Journal of Personality Assessment, *94*(1), 1–11, 2012

ISSN: 0022-3891 print / 1532-7752 online
DOI: 10.1080/00223891.2011.627964

Routledge
Taylor & Francis Group

CLINICAL CASE APPLICATIONS

The Effectiveness of Therapeutic Assessment With an Adult Client: A Single-Case Study Using a Time-Series Design

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This article presents the therapeutic assessment (TA; Finn, 2007) of a traumatized young woman named Claire. Claire reported feeling debilitated by academic demands and the expectations of her parents, and was finding it nearly impossible to progress in her studies. She was also finding it difficult to develop and sustain intimate relationships. The emotional aspects of close relationships were extremely difficult for her and she routinely blamed herself for her struggles in this arena. The assessor utilized the TA model for adults, with the exception of not including an optional intervention session. The steps of TA, particularly the extended inquiry and the discussion of test findings along the way, cultivated a supportive and empathic atmosphere with Claire. By employing the single-case time-series experimental design used in previous TA studies (e.g., Smith, Handler, & Nash, 2010; Smith, Wolf, Handler, & Nash, 2009), the authors demonstrated that Claire experienced statistically significant improvement correlated with the onset of TA. Results indicated that participation in TA coincided with a positive shift in the trajectory of her reported symptoms and with recognizing the affection she held for others in her life. This case illustrates the successful application of case-based time-series methodology in the evaluation of an adult TA. The potential implications for future study are discussed.

In recent years, a number of studies supporting the effectiveness of collaborative and therapeutic approaches to psychological assessment have appeared in the literature. For example, clients have been found to incorporate more information from feedback sessions in which the findings are presented in accordance with clients' current self-views (Schroeder, Hahn, Finn, & Swann, 1993) and when clients are involved as active collaborators in the test interpretation process (Hanson, Claiborn, & Kerr, 1997). Participation in an assessment adhering to collaborative and therapeutic principles also has been found to result in greater engagement with assessors (Ackerman, Hilsenroth, Baity, & Blagys, 2000) and a stronger alliance with a therapist in subsequent treatment (Hilsenroth, Ackerman, Clemence, & Strassle, 2002; Hilsenroth, Peters, & Ackerman, 2004). Clients receiving therapeutic assessment feedback from their Minnesota Multiphasic Personality Inventory–2 (MMPI–2; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989) protocols reported greater improvement in symptom reduction, distress, and feelings of self-esteem, compared to a control group (Finn & Tonsager, 1992; Newman & Greenway, 1997) and compared to a group receiving five sessions of supportive, nondirective counseling (Newman, 2004). A meta-analytic study by Poston and Hanson (2010) supports the effectiveness of assessment as a brief intervention. With a sample of 17 studies, they found a significant and robust effect (Cohen's $d = 0.42$), indicating that clients experienced positive outcomes after participating in an assessment procedure.

As the empirical evidence of the effectiveness of collaborative and therapeutic assessment techniques grew, Finn and colleagues further developed a semistructured model based on a set of core principles and a series of steps. The model has been termed therapeutic assessment (TA). It is important to distinguish between studies examining approaches that utilize collaborative and therapeutic assessment procedures and those that can be considered TA. Similarly, it is imperative to differentiate between studies of TA components (e.g., the feedback process; Finn, 1996; Finn & Tonsager, 1992; Newman & Greenway, 1997) and the comprehensive TA model described by Finn (2007). None of the aforementioned studies examined the comprehensive six-step TA model. Although there are several published uncontrolled clinical case studies describing the use of the full model with adult clients (Finn, 2003; Finn & Kamphuis, 2006; Finn & Martin, 1997; Fischer & Finn, 2008; Wygant & Fleming, 2008), empirical evaluation of the TA model has not been published so far with an adult client.

This case study aims to provide a more controlled examination of ways in which change occurs during a TA. The experimental case study presented in this article replicates the methodology and research design of a series of studies conducted by Smith and colleagues, in which they tested the effectiveness of the child TA model (Smith, Handler, & Nash, 2010; Smith, Nicholas, Handler, & Nash, 2011; Smith, Wolf, Handler, & Nash, 2009). The flexible nature of single-case designs is uniquely suited to the study of TA because the model is individually tailored to the specific needs of each client. This article is divided into two parts: Part I contains a presentation of the TA

Received December 9, 2010; Revised April 11, 2011.

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with a young woman and Part II discusses the findings of the single-case time-series experiment.

