A clinical case study of Mrs. C's psychotherapy regarded a tendency to provoke fights with men, particularly her husband, as the predominant aspect of her personality psychopathology (Dahl, 1991). The primary transference pattern was a similar endeavor to provoke the therapist: "Her freedom was to disagree, to criticize, to be antagonistic, to fight (with the therapist), in short, to be as aggressive and uncaring for the consequences as she had described her own parents in Hour 1 . . . Now in the transference relationship, she had finally gotten her revenge" (pp. 150–151). Attending experiences of feeling unaccepted by men figured prominently in such episodes. Mrs. C's therapist, a Caucasian male in his 50s, was a psychiatrist with postdoctoral training in psychoanalysis.

The patient's permission was obtained on tape before the beginning of the treatment more than three decades ago. In the transcripts, all proper nouns have been replaced by arbitrary codes, and in publications sufficiently general descriptors are substituted for them (e.g., "friend at work"). Each transcript has a note about confidentiality of the data at the beginning. Permission for publication was obtained from the archivist of the case of Mrs. C.

Measure. The FRAMES method consists of four standardized procedures (Hoelzer & Dahl, 1996), summarized and illustrated next.

1. Narrative segmentation. Hoelzer and Dahl (1996) suggest the use of an object map for this purpose. This map is a table with columns

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representing each object (usually a person) the patient talks about, and a cell entry in each row indicating the paragraph and sentence numbers referring to that object. This device is useful for locating larger segments of a psychotherapy transcript that are devoted to a particular person. Such segments are usually short stories about various significant others that can be coded and analyzed independently. Sample object maps can be found in Hoelzer and Dahl (1996) and Siegel et al. (2002).

2. Coding expressions of affective behaviors with standard categories. For coding purposes, a "behavior" is defined as the smallest unit of a sentence that clearly expresses the behavior. This unit would be a single word in the case of an emotion label, or in the case of a behavioral action it could be a phrase, clause, interjection, or the entire sentence. The standard categories that are used to code patient expressions for affective behaviors are based on three classic dimensions of psychological experience: it/me, positive/negative, and active/passive (e.g., Benjamin, 1974; Descartes, in Stone, 1980; Freud, 1915). Each of these dimensions is bifactorial, yielding 2^3, or eight, categories (Figure I). Interrater reliabilities associated with coding behavioral expressions with these eight categories have been high; kappa values typically range from .70 to .85 (Siegel et al., 2002; Siegel & Sammons, 1999).

There are two basic categories in this taxonomy: "IT" behaviors, in which the focus is on an external object rather than the self, and "ME" emotions. IT behaviors and ME emotions represent the two aforementioned dimensions of affective scripts: respectively, wishes vis-à-vis others and the emotional consequences for the self, depending on how others respond to them. The top half of Figure I displays the categories of IT behaviors (Categories 1, 2, 5, 6), which are used to code behaviors that express wishes about others, including interpersonal and mental actions that express wishes, such as thoughts and feelings about others. The bottom half displays the categories of ME emotions (Categories 3, 4, 7, 8), so called because they represent emotional states of the self that provide feedback information about how wishes in relation to others are proceeding (i.e., their status of satisfaction/nonsatisfaction). IT behaviors and ME emotions comprise an affective information processing system that is the implicit rationale of interpersonal management (Dahl, 1991). We engage in interpersonal behaviors on behalf of our wishes, or IT behaviors (e.g., the rejection-sensitive person's desire to be close to his partner). Depending on how others respond to our wishes (e.g., the partner rejects the person), we subsequently experience either positive or negative emotional states that signal the extent to which our wishes are being satisfied, or ME emotions (e.g., the person experiences anxiety and panic). Other IT behaviors may subsequently arise, in turn, that represent self-protective measures against unpleasant ME

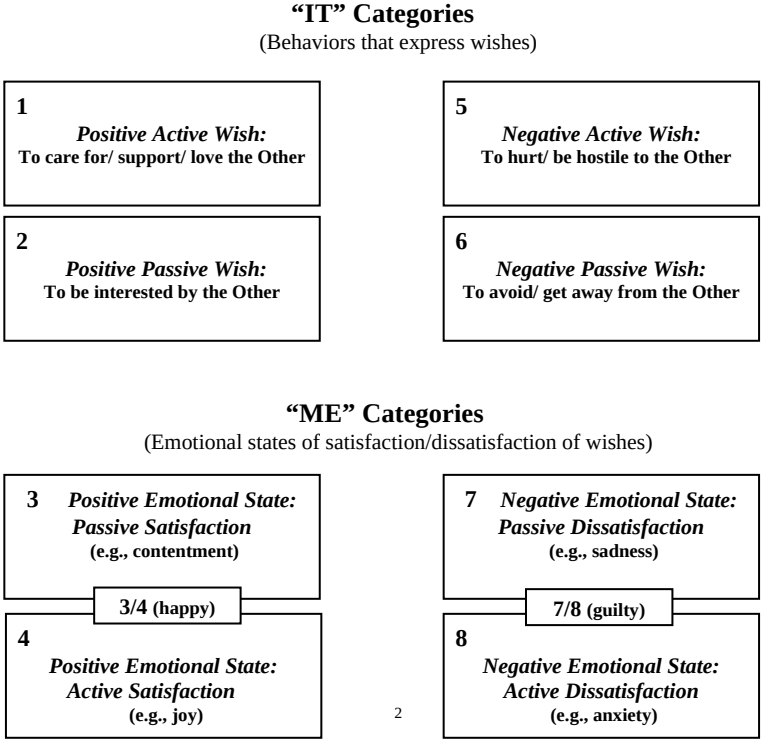

Figure I. The eight standard categories of affective behaviors.

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emotions, or alternative behaviors on behalf of our wishes (e.g., the person "erupts" with anger and insults his partner, IT behaviors that express the wish to hurt his partner).

As shown in Figure I, IT behaviors fall into two categories: positive and negative. Positive IT behaviors (Categories 1 and 2) involve interpersonal attraction, such as wishes to care for, be interested by, and otherwise express affiliative intentions. Negative IT behaviors (Categories 5 and 6) involve interpersonal repulsion, such as wishes to hurt, avoid, and otherwise show disaffiliative intentions. Positive and negative IT behaviors are subclassified as active or passive. The active categories represent behaviors enacted toward another (to care for or to hurt), whereas passive categories represent responses to the other's initiatives (to be interested or to avoid). ME emotions are similarly divided into positive (contentment and joy, Categories 3 and 4) and negative (sadness and anxiety, Categories 7 and 8) and are subclassified as passive (contentment and sadness) or active (joy and anxiety). The transitional categories, designated by a slash between the two adjacent categories (3/4, 7/8), refer to emotion words that were empirically demonstrated to be undecided on the active–passive dimension (Dahl & Stengel, 1978). A full description of these dimensions and categories is beyond the scope of this article. The reader is referred to citations.

Because IT behaviors can be expressed as either mental or behavioral actions of either the self or others, three additional letter codes are used to specify such properties. "A" denotes an IT behavior expressed as an action (e.g., "I hit him" would be coded as 5A). "S" denotes an IT behavior expressed toward the subject or patient (e.g., "He hit me" would be coded as 5AS). "N" denotes the negation of either an IT behavior or a ME emotion (e.g., "He didn't hit me" would be coded as 5ASN). In combination with the numeric category codes, these letter codes are useful for coding expressions of behaviors toward others and by others toward the patient and hence for identifying interpersonal patterns in different stories.

