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Affective scripts: A systematic case study of change in psychotherapy

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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

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.

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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

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

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

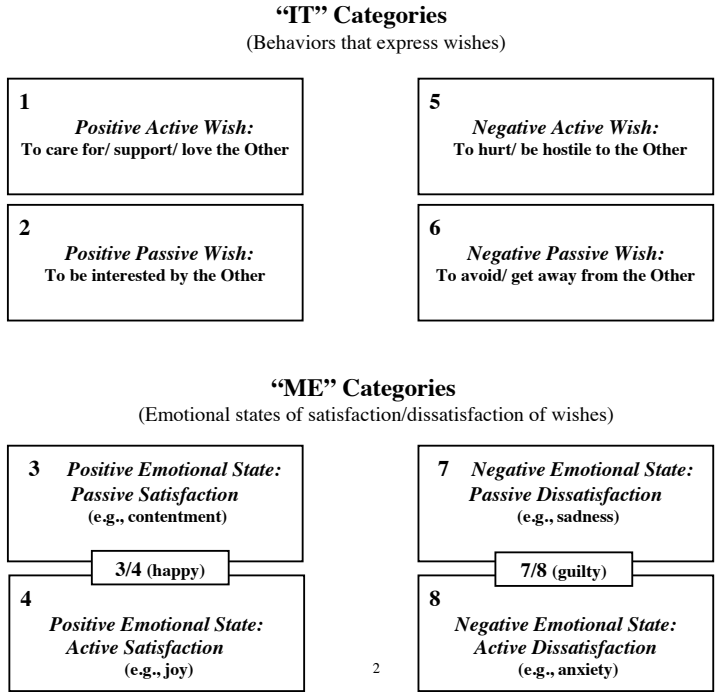

Figure I. The eight standard categories of affective behaviors.

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.

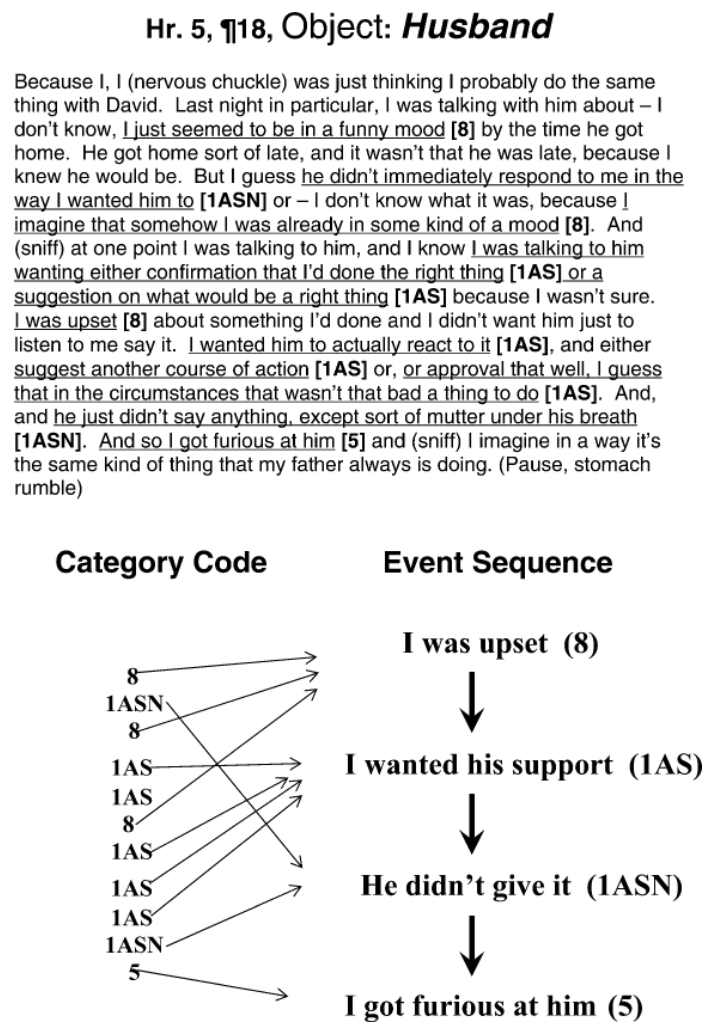

Figure II. The case of Mrs. C: a story from Hour 5 about the patient's husband. The patient's statements have been coded according to the standard categories, and these category codes have been sequenced according to the plot of the story.

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

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]**.

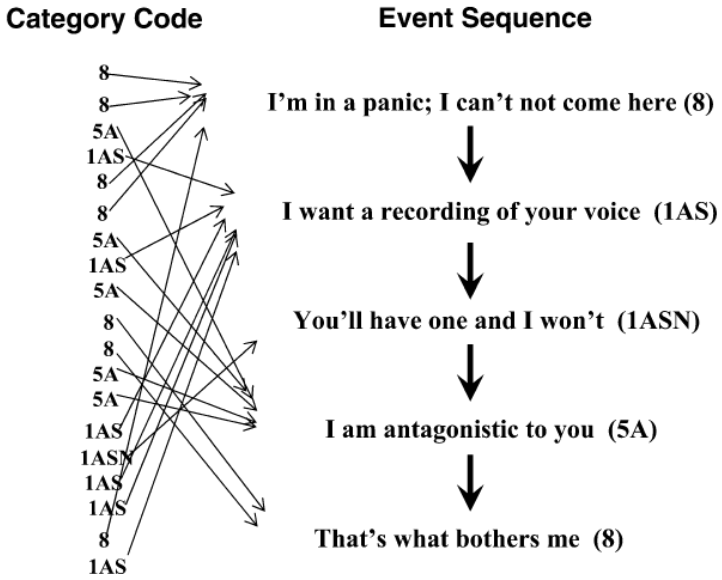

Figure III. The case of Mrs. C: a story from Hours 726 and 727 about the therapist. Once the patient's statements have been coded with the standard categories and then sequenced according to the plot of the story, a repetition of the pattern first identified in Hour 5 is found: an enactment with the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

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 k	Event sequence correlation	Pattern matching k
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.