Part I: The Therapeutic Assessment of Claire

Treatment Model and Procedures

TA is a brief, semistructured psychological intervention grounded in the psychological assessment process. TA follows a series of prescribed steps or phases, beginning with one or more initial sessions in which the client and assessor work together to formulate and explore questions that guide the assessment and inform the selection of assessment instruments that best address the client's concerns (Finn, 2007). The selected instruments are then administered in a standardized manner. In TA, standardized test findings provide valid, reliable, and norm-based sources of information. Tests are scored and interpreted immediately on completion, which provides the clinician with useful data to shape or refine the case formulation and select subsequent assessment instruments. Moreover, these data can often be used to better understand how to interact with the client during the assessment process. TA also incorporates various follow-up procedures, such as the extended inquiry, to better understand clients' experiences of the testing and how test responses and results fit within the greater context of the clients' lives (Aschieri, 2010; Finn, 2007). Extended inquiry is the process of further exploring test responses and results. This can be accomplished through many techniques, some as simple as asking the client his or her thoughts or reactions to a particular testing procedure. Once the assessor develops a comprehensive case formulation based on an integration of formal test results, follow-up questioning, background information, and observations (Aschieri, Finn, & Bevilacqua, 2010), an assessment intervention session (Finn, 2007) is often employed. Assessment intervention sessions are intended to assist the client in experientially grasping information that has been revealed through the testing and that might be useful in answering his or her assessment questions during the subsequent summary and discussion session. In the summary and discussion session, the assessor and client collaboratively use the test findings to answer the assessment questions. The content, observations, and conclusions shared during the summary and discussion session are then presented in a written feedback letter that the client receives 2 to 4 weeks afterward. A follow-up session is typically provided 2 to 6 months after the summary and discussion session. The follow-up session provides an opportunity to reprocess the assessment results and the contents of the feedback letter. The assessor's continued presence also provides support for the client during the change process.

Many successful TA cases have been reported in which only some of the components of the comprehensive model were included. Finn (2007) emphasizes adaptation of the comprehensive model to meet the unique needs to the assessor, the client, and the setting in which the TA is being conducted. In the case to be presented here, the TA included an initial session for the collection of assessment questions and background, the administration of standardized test instruments (MMPI–2 and Rorschach) and a narrative/autobiographic test, including extended inquiry procedures, and a summary and discussion session with the client's referring therapist present. The comprehensive TA model for adults was thus followed with the exception of the assessment intervention session.

Reason for Referral and the Pre-TA Session

Claire[1] was a 21-year-old woman receiving individual psychotherapy. After only a few sessions, she and her psychotherapist agreed to seek consultation to clarify the main foci for the treatment. In discussing their options for consultation, the therapist proposed that Claire might consider participating in a research project at the European Center for Therapeutic Assessment, which involved the collection of daily symptom measures in exchange for a TA at no cost. Claire agreed and the therapist initiated the referral.

During the initial phone contact with the assessor, F. Aschieri, the referring psychotherapist expressed his desire to better understand why Claire felt "stuck" in her life right now. She was described by the therapist as being extremely prone to "making mountains out of molehills." At the outset, the psychotherapist saw Claire as a brilliant, attractive, and resourceful young woman. He reported finding it difficult to understand what it was she found so wrong with herself. He felt that this underlying deficiency she saw in herself was ultimately standing in the way of her progressing in relationships and academics. A pre-TA meeting between the assessor and Claire was then arranged.

A first meeting was scheduled 8 days prior to the first formal TA session, during which the assessor described the TA model to Claire and discussed the research aspects of the study. This brief session was added to the comprehensive TA model to identify the individualized dependent variables for the research aspects of the case study. Claire was a tall, thin, blond-haired young woman, who despite her age and physical appearance was dressed in an old-fashioned, outdated, somewhat masculine suit. At the outset Claire did not have any questions about the assessment process or the research with which she would be involved. She confirmed her consent to participate and provided some basic background information regarding her reasons for seeking psychotherapy and the TA. Claire reported that she had a younger brother, age 14. Her parents were married but spent a lot of time apart because their respective vocations required frequent travel. Claire reported that she spent a lot of time during her youth living with an older aunt and uncle, who both passed away some years earlier. She reported that she had decided to seek psychotherapy because she felt unable to cope with her current academic demands and was having difficulty establishing and maintaining relationships with peers. During this meeting, Claire appeared very anxious and hopeless about her situation. She described being unable to communicate and interact with other people, which resulted in a period of being extremely lonely. She blamed herself for these problems, yet was able to acknowledge that one of her main issues was how hard she was on herself. Claire and the assessor then identified five dimensions of psychological functioning that were to be measured on a daily basis. These variables would be used to assess the potential effectiveness of the intervention (described in Part II). Claire began rating herself on the five indexes that day and was scheduled to return the following week to begin the formal TA.

[1]The client's name and all potentially identifying information have been altered to sufficiently disguise the client's identity. Additionally, the client provided explicit permission to write about her TA experience in deidentified form.

Session 1: Developing the Assessment Questions

In the first session of a TA, clients are asked to pose questions they hope the assessment process will be able to address. The formulation of assessment questions informs the selection of the assessment instruments and can later be used as "open doors" (Finn, 2007) through which assessors begin shifting clients' narrative about themselves and their problems. The assessor utilizes a series of techniques, described by Finn (2007) and Fischer (1985/1994), to assist the client in moving from initial general worries to specific questions that can be addressed though the assessment process. Clients are often asked when the problem behavior began, what factors or contexts increase or diminish the problem, the ways in which the client has attempted to cope with the problem, and the level of effectiveness of these strategies. The assessor also asks the client to propose his or her "best guess" as to the origin of the problem. By asking these questions, the assessor invites clients up on what Finn (2007) called the "observation deck" and elicits their curiosity. Finn suggested that this process sets the stage for therapeutic change to occur.