The eight standard categories and three letter categories can be illustrated with the aforementioned description of the rejection-sensitive person. The person's "desire for closeness to his partner" represents a positive, active wish/IT behavior: Category 1. Being rejected by the partner represents a negative, active wish/IT behavior expressed as an action toward the self: Category 5AS. The person's ensuing experience of anxiety and panic represents a negative, active ME emotion: Category 8. Finally, the person's response of erupting with anger and insults represents a negative, active wish/IT behavior expressed as an action: Category 5A.

3. Sequencing the category codes according to the plot of the story. When people tell stories in psychotherapy, they typically relate events in a different order than actually occurred. Thus, the purpose of Step 3 is to sequence narrative events according to the plot of the story. This is demonstrated in Figure II with a narrative from the current study. The events that were coded in Step 2 represent various statements from the narrative. The rater rereads the story and sequences these coded statements/events according to the chronological plot of the story. Different coded statements that refer to the same behavioral event are put together. As well as recording the code number of these events, the rater records summary predicates that state the event in the patient's own words or a close paraphrase. The resulting sequence of behavior events is called an *event sequence*.

4. Pattern matching: identifying repetitions of the coded sequence. Event sequences that recur in narratives about different people qualify as FRAMES. Pattern matching results in the identification of *prototypes* and *instantiations*. A prototype is the most common form that a FRAME structure takes in a data set, or the most frequently identified sequence of standard categories. An instantiation shares a majority of its events with a prototype in the same sequence. Instantiations are less frequent variations of the prototype. For example, if the prototype is 8 → 1AS → 1ASN → 5, an instantiation would be 8 → 1AS → 1ASN, wherein the final event is not expressed in a particular narrative.

To illustrate Step 4, consider the narrative in Figure III from the psychotherapy of the current study. To set the context, the patient is anxious about separating from the therapist for summer vacation. She is worried that she will forget too much during the break, and would like the therapist to give her a tape recording of the session. She says that she has been "testing" the therapist by acting "antagonistic" toward him. It "bothers" her that she has been acting this way, yet she cannot seem to help it. The narrative has been coded with the standard categories (Step 2), and these codes have been sequenced according to the plot of the story (Step 3). Execution of these procedures reveals a repetition of the pattern identified in Hour 5 (Figure II) in what appeared to be an unrelated narrative some 721 sessions later. The first pattern, the prototype, appeared in a story about the patient's husband. The second pattern, an instantiation, represents an enactment with the therapist. Capturing its primary theme, this FRAME structure is labeled DEMANDS SUPPORT.

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Hr. 5, ¶18, Object: ***Husband***

Because I, I (nervous chuckle) was just thinking I probably do the same thing with David. Last night in particular, I was talking with him about – I don't know, I just seemed to be in a funny mood **[8]** by the time he got home. He got home sort of late, and it wasn't that he was late, because I knew he would be. But I guess he didn't immediately respond to me in the way I wanted him to **[1ASN]** or – I don't know what it was, because I imagine that somehow I was already in some kind of a mood **[8]**. And (sniff) at one point I was talking to him, and I know I was talking to him wanting either confirmation that I'd done the right thing **[1AS]** or a suggestion on what would be a right thing **[1AS]** because I wasn't sure. I was upset **[8]** about something I'd done and I didn't want him just to listen to me say it. I wanted him to actually react to it **[1AS]**, and either suggest another course of action **[1AS]** or, or approval that well, I guess that in the circumstances that wasn't that bad a thing to do **[1AS]**. And, and he just didn't say anything, except sort of mutter under his breath **[1ASN]**. And so I got furious at him **[5]** and (sniff) I imagine in a way it's the same kind of thing that my father always is doing. (Pause, stomach rumble)

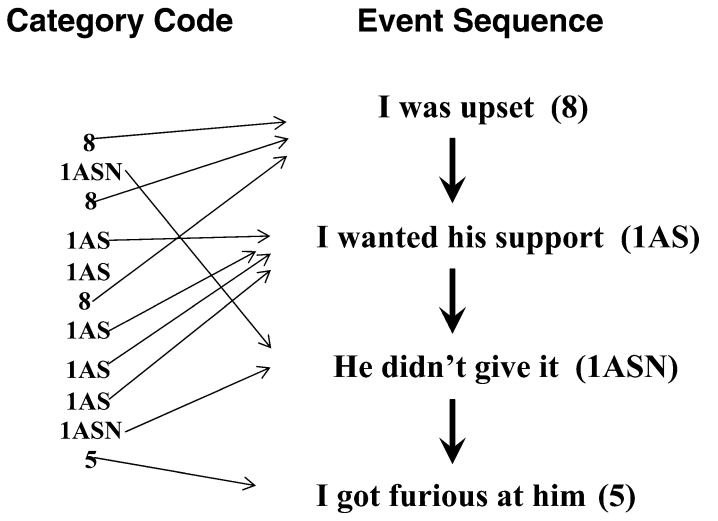

Figure II. The case of Mrs. C: a story from Hour 5 about the patient's husband. The patient's statements have been coded according to the standard categories, and these category codes have been sequenced according to the plot of the story.

Even though a rater would be blind to session numbers, it could be argued that the pattern in the first narrative biased the rater's identification of the pattern in the second. That is the aforementioned criticism of pattern-matching bias in clinical assessment. The only way to meet this criticism is to test verification of person-specific patterns by assessing the reliability of independent raters, including tests of pattern matching (Demorest & Siegel, 1996). These checks of independent verification are described next.

Procedures

Identification of patterns. Independent raters applied the standardized procedures of FRAMES described previously to each psychotherapy transcript. They assessed the transcripts in a random sequence based on the identification numbers assigned by the case archivist. The two raters were doctoral students in clinical psychology who were trained by a FRAMES expert in the standardized procedures described previously, meeting with him on a weekly basis over a 3-month period. The raters practiced on psychotherapy transcripts taken from different cases than the transcripts used in this study (with the exception of Hour 5, which had already been published and was thus not included in the data set). Thereafter, they coded the transcripts independently. They were considered adequately trained when they attained "good" levels of reliability (according to standard definitions noted later) with respect to each of the four procedures of FRAMES. Coding discrepancies were counted as "misses" for the purpose of computing reliability statistics. Coding discrepancies that eventuated in differences between the raters' corresponding event sequences were resolved by consensus. If no consensus could be reached, the aforementioned

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Hr. 726, ¶3–9, ¶23–27; Hr. 727, ¶26–28, Object: ***Therapist***

I was having it again today – it was more almost feeling a kind of panic **[8]** in a way…And, and just the feeling that I have to be coming here in order not to lose it **[8]**. And then, that I won't be coming after this week…It seems like part of my doing certain things now is connected with, uhm, I guess testing you **[5A]** to see if you'll accept me back in the fall **[1AS]**…But I know I've had that feeling **[8]** before, I've had it just over a weekend, you know, having a weekend coming up and thinking I can't not come between Friday and Monday **[8]**…I was thinking about how antagonistic I guess it was that, that I decided I couldn't share **[5A]**. It had to do with my wanting you to accept me back **[1AS]** and sort of maybe I was being antagonistic to test you out **[5A]**… and this is, maybe, what's been bothering me **[8]**. I was wondering this yesterday too, if there might be something if I don't, that I don't want to see **[8]**. I mean, somehow it seems like there'd be something too antagonistic **[5A]** and, uhm, very consciously turning off this feeling of sharing **[5A]** and, hum, then going into the tactics that I did **[5A]**…It's as if I'm, what I'm trying to do is replay everything that's been said, uhm, as if it's a recording in my mind so that when I leave here I'll have it **[1AS]**…Well, you'll have a recording…and I won't **[1ASN]**…If I could take a recording away **[1AS]**, it would be like taking – because it would be of your voice --- it would be like taking something of you away **[1AS]**…I have to be here in order to remember things **[8]**. And I thought, well, this recording would be the way to do it **[1AS]**.

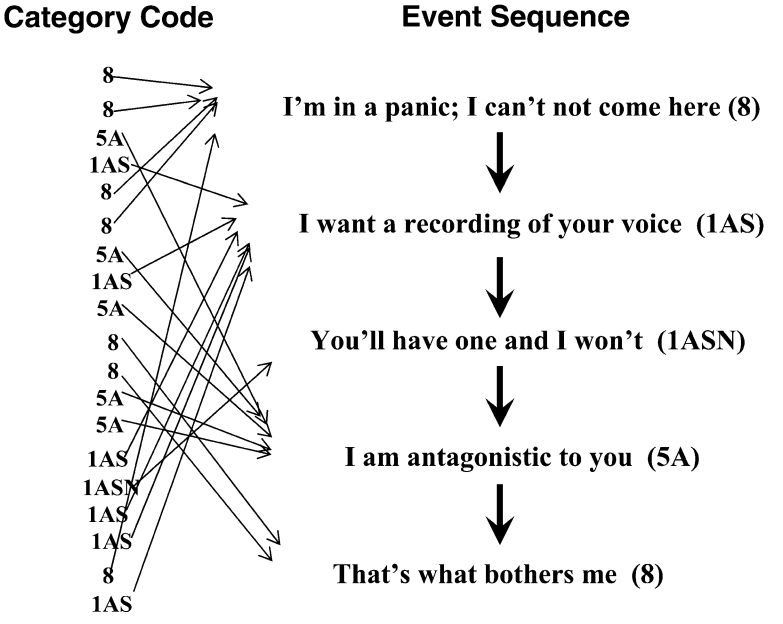

Figure III. The case of Mrs. C: a story from Hours 726 and 727 about the therapist. Once the patient's statements have been coded with the standard categories and then sequenced according to the plot of the story, a repetition of the pattern first identified in Hour 5 is found: an enactment with the therapist.

FRAMES expert who trained the raters cast the deciding vote.

Verification of patterns: interrater reliability assessment. A previous article (Siegel et al., 2002) introduced statistical methods for assessing the interrater reliability of the first three FRAMES procedures described previously. These methods are summarized next. The previous article did not include an empirical check of the fourth procedure: matching patterns in different narratives. Because this check is particularly relevant to the goals of the current study, it is described separately in the next section.

1. The overall correct classification statistic (OCC; Kessel & Zimmerman, 1993) is used to measure the categorical reliability of narrative segmentation of a psychotherapy transcript. Raters classify each sentence of the transcript as either part of (coded 1) or not part of (coded 0) a particular narrative segment. This generates a 2×2 matrix that shows the four possible combinations of rater agreement and disagreement with respect to classifying all sentences in a transcript. The two categories of rater agreement are "1,1" if both raters classify a sentence as belonging to the same narrative segment and "0,0" if they both classify a sentence as not belonging to a narrative segment. The two categories of disagreement are "1,0" and "0,1" if one rater classifies a sentence as belonging to the same narrative segment but the other does not, and vice versa. OCC is a ratio derived from this matrix: the sum of sentences in the two former categories of rater agreement divided by

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the total number of sentences (*N*) in all four categories (like Cohen's, 1988, kappa).

2. The use of eight standard content categories plus one null category (for uncoded statements) by two raters generates a 9×9 matrix of 81 possible combinations of raters' category codes. The nine-cell diagonal of this matrix registers all combinations of rater agreement, and the remaining 72 cells register all combinations of rater disagreement. Cohen's kappa is computed from this matrix for the total number of classified phrases in each session to measure the degree of rater agreement.

3. The reliability of sequencing a set of behavior events/codes according to the plot of a narrative is measured as a rank-order intraclass correlation coefficient derived from the numerical occurrences (e.g., first event, second event, third event) of the raters' corresponding events/codes. For example, in the illustration of the method shown in Figure II, the second rater might have sequenced the events of the story differently: "I wanted his support → He didn't give it → I got upset → I was furious." In that case, the rater's first event would correspond to the other rater's second event, his second event to the other rater's third event, his third event to the other rater's first event, and his fourth event to the other rater's fourth event. Thus, for the purpose of calculating the event correlation or sequencing agreement, the numerical order of the raters' corresponding events would be represented as [1,2; 2,3; 3,1; 4,4]. By viewing the events of the raters' corresponding sequences as dimensional data (i.e., numerical order), this statistic measures the degree of sequential similarity between corresponding patterns, or their structural equivalence. This procedure represents an innovation for directly measuring the interrater reliability of narrative structures in psychotherapy research (Siegel et al., 2002).

Pattern matching: Testing repetition of patterns. In Step 4 of the method, raters matched their own event sequences (of category codes/ summary predicates) from various narratives by grouping all of the sequences based on their observed similarities and differences. Recall that a FRAME structure is operationally defined as matching event sequences that have been constructed from narratives about different people. So when a rater matches a particular set of event sequences, it generates a category composed of prototypes and instantiations of a FRAME structure. Raters sorted their event sequences in a "bottom-up" fashion, without a priori categories provided by the researcher. For example, the event sequences shown in Figures II and III were assigned to the same category (FRAME structure) by both raters because of the correspondence in their sequence of category codes and summary predicates. However, pattern matching was not always this straightforward because instantiations often did not contain events of a prototype and sometimes contained additional events not shown in a prototype. The raters were instructed to place nonmatching coded sequences in a null category. Sequences that both raters assigned to this category were excluded from reliability assessment so as to not inflate the measurement of agreement.

The number of categories of event sequences, or FRAMES, sorted by each of the two raters generates a two-dimensional matrix of all possible combinations of these categories. The diagonal of this matrix registers all combinations of rater agreement, and the remaining cells register all combinations of rater disagreement. Corresponding event sequences that both raters assign to the same category (FRAME structure) are counted as agreements; corresponding sequences assigned to different categories are counted as disagreements. For example, if one rater sorted event sequences into four categories, and the other rater sorted event sequences into five categories, all of the sequences that the latter rater assigned to the fifth category would be counted as disagreements. Cohen's kappa is computed from this matrix for the total number of categorized event sequences to assess interrater reliability of pattern matching.

Results

Interrater Reliabilities of FRAMES Procedures. The interrater reliability values for each step of the method are shown in Table I. Separate values are shown for transcript segments pertaining to significant others and the therapist, given the special

Table I. Narrative Segmentation, Standard Category Code, Event Sequence, and Pattern Matching Interrater Reliabilities for the Longitudinal Data Set

Segment	Narrative segmentation OCC	Category coding κ	Event sequence correlation	Pattern matching κ
Significant other ($N=158$)	.91	.80	.91	.90
Therapist ($N=49$)	.89	.78	.82	.95
Overall	.90 ($N=3{,}457$)	.80 ($N=4{,}112$)	.87 ($N=988$)	.94 ($N=207$)

Note. OCC, overall correct classification.

nature of the latter. As shown, reliability values pertaining to significant others and the therapist were very similar for each procedure. Corresponding to the four assessment procedures, these reliability values refer to a total of 3,457 segmented transcript sentences, 4,112 coded behaviors, 988 sequenced behavior events, and 207 event sequences that were identified in the longitudinal data set.