In the beginning of the initial session, Claire was unable to formulate assessment questions. Rather, she provided a general, rather complex picture of her situation. She described herself as lonely, desperately wanting relationships, and at the same time she was frightened by the thought of not being accepted or loved by others. Various efforts she had made to address this loneliness (e.g., leaving her parents' home to be closer to the center of town, getting a job, buying more attractive dresses) were not successful. She reported that these efforts actually resulted in her feeling even more different and alone than she was before.

In attempting to focus the assessment questions with Claire, the assessor heavily utilized "when not" questions (Fischer, 1985/1994). This technique focuses on the successful events, which are often hidden by a vague and typically negative narrative of the problem. Interviewing clients regarding their successes helps them to appreciate instances in which they were able to cope effectively with the issue at hand. "When not" episodes often bring about a more detailed and complex story, increase hope and a sense of self-efficacy, and decrease the client's shame, inasmuch as contextual factors are taken into account. For example, Claire initially stated that she wanted to know why she always had a "complete lack of friends." As background information was collected regarding this question, she and the assessor explored situations in which she had developed fulfilling relationships. This conversation drew out Claire's curiosity about her perpetually negative outlook, despite evidence of past successes. Claire's initial question about never having friends then morphed into, "Which contexts are best for me [in establishing friendships]?" By the end of the session, Claire settled on several other assessment questions: Why do I remember only negative events in my life? Why am I so afraid of other people judging me? and Why can't I be feminine and feel at ease about it?

Session 2: Rorschach Inkblot Test Administration and Extended Inquiry

TA with adult clients includes a number of sessions in which psychological assessment instruments are administered according to their standardized procedures. The MMPI–2 (Butcher et al., 1989) and the Rorschach Inkblot Test (Exner, 2003) are two commonly used tests in adult TA, due to the complementary information they provide (for a discussion, see Finn, 1996). In addition, the joint use of these tests allows assessors to conceptualize the different levels of clients' awareness about their psychological features in preparation for discussion of the assessment findings (Finn, 1996). Using Finn's (2007) concept of "levels" of information, the MMPI–2 is thought to generally assist the assessor in identifying Level 1 and 2 information, whereas the Rorschach generally taps into information that is either Level 2 or Level 3. Level 1 information refers to aspects of the client that are easily recognized as part of his or her current identity and view of self. Level 2 information is that which is currently not well integrated into the client's current understanding, but integration can be achieved with moderate effort and assistance from the assessor. Level 3 refers to those aspects of the client's self that are outside of his or her current awareness. Level 3 information might even be dissociated or repressed. This organizational structure can then be used in the summary and discussion session to present findings therapeutically and as a way to conceptualize clients' difficulties throughout the TA process (Finn, 2007; Smith et al., 2009). In addition to the norm-based results of the MMPI–2, Rorschach, and other instruments, information obtained through extended inquiry and the assessment intervention session also provide evidence of a test finding's potential level.

In this session, Claire seemed more at ease and less talkative and agitated. After discussing her reactions and thoughts regarding the previous session, the assessor introduced the MMPI–2 and asked Claire to complete the assessment prior to their next session. The Rorschach was then introduced and administered according to the Comprehensive System (Exner, 2003). During the administration, notable findings emerged in Claire's responses that informed the extended inquiry. In particular, from the 24-response protocol, the assessor noted five responses that met the Morbid content scoring criteria: "a smashed butterfly" (Card I, R1), "a broken flower" (Card I, R2), "a face after hitting the ground" (Card IV, R7), "skinned animals" (Card V, R9), and "a kid in pain" (Card IX, R18). According to Meyer, Erdberg, and Shaffer's (2007) 17-country international normative sample, the average number of Morbid scores in an adult's Rorschach is 1.26 with a standard deviation of 1.43.

The presence of five Morbid scores in an average-length protocol led the assessor to hypothesize that Claire unconsciously viewed herself as damaged and defective. In terms of levels of information, this was believed to be a Level 3 finding and was associated with the fact that she had not yet been able to process the extent to which her traumatic experience(s) affected her life. At this point in the assessment, Claire had not mentioned experiencing trauma. The Morbid content responses fit the assessor's initial impression that Claire saw herself as solely responsible for all her problems. The assessor believed that an extended inquiry involving the thematic content of the Morbid responses might be helpful in exploring these hypotheses and also preparing Claire to receive and discuss this feedback.

Following the completion of the standardized Comprehensive System administration procedures, the assessor began the extended inquiry by asking Claire to think about her responses as metaphors or symbols that represent aspects of oneself or one's life, per the suggestion of Finn (2007). She was then asked to choose the Rorschach cards that best fit her life

experiences at this point in time. Claire immediately selected Card I and confidently identified her two Morbid responses as the best metaphors of her current life experience. Because she appeared quite assured of her choice, the assessor decided to explore more deeply the meaning these metaphors held for Claire. The assessor began by first asking Claire what the "smashed butterfly" or the "broken flower" might say if they were able to speak. She replied angrily, "You did something very wrong to me!" Despite the conviction in her statement, Claire began to argue that the butterfly must be "stupid" to have let herself get caught, and that the flower's choice to grow in the field where he got torn had been "ill-advised."