The OCC scores for Step 1, narrative segmentation, are characterized as "excellent" according to standard definitions of OCC reliability ranges (Cicchetti, 1994; Landis & Koch, 1977). The kappa values for Step 2, coding expressions of interactive behaviors with the standard categories, are characterized as "very good" to "excellent" according to standard ranges (Cicchetti, 1994; Fleiss, 1981; Landis & Koch, 1977). Statistical comparisons evidenced a comparably higher base rate of the "A" code, illustrating that wishes are commonly expressed as behavioral actions. The rank-order correlation coefficients pertaining to Step 3, the raters' event sequences of standard categories, measures how similarly the raters assigned each category code to the overall sequence of a particular structure. These values are considered "excellent" according to definitions of such reliability ranges (Cicchetti, 1994; Garb, 1998; McGraw & Wong, 1996). The reliability of Step 4, pattern matching of the raters' corresponding 207 event sequences, yielded kappa values that are also considered "excellent" according to the aforementioned standard definitions of this statistic.

The FRAMES. Figure IV shows the five FRAMES that were independently identified by the raters in the longitudinal data set. Their names are intended to capture their primary themes. Each of the FRAMES is described next. Because of space considerations, figures illustrate the assessment of only two additional prototypes and one instantiation with the therapist. In other cases, FRAMES are described in the text. The frequency of the FRAMES across the data set is shown in Table II.

DEMANDS SUPPORT represents the patient's tendency to want support from others when she is troubled or upset, perceive others as unsupportive, and react by becoming angry. The assessment of the prototype is shown in Figure II and an enactment with the therapist in Figure III. In the early session blocks, DEMANDS SUPPORT is particularly evidenced in Mrs. C's childhood memories of her parents and her stories about her husband. It is clearly related to presenting complaints of lack of emotional support from and marked anger toward them.

PROVOCATION represents Mrs. C's tendency to perceive herself as either not accepted or excluded by others, to provoke them to fight her, and to feel satisfied when they do so. It is both the most frequently occurring script in the data set and the most frequently enacted with the therapist (13 times). Figure V shows the assessment of the prototype and an instantiation with the therapist from the same session. PROVOCATION relates to Mrs. C's presenting complaints of excessive fighting and sexual difficulties in her marriage (sometimes Mrs. C would have intercourse only after she provoked her husband to fight her).

EXCLUSION represents Mrs. C's tendency to want to be included by others, perceive herself as excluded by them, feel badly, and react with anger. EXCLUSION figures prominently in Mrs. C's childhood memories of her family and is related to the patient's presenting complaints of insecurity and low self-esteem. For example, when Mrs. C imagines life after the birth of her daughter, she anticipates

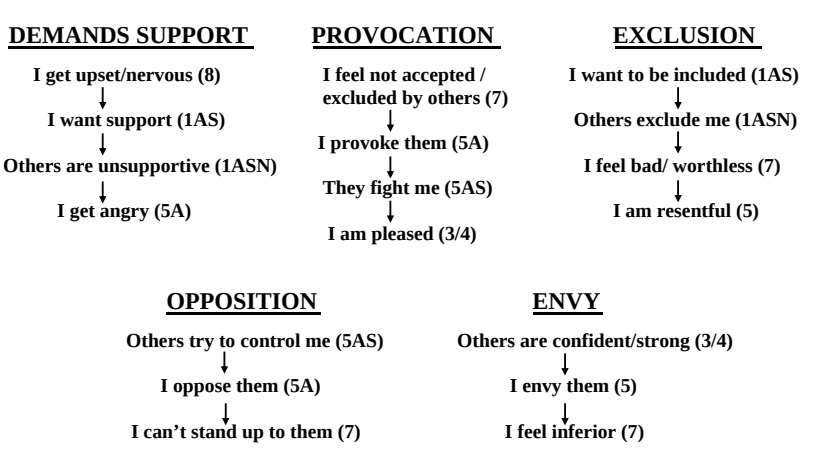

Figure IV. The five FRAMES of Mrs. C identified by the independent raters in the longitudinal data set.

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Table II. Frequency of Mrs. C's FRAMES (Fundamental Repetitive and Maladaptive Emotion Structures) by Session Block

Session block	ENVY	OPPOSITION	EXCLUSION	PROVOCATION	SUPPORT
1	10	11	3	10	15
2	2	6	2	4	5
3	1	1	0	1	2
4	3	4	4	0	0
5	0	3	4	9	2
6	0	0	0	7	4
7	0	1	0	0	1
8	0	0	0	0	0
9	0	0	0	0	0

Note. Each cell entry indicates the number of instantiations of each structure in each session block.

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that her husband will be affectionate to the baby (1A) but not to her (1ASN), which causes her to feel "excluded" (7) and resentful (5). It is enacted six times with the therapist.

OPPOSITION represents Mrs. C's tendency to feel controlled or dominated by significant others, to oppose them, and to experience herself as impotent in relation to them. The assessment of the prototype is shown in Figure VI. OPPOSITION is related to Mrs. C's presenting complaints of feeling controlled by her parents and husband and her inability to speak out on her own behalf. In Session Block 4, it occurs repeatedly in a series of narratives about an ongoing battle of wills with her baby, in which Mrs. C appears to be unwittingly identifying with her parents' controlling maneuvers: Her baby "resists" (i.e., opposes, 5AS) her efforts to set limits on her, which makes Mrs. C so angry that she "want(s) to get rid of her" (5A), which, in turn, makes her feel guilty (7/8).

ENVY represents Mrs. C's tendency to perceive others as confident or strong in some way, to envy them, and to feel inferior by comparison. ENVY occurred predominantly with Mrs. C's female peers and is clearly related to her presenting complaint of feeling uncomfortable around them. For example, shortly after she gave birth to her daughter (Session Block 4), ENVY is evidenced in a narrative about a girlfriend and her son. Mrs. C wanted to give birth to a boy; it would have made her feel "stronger" (4). She is quite "jealous" (i.e., envious, 5) that her friend's "first child is a son" and feels "inferior" (7).

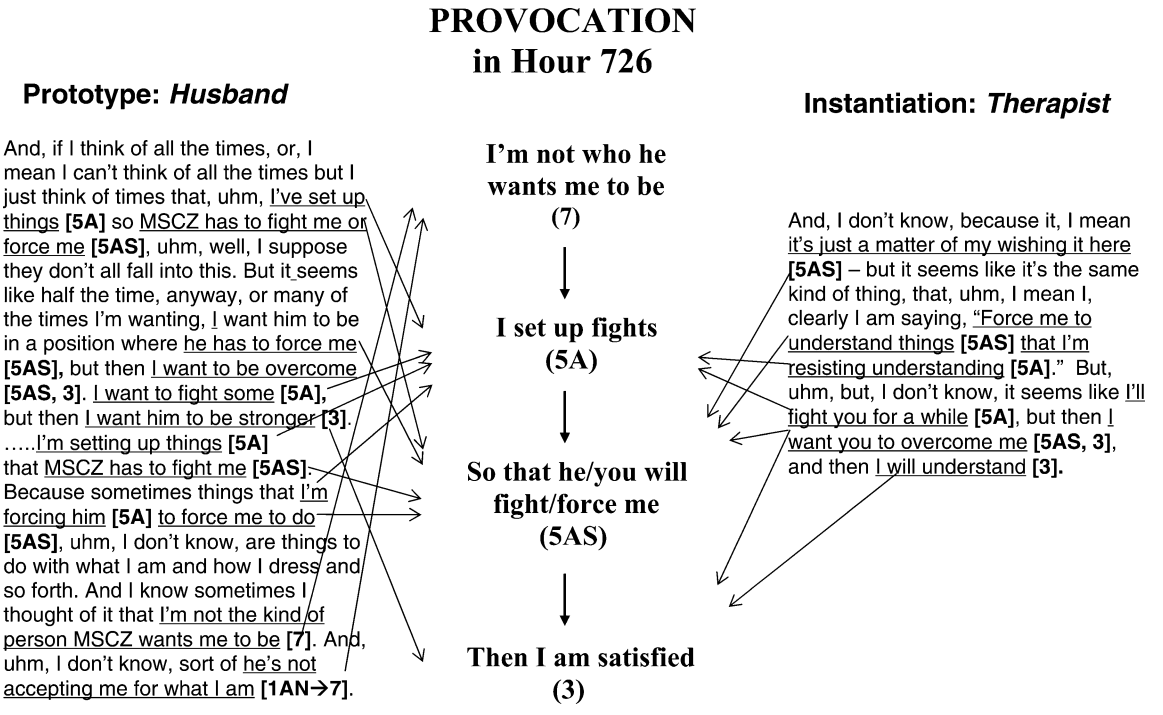

Figure V. The PROVOCATION prototype and a transference instantiation.

Hr. 1, ¶30 OPPOSITION Prototype: *Parents*

And then there is the problem too that we don't agree on some things that are kind of important now in their way of thinking and in mine. And I, they can hear other people say things that aren't agreeing with them, but I guess they just can't stand **[5AS]** to have their own family saying things that are disagreeing **[5A]**. And then I think maybe they keep feeling well, they have to train me, even now at my age, to think the way they do **[5AS]**. And they're very aggressive in these convers **[5AS]** – not it seems as, like we always get into a fight **[5A, 5AS]**, or just on a whole lot of things. They, they aren't able to be open-minded at all **[5AS]** and see that perhaps other people don't agree **[5A]**. They just feel that what they think is right and there just can't be any way, any other way of thinking **[5AS]**. And I just, I just feel this is so unjust **[5]** I, I don't know, it – or maybe I say unjust **[5]** because it lends something to the fact that I'm afraid they won't agree with me and that they'll attack me **[5AS]**. Because they really just attack somebody **[5AS]** who disagrees **[5A]** and I never feel, I guess, strong enough to stand up under that **[7]**.

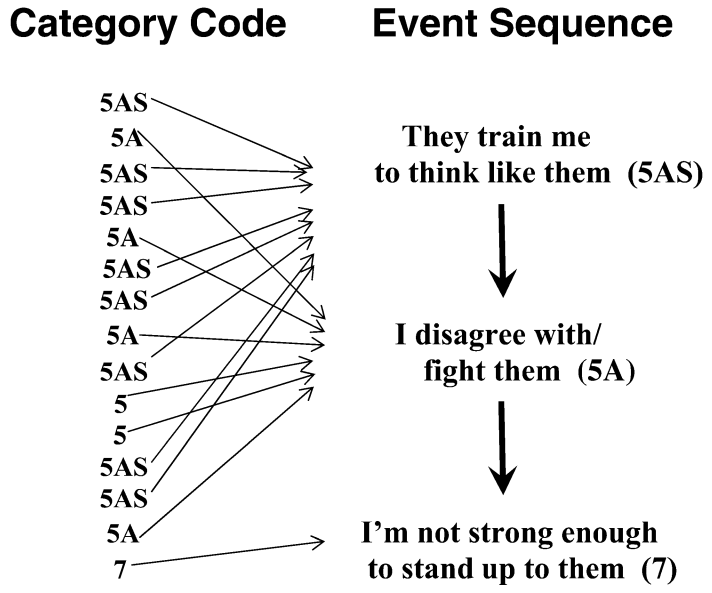

Figure VI. Assessment of the OPPOSITION prototype.

Discussion

Identifying Patterns. In Part I of this case study, independent raters applied FRAMES to a stratified, longitudinal sample of transcripts of an archival psychotherapy. This initial study represented a unique test of claims about the patient's maladaptive patterns because it was designed to meet the three standards of personality assessment described earlier. Patterns were identified according to the person-specific sequences of interpersonal behavior evidenced in the patient's life stories and enactments with the therapist. Empirical checks of each assessment procedure verified independent identification of the patient's interpersonal scripts, including a test of pattern matching. As was illustrated, these scripts were explicitly evidenced not only in narratives about the therapist but also implicitly in enactments with the therapist.

Formulating the Patient's Personality Pathology. Recall Mrs. C's presenting complaints: generalized feelings of insecurity and low self-esteem, a lack of emotional support from significant others, feeling controlled by these same people, a general inability to speak out on her own behalf, marked marital conflict, and sexual difficulties. FRAMES place these presenting complaints in interpersonal context by identifying the maladaptive scripts that characterize the patient's personality pathology. Corresponding to these complaints, Mrs. C is prone to envy her confident-appearing female peers, engendering a sense of inferiority; perceive significant others as emotionally unsupportive when she is distressed and react in ways that fail to elicit the very support she desires; perceive her parents and husband as dominating authorities whom she cannot effectively oppose, engendering a powerless self-experience; perceive significant others as excluding her, which makes her feel unworthy and resentful; cope with feeling excluded by male figures by provoking them to fight her.

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It should be noted that Mrs. C's maladaptive scripts did not just occur in isolation. In an interesting case of FRAMES synthesis, EXCLUSION and PROVOCATION were repeatedly linked into a larger structure in a series of narratives and enactments in the eighth and ninth data segments. The third event of EXCLUSION—feeling excluded—becomes the first event of PROVOCATION, and the final event of EXCLUSION—anger—is expressed by provoking the person who excluded her to fight. For example, childhood memories of Mrs. C's father took the structure of EXCLUSION directly followed by PROVOCATION, wherein feeling excluded by him (e.g., from her parents' bedroom) motivated her to provoke him (e.g., by urinating on the bedroom floor). Such cases provide an empirical basis for the formulation of personality dynamics. From a cognitive-behavioral perspective, Mrs. C's tendency to feel excluded by men can be viewed as a conditioned emotional response elicited by maladaptive processing: misapplication of the mental representation of her father (the experience of being excluded figured prominently in memories of him). Provoking men to fight, in turn, represents a maladaptive coping response to protect Mrs. C from the experience of feeling excluded.

A dynamic relationship was also evidenced between OPPOSITION and PROVOCATION in the early session blocks. When OPPOSITION occurred with Mrs. C's father or husband, a PROVOCATION narrative commonly followed. In OPPOSITION, Mrs. C experiences herself as dominated by these men and powerless to stand up to them. In PROVOCATION, Mrs. C assumes a position of power and control in relation to them. Thus, when an OPPOSITION narrative was followed by a PROVOCATION narrative, it appeared that provoking these men to fight was a way of coping with feeling weak and powerless in relation to them. This pattern of behavior represents a classic defense mechanism: "identification with the aggressor." These dynamic relationships between FRAMES clearly illustrate the function of affective scripts: to regulate emotional distress.

The obvious reduction in FRAMES across treatment shown in Table II raises the question of whether the patient's maladaptive scripts changed. The purpose of Part II of this case study was to address that question.

Part Two: Testing Change in Maladaptive Scripts

The raison d'etre of clinical case studies has traditionally been the in-depth examination of personality change. However, because clinical case studies typically are not based on systematic procedures undertaken by independent raters that meet the standards described earlier, they have not been considered valid tests of personality change. Because the person-specific scripts identified in Part I were constructed in terms of standard categories, they could be objectively tracked across treatment. The purpose of Part II was to test whether change in these maladaptive scripts occurred by analyzing their frequencies, as well as frequencies of adaptive changes evidenced in them, across the longitudinal data set.

Method

Identification of Changes in Maladaptive Scripts. To identify changes in scripts, the raters completed a forced-choice task in which they identified all FRAMES instantiations as either maladaptive or adaptive. The raters achieved a high level of agreement on this task (93%), demonstrating that this judgment is straightforward. They identified various types of adaptive changes in FRAMES, described in the Results section. The dimensions that were apparent in arriving at these judgments are described in the Discussion section.