The assessor commented that Claire's evaluation of the predicament faced by the butterfly and the flower was very harsh: It was difficult to imagine how a butterfly could escape from a human that wanted to hit her, or how a flower could refrain from blossoming, given that this is its predetermined fate. Claire remained silent for a few moments and then commented, "I don't see them as victims. I never see myself as a victim. You don't have to deny your responsibility." The assessor and Claire then discussed the advantages the butterfly and flower might have had in seeing themselves responsible for what has happened to them. They agreed that accepting responsibility for negative events and outcomes at least protected the butterfly from feeling helpless in a potentially dangerous and uncontrollable situation. Claire seemed to realize the downsides of this outlook as well. She said that the guilt, rather than the pain, associated with the original event was making it more difficult for the butterfly to recover from being caught. At this point, the assessor returned to Claire's assessment questions by asking her if the themes in this conversation might be related to her question about only remembering negative events in her life. With sadness, she replied that she always saw herself as "too stupid" or "too weak" to behave in a better way, and this feeling tied her to memories of negative events in her life.

Results of the MMPI–2 and Rorschach

Claire's MMPI–2 (the Validity, Clinical and Content Scales are provided in Appendix A), which she completed between the initial session and the administration of the Rorschach, revealed a very open, nondefensive protocol, which might have represented a somewhat self-critical approach to the test (L = 46T and K = 40T). This finding was consistent with the negative self-view demonstrated during the TA thus far. Her scores on Scale 0 (68T) and Scale 7 (67T) corroborated the anxiety and social problems identified in her assessment questions. The LSE (72T) and DEP (63T) scores on the MMPI–2 suggested that Claire was experiencing sadness, thoughts of being worthless and aimless, and low self-esteem (Friedman, Lewak, Nichols, & Webb, 2001). Furthermore, evidence suggested that she was acutely aware of these issues (SOD = 78T, ANX = 66T, OBS = 73T, A = 70T). The Structural Summary of Claire's Rorschach is presented in Appendix B. In the following text, means and standard deviations provided by Meyer et al.'s (2007) international composite normative sample follow each Rorschach variable. Claire's protocol included 24 responses (R; 22.31, 7.90) and a Lambda of 0.60 (0.86, 0.95), showing an adequate degree of engagement in the task.

Perhaps the most striking finding in her protocol was the Trauma Content Index (TCI = 0.37; Armstrong & Loewenstein, 1990), which indicated the possibility that Claire had experienced previous trauma (Brand, Armstrong, & Loewenstein, 2006; Kamphuis, Kugeares, & Finn, 2000). This finding, in conjunction with a Sum Shading score of 0 (4.29, 3.48), suggested dissociation of negative affect. However, Claire's protocol was not emotionally constricted, as evidenced by a WSumC of 3.5 (3.11, 2.17). Similarly, her Afr of 1.00 (0.53, 0.20) indicated that she was quite sensitive and reactive to emotionally arousing situations.

The Rorschach gave indications of a damaged self-concept and a marked tendency toward pessimism (MOR = 5; 1.26, 1.43). There was also evidence that when these feelings were aroused, Claire's thought clarity and perceptual accuracy diminished. Two responses contained both a Deviant Response (DR) and Morbid content. One of these responses occurred on Card II and was connected to a gruesome childhood memory for Claire: "a red slug ... I remember as a child when I was in the garden, I had this hobby of smashing them." Potentially trauma-related images also seemed to interfere with her reality-testing capacities (FQ– = 7; 4.43, 3.23). In fact, five of her seven FQ– responses occurred in correspondence with Morbid content scores (3) or the presence of Blood (2; 0.25, 0.55).

Although the interpretation of an elevated Egocentricity Index in the absence of Reflection responses is controversial (Weiner, 2003), in Claire's case it might indicate a tendency to be very negatively self-focused (Ego = 0.54; 0.38, 0.16 and Fr+rF = 0; 0.41, 0.88). She might make hasty and impressionistic judgments (Zd = –4.0; –0.67, 4.72) and be prone to impulsive action (FM = 7 [3.37, 2.18] + m = 1 [1.50, 1.54] > M = 3 [3.73, 2.66]). This finding might have been compounded by her ambitent style (EB = 3 [3.73, SD 2.66]: 3.5 [3.11, 2.17]).

With respect to Claire's expectations and interpretations of relationships, there were indications of ambivalence toward others and the expectation of being rescued (Ma [1; 2.09, 1.83]: Mp [2; 1.67, 1.61]) and taken care of (a [4; 4.96, 3.08]: p [7; 3.73, 2.65]). Yet, Claire also perceived relationships unrealistically (GHR [2; 3.70, 2.18]: PHR [4; 2.86, 2.52]), and as competitive and oppositional, as opposed to cooperative and rewarding (AG = 2; 0.54, 0.862 and COP = 1; 1.07, 1.18).