Tests of Change in Maladaptive Scripts. A test of change in maladaptive scripts would show that FRAMES prototypes/instantiations occurred significantly more often at the beginning of treatment (i.e., early session blocks) than toward the end (late session blocks). However, reduction in the appearance of maladaptive patterns is not sufficient to show change because it does not demonstrate that these patterns have actually changed. It only shows that they are occurring less frequently. A more convincing test of change would also show that instantiations that evidenced adaptive changes occurred more frequently toward the latter stages of treatment than at the beginning. As described next, tests of both of these indicators of change—reduction of FRAMES prototypes/instantiations and increase of adaptive instantiations—were independently conducted.

Results

Frequency of Maladaptive and Adaptive Instantiations. The frequencies of maladaptive and adaptive instantiations of FRAMES by treatment stage are shown in Table III. Chi-square tests of independence were conducted on each of the five FRAMES identified by the raters to determine whether the maladaptive and adaptive instantiations represented independent samples. If these tests achieved significance, it would, in turn, justify the

Table III. Frequency of FRAMES and Adaptive Instantiations by Treatment Stage

Treatment stage	ENVY	OPPOSITION	EXCLUSION	PROVOCATION	SUPPORT
			FRAMES		
Early (Blocks 1–3)	13	18	5	15	22
Middle (Blocks 4–6)	3	7	8	16	6
Late (Blocks 7–9)	0	1	0	0	1
			Adaptive instantiations		
Early (Blocks 1–3)	0	0	0	0	0
Middle (Blocks 4–6)	2	0	2	1	1
Late (Blocks 7–9)	2	8	7	12	8

use of chi-square tests of goodness of fit to test for change in frequencies of maladaptive and adaptive instantiations, respectively, across the longitudinal data set. For all chi-square tests, the nine session blocks of the longitudinal data set were condensed into three treatment stages: early, middle, and late (each consisting of three session blocks).

A 3×2 (Treatment Stage $\times$ Adaptive/Maladaptive) chi-square test of independence was first conducted on each of the five FRAME structures. All five chi-square tests of independence achieved statistical significance: ENVY, $\chi^2(2, N=20) = 12.50$, $p < .002$; OPPOSITION, $\chi^2(2, N=34) = 29.06$, $p < .0001$; EXCLUSION, $\chi^2(2, N=22) = 15.38$, $p < .0001$; PROVOCATION, $\chi^2(2, N=44) = 39.48$, $p < .0001$; DEMANDS SUPPORT, $\chi^2(2, N=37) = 27.52$, $p < .0001$. This indicates that the adaptive and maladaptive instantiations of each of the five FRAMES represent independent samples from the early to the late treatment stages.

For each of the five FRAMES, two 3×1 chi-square tests of goodness of fit were then conducted, one testing change in frequency of maladaptive instantiations and one testing change in frequency of adaptive instantiations. The first set of chi-square tests showed a reduction in maladaptive instantiations of each of the five FRAMES from the early to the late treatment stages: ENVY, $\chi^2(2, N=16) = 17.4$, $p < .001$; OPPOSITION, $\chi^2(2, N=25) = 19.74$, $p < .001$; EXCLUSION, $\chi^2(2, N=13) = 7.85$, $p < .02$; PROVOCATION, $\chi^2(2, N=31) = 15.55$, $p < .001$; DEMANDS SUPPORT, $\chi^2(2, N=27) = 26.00$, $p < .001$. The second set of chi-square tests showed an increase in adaptive instantiations for four of the five FRAMES from the early to the late treatment stages: ENVY, $\chi^2(2, N=4) = 2.01$, *ns*; OPPOSITION, $\chi^2(2, N=8) = 15.99$, $p < .001$; EXCLUSION, $\chi^2(2, N=9) = 8.66$, $p < .02$; PROVOCATION, $\chi^2(2, N=13) = 20.48$, $p < .001$; DEMANDS SUPPORT, $\chi^2(2, N=9) = 12.66$, $p < .001$.

These findings are obviously gleaned from Table III, which shows the frequency of maladaptive instantiations and adaptive instantiations of each structure in each treatment stage. Notice that (maladaptive) FRAMES prototypes and instantiations dominate the first two thirds of the longitudinal data set (the early and middle treatment stages). The most striking finding is the change evidenced from the middle to the late treatment stages: There are very few maladaptive instantiations in the latter stage, and all FRAMES show adaptive changes.

Changes in Mrs. C's FRAMES. The adaptive changes evidenced in each FRAME structure are described next. To demonstrate how changes emerged, the evolution of DEMANDS SUPPORT across treatment is described at the end of this section. Because of space considerations, adaptive changes that were evidenced in the other FRAMES are described more briefly.

In addition to being the most frequently enacted script, PROVOCATION also evidenced adaptive change most frequently. In the midst of a particularly vivid enactment in Hour 727, the therapist directs Mrs. C's attention to how she takes the same satisfaction in provoking him that she does her husband. A striking change appears for the first time in the next session, Hour 728: Mrs. C no longer feels satisfied when she provokes her husband to fight, but instead finds it "very unpleasant." This was judged to be an adaptive change by both raters because it was clear from the transcript text that it stemmed from Mrs. C's gathering awareness of the regularity of her central maladaptive pattern. In Session Block 8, this change is maintained, and related adaptive changes are evidenced. Mrs. C describes the satisfaction she takes in provoking both her husband and the therapist as well as the negative emotions she ultimately experiences. This fuller account of her emotional experience is attended by a change in the summary predicate of the final (satisfaction) event, as Mrs. C articulates the precise satisfaction she takes in provoking men. These changes represent a deepening of Mrs. C's awareness of both her emotional experience and

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motivation in PROVOCATION. As developed next, these changes occur in the aforementioned context of EXCLUSION and PROVOCATION being linked into a larger structure in Session Block 8 (see prior discussion).

The first adaptive change evidenced in EXCLUSION was the emergence and acknowledgment of depressive affect following the perception of being excluded by others. For example, following an enactment of EXCLUSION with the therapist in Session Block 7, depressive affect replaces the prototypical expression of anger as the final event, as Mrs. C sadly accepts her emotionally distant relationship with her father. This change represented a broadening of Mrs. C's awareness of her emotional experience and was maintained in multiple adaptive instantiations in the late treatment stage. Such awareness appears to be related to the aforementioned synthesis of EXCLUSION and PROVOCATION that subsequently emerged in Session Block 8, in which the final event of EXCLUSION became the leading event of PROVOCATION. Among other narratives, Mrs. C recalls memories in which feeling excluded by her father motivated her to provoke him in various ways. On two subsequent occasions, the EXCLUSION-PROVOCATION occurs with the therapist in Session Block 9. Both times it evidences adaptive change. For example, Mrs. C expresses that she felt "a void" after the therapist "excluded" her by canceling the prior session (EXCLUSION), and that she is aware that she is now trying to "get back at" the therapist in various ways (PROVOCATION). Instead of expressing satisfaction in relating to the therapist in this way, she punctuates her processing of her own behavior, saying "I'm playing a role I no longer believe in." Where Mrs. C had been prone to adopt the role of the excluded provocateur, she now disidentifies with it. Now that the depressive affect engendered by being excluded is more fully experienced, she relinquishes the maladaptive behavior of provoking others that had protected her from it.