When compared for convergence and discrepancy, the MMPI–2 and Rorschach suggested somewhat different, yet complementary, aspects of Claire's narrative. The pattern of her data is consistent with the Cell B conceptualization of Finn's (1996) MMPI–2/Rorschach integration model. According to Finn, Cell B clients function relatively well in predictable and structured environments but are prone to be overwhelmed by their dissociated affect in emotionally arousing, interpersonal contexts. The MMPI–2 portrayed the story of an anxious and obsessive woman with low self-esteem, who avoided social interactions, and who experienced features of posttraumatic stress disorder. On the other hand, the Rorschach revealed that Claire suffered severe effects of trauma, had a dilemma between a desire for care and a fear of the others' rejection of her, and that she dissociated nearly every distressing feeling in an effort to cope with everyday life.

Session 3: The Early Memories Procedure

Following Claire's disclosure in the previous session of the effect her negative memories had on her, the assessor felt that exploring the way she was holding the memory of her

experiences was potentially of great importance. The Early Memories Procedure (EMP; Bruhn, 1992) was administered in hopes of achieving this goal. The EMP is a semistructured method for collecting clients' early autobiographical, episodic memories. The client is first asked to recall six of their earliest, specific, one-time memories. The client is then asked to rate how clear versus unclear and how negative versus positive each memory is in their mind. According to Bruhn (1992) the assessor might consider these memories as metaphors or images of the current struggles and problems in clients' lives by focusing on the memory the client rates as the most clear and most negative.

The session began with Claire talking about all the bad things she had faced in the previous week. The assessor and client observed that she was describing these experiences in a much different tone this time in comparison to previous meetings. In stark contrast to the first session, Claire was actually expressing some anger about these events and not blaming herself. She then completed the EMP on her own in the waiting room.

When they reconvened, the assessor read Claire's responses out loud. She had recalled several memories in which she experienced an unexpected separation (e.g., "I remember I was sleeping at home with my parents and my uncle came in and drove me to his house. By the time I woke up, I realized I had gotten the measles"), feelings of being excluded (e.g., "I remember the time my dog was very ill and had to be euthanized; I was 6 and nobody told me anything; I remember crying when I discovered that he was dead"), and loneliness coupled with a lack of support and caring from others (e.g., "In a summer camp, I didn't know anyone; I was in my tent alone crying, and nobody comforted me"). However, her most clear and negative memory was the following:

> One event is about my mother and my uncles. It was summer. I was at our new ranch out of town and they wanted to go out for ice cream, but it was too hot and I didn't want to go out. So my mother told me, "We are going. You stay here." Immediately after they left home, I realized I was alone in a big, unknown, scary home. I started to cry behind the door, wishing they would hear me and come back. They didn't and I eventually gave up crying.

Following a brief discussion of each of Claire's early memories, the assessor proposed that this memory, her most clear and most negative, might be a possible metaphor for her current difficulties. After Claire read this memory back to herself, she recalled how scared she was in the moment. However, as she had done in previous sessions, she began to apologize for her mother's behavior: "She just wanted me not to be so pampered." The assessor agreed that this could be one possible explanation. Claire was then invited to consider what she might have done in that situation if she were her mother. Claire immediately and resentfully replied, "I would never have left my daughter alone!" The assessor followed her anger and mirrored how distressing it must have been for a small child to experience such a lack of attunement from her parents. Claire had reported she was only 5 years old at the time. Moreover, at that age Claire commented that couldn't protect herself by expressing her desire and need to not be left alone. If she were to have tried to express this to her parents, she said she believed her mother likely would have abandoned her even more quickly, interpreting her behavior as "too pampered." Claire went on, "Maybe this is the reason I always do my parents' will? If I said no, they might stop supporting me and I would find myself alone because I don't have anybody but them. Or even worse, they would say something like 'Do what you want, we don't care!'"

In keeping with the goal of reconnecting Claire with her dissociated affect, the assessor asked Claire to focus on the most distressing moment of the episode she had described. She replied stressing how "smashed" and "torn" she felt at the exact moment at which the door shut and she found herself utterly alone and abandoned. As tears welled in Claire's eyes, she remembered how helpless she had felt and agreed with the assessor that actively accusing herself and condemning her actions was the only way she could gain control over such a frightening childhood experience.

This discussion led the assessor to summarize Claire's struggles in terms of a "dilemma of change" (Finn, 2007; Papp, 1983). Dilemmas of change refer to points at which clients' lives are stuck in a choice between two alternatives, and each alternative has comparable benefits and unbearable risks. On one side, Claire had learned to cope with the potentially overwhelming fear of unexpected loss by attempting to anticipate the occurrence of loss and then accusing herself of being the cause when she was inevitably abandoned. The downside of this coping strategy was that she felt constantly distressed, unfulfilled in relationships, and unable to find satisfaction in any aspect of her life, as evidenced by her assessment questions, if, on the other hand, she also feared the potential of being retraumatized if she were to enter into intimate relationships.