OPPOSITION undergoes adaptive change in the aforementioned series of narratives about a battle of wills with her baby in Session Block 5. When the baby would "resist" (i.e., oppose, 5AS) Mrs. C's efforts to set limits on her, it would make Mrs. C so angry that she "want(ed) to get rid of her" (5A), which, in turn, made her feel quite guilty (8). The primary adaptive change in OPPOSITION was meeting her baby's oppositionality with either appropriate discipline or playfulness (1A as the new second event). This sponsored, in turn, an adaptive change in the final event, as Mrs. C expresses positive feelings about her ability to assert herself (4). These adaptive changes are maintained in subsequent instantiations.

ENVY first evidenced change in Session Block 4 when the summary predicate of the third event changes from feeling "uncomfortable" (7/8) around her female peers to feeling "inferior" (7) to them. This change represented an increase in Mrs. C's awareness of her cognitive and emotional experience in ENVY, as she describes how her envy of her peers reinforced an underlying sense of inadequacy. In Session Block 6, another key adaptive change appears in the second event of ENVY: Mrs. C disidentifies with women who are at first the object of envy, and accepts herself for who she is: "I wouldn't want to (be like them; 5N) . . . I wouldn't have been satisfied (3/4N) . . . .it wouldn't be me (5N)." This change is maintained in subsequent instantiations.

Figure VII shows variations of DEMANDS SUPPORT that were typical of the three treatment stages, starting with the prototype at the top. As shown in Table I, DEMANDS SUPPORT is the most frequent of Mrs. C's FRAMES in the early session blocks, where it occurs in a wide range of interpersonal situations. The first change that appears is the aforementioned enactment with the therapist in Hour 727 shown in Figure III. Recall that Mrs. C had wanted the therapist to help her cope with her anxiety about the month-long summer break by giving her a tape-recording of the session, was "setting up fights" with the therapist because he did not oblige her, and was upset by this behavior of hers. Notice that the instantiation begins and ends with the expression of negative ME emotion, giving it the quality of a "vicious circle": The patient copes with distressing emotion (i.e., "panic") in a way that causes her distress. As shown in the middle of Figure VII, soon thereafter Mrs. C continues the vicious circle by expressing that she would like the therapist to help her (1AS) stop setting up fights (i.e., the next event of DEMANDS SUPPORT).

In Hour 728, it seems like Mrs. C is aware of being "caught" in this circle, as evidenced by this adaptive instantiation: I'm in a panic about separating from you (8) → I'd like a recording of your voice (1AS) → You won't give me one (1ASN) → So I've been fighting you (5A) → *I regret fighting; it's futile* (7). For the first time in the data set, Mrs. C expresses regret over fighting when someone does not oblige her. This expression of depressive affect as the final event of DEMANDS SUPPORT is a striking change in light of the persistent appearance of the prototype across a range of interpersonal situations in the first five session blocks. This change was judged to be adaptive by both raters because it reflected the patient's increased awareness of her emotional

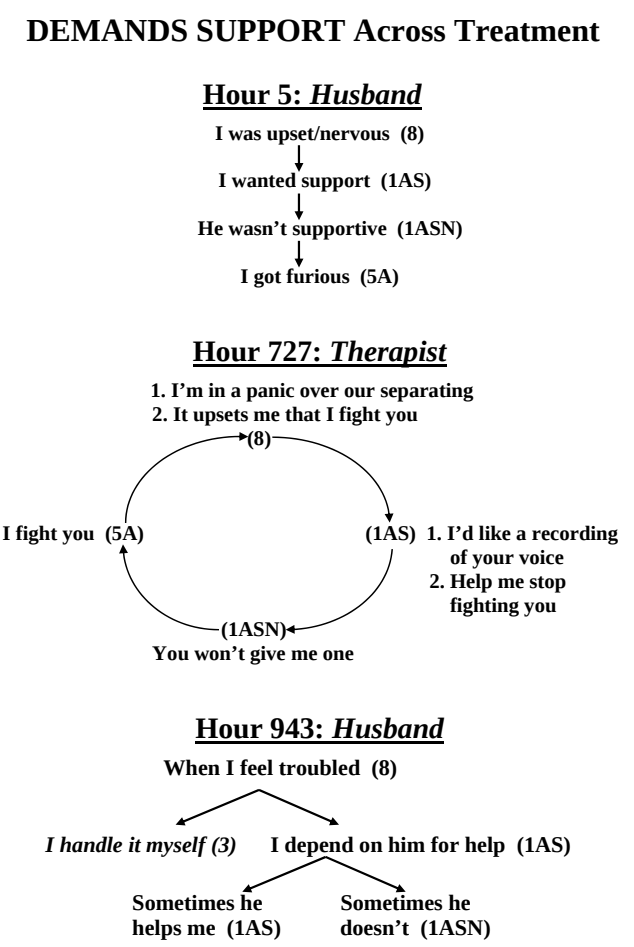

Figure VII. DEMANDS SUPPORT across the psychotherapy of Mrs. C. The first structure is a prototype in Hour 5. The second is a circular instantiation that represents an enactment with the therapist in Hours 726–72. The third is an adaptive instantiation identified in Hour 943.

experience in DEMANDS SUPPORT, specifically the suffering it ultimately causes her.

In Session 943, the break in the "vicious cycle" that appeared in Session Block 6 is maintained. As shown by the instantiation with her husband (Figure VII, bottom), other adaptive changes are evidenced. The prototypical final event is not expressed; if Mrs. C is denied support, she no longer gets angry. Two new branches also appear. There is the possibility that she will be granted support. Perhaps more significantly, Mrs. C repeatedly expresses that when she is troubled, she wants to handle the situation on her own rather than turn to others for support. Mrs. C expresses in these narratives that when she has been upset by life circumstances, she has tended to assume a dependent role in relation to her husband, unnecessarily maintaining a self-imposed resourcelessness.

In the last session block, Mrs. C elaborates on this adaptive change from dependence to independence in DEMANDS SUPPORT as she copes with termination. In these final hours of the psychotherapy, Mrs. C expresses sadness about the end of her relationship with the therapist: It's the last day—I feel like crying (7) → You might say, "Call me if you need me" (1AS) → *You don't need to; I don't want you to* (1ASN) → *I don't anticipate feeling that I'll need to call* (3). Where others had denied support when she experienced negative affect, now Mrs. C relates that she's not sure if she even wants it. She prefers to handle things herself. This adaptive change in DEMANDS SUPPORT is evidenced multiple times in the final session block.

As can be seen in these adaptive versions, DEMANDS SUPPORT has undergone a variety of changes by the end of the treatment. Mrs. C might be troubled and not get support, but nothing follows; or now others might grant support; or she might not turn to others for support at all, instead relying on her own resources. As shown in Table III, these adaptive changes are evidenced multiple times and maintained in later session blocks. They appear to represent a new repertoire of adaptations that stand in contrast to the rigid appearance of the

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prototype throughout the first half of the data set across a range of interpersonal situations.

Discussion

Change in Maladaptive Scripts. The chi-square tests and qualitative illustrations provide evidence that Mrs. C's maladaptive scripts changed. There was a significant reduction in maladaptive instantiations by the late treatment stage. Four of five FRAMES evidenced significant adaptive changes by the late treatment stage. Thus, in terms of change in maladaptive interpersonal patterns, the psychotherapy of Mrs. C had a very good outcome. Other empirical studies of this psychotherapy have similarly characterized its outcome (Jones & Windholz, 1990; Weiss & Sampson, 1986).