After hearing this formulation of her difficulties, Claire asked what she needed to do to solve the dilemma. The assessor suggested that she might have to encounter her deep-seated resentment and use it in a manner that facilitated her assertiveness in asking for what she felt she deserved. Claire pondered this option and observed that for her to make this change she would have to become vulnerable to the risk of having her requests refused by others, hence putting her at risk for retraumatization. The assessor reminded Claire that, in stark difference from the past, in potentially traumatic situations she could now obtain comfort from her psychotherapist, who would welcome her requests for help and support.

Session 4: Summary and Discussion Session

The general aims of the summary and discussion session (Finn, 2007) in TA are to (a) support the client as he or she is emotionally involved in rewriting his or her "story," and integrate new information into a more accurate understanding of his or her initial problems and life experiences; (b) review the issues and results that emerged during the TA; (c) shape the test findings, discussions, and interactions between the client and the assessor into formal answers to the assessment questions; (d) formulate suggestions for the client to assist him or her in making everyday life changes; and (e) in the context of a consultation with the clients' psychotherapist, formulate specific treatment recommendations.

When conducting a TA with a referring therapist, it is often advantageous to the ongoing psychotherapy to conduct the summary and discussion session in the therapist's office with the therapist present (Finn, 2007). This enhances the likelihood of the client being seen in a new light by the therapist, communicates nonverbally that, if needed, the assessment findings will be

held and elaborated in the therapy sessions, and can also provide the occasion to tailor a new and more viable therapeutic plan.

Prior to meeting with Claire, the assessor contacted her psychotherapist via telephone and shared the key findings revealed by the TA, and also coordinated the way in which they could best support Claire during the discussion of the results. The assessor and therapist agreed that Claire's experiences of trauma, and the psychological consequences, were directly related to the answers to all of her questions and that reassuring her that they could help her in the healing process would be important. A meeting among the three of them was then arranged.

The assessor began the summary and discussion session by acknowledging Claire's openness to others was a sign of her active search for comfort and affection (Level 1 information). The dialogue then turned to the issue of trauma. Claire and the assessor observed that believing she was the sole cause of her difficulties, her self-defeating behaviors, the lasting presence of memories in which she felt torn and abused as a child, and a score of 0.37 on the Rorschach's TCI, indicated that she was still struggling with the psychological sequelae of a series of traumatic experiences. During this part of the session, Claire said that before the assessment she had seen herself as "a stupid, horrible woman who couldn't finish anything in life." Now she said she was able to see herself as "survivor of traumatic events." She added several new episodes and memories, addressing her therapist directly, and they agreed to talk over this new information in their upcoming therapeutic work. The therapist later remarked to the assessor that their phone conversation had prepared him to support Claire during this session and he felt equipped to continue filling this role in the therapy.

Once Claire had been able to accept and integrate this new piece of information, she and the assessor addressed the assessment questions directly. Claire's question regarding her tendency to only remember negative events was reframed an as adaptive, automatic process. The assessor explained that this mechanism, evolutionarily, allowed humans to identify threats in the form of traumatic events, to better avoid them in the future. In her case, she was unable to discontinue this automatic, self-protective process because she hadn't yet found alternative ways of facing these potential threats, such as being protected by an attuned caregiver. Similarly, the fear of others' judgments and her tendency to blame herself was the way she was able to protect herself from being caught off guard by potentially unpredictable offenses from her environment. This coping mechanism was associated with high costs, though. For example, Claire was unable to recognize and accept compliments from others or experience their efforts at expressing their affection for her. But at least she felt some control over the pain of having been judged so harshly in the past.

Next, Claire and the assessor explored possible contexts in which she could best connect with other people. She reported feeling great relief hearing her test results (particularly the MMPI–2) that suggested that she might feel most comfortable with a few friends at a dinner party, in comparison to going to a club or disco. Similarly, she agreed that she might prefer to have a discussion about a movie rather than hanging out outside a pub. The assessor shared that these more intimate interactions with others were valued and very rewarding to many people, himself included. Finally, they faced the question of her femininity. The assessor acknowledged how it was clear that she was desperately seeking a partner and suggested she might feel that her desires were unfulfilled (Rorschach FM = 7). Still the assessor suggested that she delay starting to search for a potential partner until she was able to recover a little more from her loneliness. The assessor gently and empathically remarked to Claire that she needed time to heal. A letter, reflective of the oral feedback, was provided a few weeks later.

Session 5: Follow-Up Session

Two months after the summary and discussion session, the assessor met with Claire for a follow-up session. Claire asked permission to bring her new dog, a 5-month-old puppy, which she had recently adopted. She remarked that the puppy stayed with her almost all the time. Claire had also moved into a new residence, which she was sharing with another student her age.

In the 2 months between meetings with the assessor, Claire had received the feedback letter and she reported that she and her psychotherapist had discussed it several times. She reported that she was still harboring feelings of shame and guilt, which were related to her difficulty incorporating a new view of herself as a trauma survivor and not automatically and unfairly blaming herself for her early experiences with her parents. Although the change process was proceeding gradually, she was able to report some positive changes. Importantly, she was recently asked to coordinate an important activity with the children at her part-time job and she decided which major area of study she would be applying for in the coming semester. These were signs that Claire was feeling unstuck and capable of moving forward.