The question arises as to why most FRAMES evidenced enough adaptive instantiations to significantly change by the end of treatment but one (ENVY) did not. A related question is why Mrs. C's FRAMES appear to have changed at different rates. For example, the number of maladaptive instantiations of ENVY decreased substantially by the middle treatment stage, whereas the number of maladaptive instantiations of PROVOCATION did not. Such variations could stem from a number of factors. First, they could simply reflect sampling (i.e., sessions in which adaptive changes in a particular structure would have been identified were not included in the data set). Second, unless the events of FRAMES are linked, there is no reason to expect that change in one structure will predict change in others. FRAMES represent recurring patterns of maladaptive behavior in broad interpersonal situations. As such, they are independent, and some may be more "entrenched" in a person's functioning (i.e., some scripts may be more resistant to change because of their emotion-regulatory value).

A third factor that could affect the degree to, and the rate with, which a maladaptive script changes is the patient–therapist interaction. If transference involves the activation of a patient's mental representations of significant others by the new person of the therapist (Andersen & Berk, 1998), then certain representations and the interpersonal scripts associated with them are more likely to be activated than others. This may account for why there were not enough adaptive instantiations of ENVY to attain statistical significance. Because it tended to occur with female peers and not as much with Mrs. C's male psychotherapist as her other scripts, ENVY might have had less opportunity to change. Finally, a combination of a patient's or a therapist's awareness of or motivation to change a particular maladaptive script may also account for why certain scripts change more than others. Patterns that the patient or therapist is relatively aware of and that are associated with sufficient distress are more likely to change than those that she or he is relatively unaware of or are not associated with suffering. As a result of any one or a combination of these factors, a particular structure might not have been given sufficient attention by the therapist or the patient for change to occur at a particular juncture in, or by the end of, treatment.

Types of Adaptive Changes. Descriptively speaking, Mrs. C's FRAMES changed in different ways. All FRAMES involved changes in affect, or the emotional experience of maladaptive patterns, as reflected by the emergence of new ME emotion categories. PROVOCATION and ENVY also changed in terms of cognition, or the interpersonal processing associated with maladaptive patterns, as reflected by changes in the summary predicates of attending affective categories. DEMANDS SUPPORT, PROVOCATION, EXCLUSION, and OPPOSTION also involved changes in interpersonal behavior, as reflected by the fading of maladaptive interpersonal actions (IT behaviors) and the emergence of new, adaptive ones. FRAMES that changed in all three domains (affect, cognition, and behavior), such as PROVOCATION and EXCLUSION, also evidenced the greatest endurance of change by the end of treatment (as measured by change in frequency of maladaptive and adaptive instantiations). This observation leads to the hypothesis that the number of psychological dimensions of a maladaptive pattern that change predicts the endurance of change in the pattern. This can be tested by future research.

Interestingly, some of the changes that the raters characterized as adaptive involved the emergence of negative affect (e.g., DEMANDS SUPPORT) and even the replacement of positive affect with negative (e.g., PROVOCATION). These changes were deemed adaptive because they represented expansion of the patient's awareness of feelings that were inducing maladaptive behavior. In such cases, it was necessary for Mrs. C to have the experience of suffering feelings that she had previously avoided so that she might come to terms with them and develop a more adaptive interpersonal repertoire in the process. Such cases illustrate a limitation of representing change in maladaptive patterns only in terms of the content of standard categories, such as replacing negative categories with positive ones. This study demonstrates that adaptive change can actually involve the opposite.

This may be one reason why adaptive changes in this case tended to emerge gradually rather than immediately. Table III shows that in most cases

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the fading of maladaptive instantiations and appearance of adaptive instantiations overlapped in the middle treatment stage. This was illustrated by the qualitative analysis of change of DEMANDS SUPPORT: The prototype did not disappear once adaptive change occurred in Hour 727 but faded gradually. These data support the hypothesis that change involves working through patterns of maladaptive interpersonal behavior. In this case, change took time.

General Discussion

Interpersonal schemas are considered central to the study of personality pathology and change. Developing a method that is systematic and reliable on the one hand and yet clinically sensitive to an individual's distinctive schemas on the other has been a challenge for the field. This study represented a unique test of claims about a patient's maladaptive patterns because it was based on a method that was designed to meet the challenge posed by these vying concerns of methodological rigor and clinical sensitivity by constructing idiographic sequences, or scripts, of nomothetic categories. Representing the patient's interpersonal schemas in this way achieved several things. First, it allowed direct verification of sequencing and pattern matching. The high levels of interrater reliability that were attained with respect to these procedures are noteworthy in light of the long-standing problem of pattern-matching bias in narrative methods of personality assessment (e.g., Demorest & Siegel, 1996). Second, it facilitated the emergence of the patient's distinctive scripts. This was demonstrated by the circular instantiation of SUPPORT (see Figure VII), among other examples. Third, constructing idiographic scripts with nomothetic content naturally led to tracking patterns across treatment, so that change in maladaptive patterns could be tested objectively.

Tracking idiographic scripts across treatment highlighted dimensions of adaptive change, including affect, cognition, and behavior. These dimensions were apparent because FRAMES represented change in several ways, including (a) the affective code (i.e., emotional experience) associated with a behavior; (b) the summary predicate (i.e., cognitive processing) of a behavior; (c) the fading of maladaptive behavior; and (d) the emergence of new behaviors that reflect adaptive pathways of change. The first two categories reflect change in the content of schemas; the latter two reflect change in structure as well as content. Because measures have traditionally assumed that interpersonal schemas take a particular structure, research has focused almost exclusively on changes in the content of schemas (Demorest et al., 1999; Horowitz, 1991; Luborsky & Crits-Christoph, 1990; Schacht & Henry, 1994). The current study demonstrates that interpersonal schemas do not just change in content; as scripts, they also have a particular structure that can change. As was illustrated with DEMANDS SUPPORT, FRAMES generates a representational profile of change of a maladaptive script, from its prototypical sequence with significant others at the beginning of treatment, through changes to intermediary structures, to its structure at the end of treatment (see Figure VII). This profile empirically demonstrates what has traditionally been referred to as "structural change" (e.g., Wachtel, 1994) in psychotherapy: replacing relatively inflexible interpersonal behavior with a more adaptive repertoire.

These advantages of the method do not come, of course, without disadvantages. FRAMES is a time-consuming, labor-intensive method of assessment. The clinical phenomenon described at the start of this article—the distinctive scripts that underlie the myriad stories that psychotherapy patients tell about their lives—is rich and perhaps ubiquitous. A more complex method of assessment may be necessary to capture the complexity of interpersonal schemata.

A similar evolution of change could have been presented for each of Mrs. C's other FRAMES. Such structural profiles relate to Strupp, Schacht, and Henry's (1988) principle of measuring change in psychotherapy: problem-treatment-outcome (PTO) congruence. This principle states that the utility of measures of change is determined by the degree to which they accurately represent (a) a patient's problem, (b) the therapeutic process, and (c) the therapeutic outcome, in the same terms. A future study could test the PTO congruence of FRAMES by having raters construct the chronological sequence of a group of sessions from disguised time periods in a psychotherapy based on the structural variations of instantiations.

Future research should also address whether particular scripts are characteristic of types of personality pathology. Because various types of personality pathology are characterized by particular maladaptive interpersonal patterns (American Psychiatric Association, 2000), a hypothesis is that prototypical interpersonal scripts are associated with these personalities. To use some classic clinical examples, the perception of criticism activates feelings of inadequacy, which, in turn, induces self-righteous rage; the perception of maltreatment by a significant other activates old feelings of neglect, inducing a swing from love to hate; the experience of feeling unseen induces attention-seeking histrionics. Are there, for example, prototypical narcissistic FRAMES, borderline FRAMES, and histrionic

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FRAMES? Applying FRAMES to psychotherapies of individuals who have been diagnosed with personality disorders would shed light on this question.

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