By the end of the session, Claire was even able to express some anger and irritation to the assessor in regard to her feeling that he had behaved in a "cold" way when they had parted at the end of the summary and discussion session. She had been expecting to receive a hug, but ended up feeling badly when the assessor instead chose to just warmly shake hands. This desire was discussed and the assessor praised Claire for having found a voice with which to speak up about her needs. When the session concluded, the assessor didn't forget to hug Claire while saying goodbye.

PART II: THE SINGLE-CASE EXPERIMENT

Procedures, Research Design, and Data Analytic Strategy

The procedures, research design, and data analytic methods employed in this single-case experiment largely mirror those of previous TA studies with children and families conducted by Smith and colleagues (Smith et al., 2010; Smith et al., 2011; Smith et al., 2009). Given the availability of an in-depth description of the procedures in these previous studies, we only briefly describe the specifics of this case. In the pre-TA session, Claire and the assessor identified five indexes to be measured daily. Claire rated herself each night on the five items on a Likert-type scale ranging from 0 to 10 and periodically returned her ratings to the assessor. The indexes included the extent to which Claire (a) was hard on herself, (b) felt the ability to express her love and affection toward others, (c) was able to recognize others' love and affection of her, (d) felt loneliness, and (e) felt anxiety.

In between the pre-TA session, in which the indexes were identified, and the first session of the TA, an 8-day baseline was collected. The Smith et al. studies utilized a hybrid initial TA session, in which the assessment questions and the

daily measure indexes were identified. The inclusion of a pre-TA session to solely identify these indexes was included in this study to disentangle the potential confounds of collecting a pretreatment baseline after the initial TA session had already occurred. Claire then reported daily on these indexes through the completion of the summary and discussion session, a 28-day period. In contrast to the Smith et al. studies, follow-up data were not collected after the completion of the TA. Claire, the assessor, and the psychotherapist agreed during the final session that Claire should focus her energies on the therapy.

The daily measures were analyzed using the simulation modeling analysis (SMA) for time-series program (Borckardt, 2006). In contrast to other methods for analyzing case-based time-series data (e.g., hierarchical linear modeling and repeated measures analysis of variance), SMA was specifically designed for single-subject studies with short baseline and intervention periods (Borckardt, 2006; Borckardt et al., 2008). Using a level-change analysis, SMA calculates an effect of phase by comparing the mean score of the baseline period to the mean score of the treatment period. The actual probability of obtaining this effect size, from a pool of 5,000 data streams with a similar number of data points and autocorrelation estimates, is then provided. Autocorrelation is the inherent nonindependence of sequential observations in time-series data streams. High autocorrelation estimates ($\geq$.80) have been found to result in insufficient power sensitivity, which is the ability to correctly infer a significant effect, when a significant effect indeed exists (Smith, Borckardt, & Nash, in press). The autocorrelation estimates of sequential observations (lag-1) in this study were found to range from .027 to .635 for each dependent variable data stream.

In addition to level-change analyses, we also ran a slope-change analysis. Slope-change analysis in SMA determines the strength of the relationship between the dependent variable data stream and an a priori model. We chose the Slope Vector 2 model in SMA, which predicts a flat slope during the baseline period followed by linear improvement during the treatment phase. This model was selected because we expected that the baseline period would be a relatively stable sampling that would then change trajectory, in the direction of improvement, coinciding with the onset of TA. Because two analyses were run on each variable, we applied the highly conservative Bonferroni (1935) correction, resulting in a critical p value of .025 (.05/2).

Results and Discussion of the Time-Series Analyses

The results of the level-change analyses (see Table 1) indicated significant improvement in Claire's ability to express affection ($r = .70$, $p = .001$), and a trend toward improvement in her reported feelings of anxiety ($r = .32$, $p = .062$), between the pretreatment baseline period and the onset of TA. The composite score variable also showed significant improvement ($r = .55$, $p = .021$). Although not statistically significant, the effect size magnitudes for the other dependent variables were generally medium (range: $r = .32$–$.36$), with the exception of her feelings of loneliness ($r = .22$). Experts have routinely suggested interpreting results based on the magnitude of the effect instead of relying on traditional inferential methods (Cohen, 1994; Wilkinson & The Task Force on Statistical Inference, 1999). The SMA program addresses some of the limitations of other analytic strategies when determining the probability of obtaining the observed effect size. However, medium and large effect sizes could represent substantive, clinically significant changes for Claire and should not be disregarded to due their p value. For example, Claire's reported ability to recognize others' love for her during the baseline period was nonexistent. All scores were rated 0 during this period. Her mean rating improved nearly 2 points to 1.86 by the end of the TA. The old adage "something is better than nothing" might connote pessimism, but it is doubtful Claire would be so dismissive of this result in the context of beginning to feel loved and cared for in a way she hadn't previously.

Table 1.—Results of the time-series level-change and slope-change analyses.

	Baseline		TA		Level-Change		Slope-Change		
Index	*M*	*SD*	*M*	*SD*	*r*	*p* Value	*r*	*p* Value	*pAR* (Lag 1)
1. Hard on herself[a]	7.88	2.17	5.29	2.99	.36	.261	.59	.060	.627
2. Recognize her love/affection for others[b]	0.00	0.00	5.61	2.73	.70	.001*	.35	.224	.510
3. Recognize others' love/affection for her[b]	0.00	0.00	1.86	2.37	.35	.258	.53	.112	.635
4. Loneliness[a]	5.25	3.96	3.25	3.84	.22	.378	.25	.329	.403
5. Anxiety[a]	6.50	4.87	3.32	3.79	.32	.062	.41	.014*	.027
Composite score [a]	7.93	1.56	4.88	2.09	.55	.021*	.58	.020*	.457

Note. Dependent variables were measured on a 0–10 scale. TA = therapeutic assessment; *pAR*(Lag 1) = autocorrelation of sequential observations; composite score = mean score of five dependent variables with same valence (decrease indicates improvement).

[a]Decrease in mean scores indicates improvement. [b]Increase in mean scores indicates improvement.

*Significance after applying the Bonferroni correction (alpha .05/2 = .025).

The results of the slope-change analyses, also in Table 1, tell a similar story. Even though only a few of the variables (Claire being hard on herself, her feelings of anxiety, and the composite score) were moderately correlated to the a priori model, these results suggest that the course of Claire's experiences and feelings shifted around the time that the TA began. These results are consistent with Finn's (2007) conjecture that the therapeutic effects of TA grow following the completion of the formal intervention. Similarly, Horowitz and Hoyt (1979) suggested that brief therapeutic interventions set in motion the processes of change, but change resulting from treatment might not be evident until later. In the context of TA, the collective results of the studies by Smith and colleagues' (Smith et al., 2010; Smith et al., 2011; Smith et al., 2009) indicate that some clients improved during the TA, whereas others only experienced significant improvement during a 2-month follow-up period. In Claire's case, participation in TA appears to have stimulated some positive changes, even if they have yet to be fully realized. Figure 1 provides a visual illustration of the trajectory of the composite score.

Limitations and Future Directions

Although single-case designs provide a distinctive perspective of case-by-case improvement and change processes, replication and the inclusion of greater experimental control is necessary to infer causality of an intervention. Due to the inherent

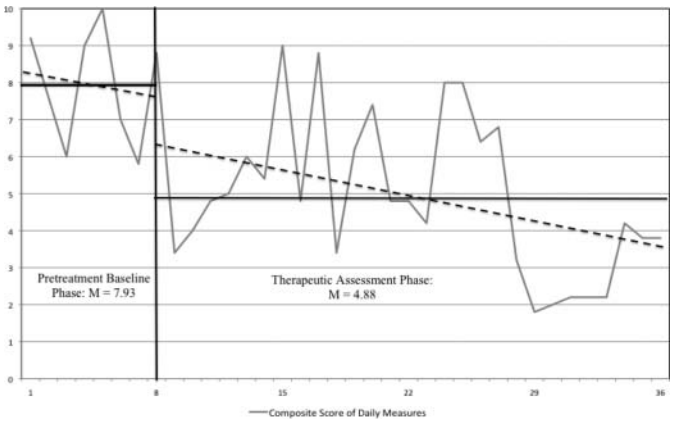

FIGURE 1.—Course of composite score of daily measures. The solid horizontal lines depict mean scores and dashed lines indicate trend lines during each study phase. The solid vertical line divides the pretreatment and therapeutic assessment phases. X axis = day; Y axis = severity.

threat to internal validity in all single-case studies, neither the slope-change analyses nor the level-change analyses can be inferred to represent causality in this, or any other, single case. One limitation of the research design employed in this case study is the potential that simply asking Claire to monitor her feelings resulted in the observed improvements. Researchers have termed this phenomenon the *Hawthorne effect* (for a review of this topic, see Rosenthal & Jacobson, 1992). There is also the potential influence of demand characteristics: Claire wants to believe the intervention is working and reports improvement on the daily measurements as a result.

A second measurement consideration is our use of dependent variables that have not been validated. This issue is a widespread problem in daily measures designs because few variables are known to possess the necessary sensitivity, selectivity, and validity for use in repeated measures designs. Observed changes over time in dependent variables that have yet to be validated for use in repeated measures designs could be due to chance variation in the measurement method and not necessarily reflect substantive and valid changes (Shadish, Cook, & Campbell, 2002). One way to substantiate the results of the time-series analyses would have been to include a pre- and postassessment using a validated symptom change instrument, such as the OQ–45 (Lambert et al., 1996). Due to these and other factors, the conclusions drawn from single-subject designs must be tentative, but can be used to inform subsequent research and to build theory (Kazdin, 2010).

In addition to greater experimental control and the use of validated dependent variables, future studies of TA with adults should assess for the stability of observed changes and the potential for improvement to grow after the TA formally concludes. The lack of a follow-up period in this study is perhaps its greatest limitation, as there is no way to empirically gauge whether or not the observed effects continued, grew, or vanished after the TA was completed. The choice to not collect follow-up data was made to allow Claire and her psychotherapist to focus on their work together. This type of dilemma exemplifies the challenges of conducting real-world experimental research, in which research decisions are nearly always influenced to some extent by the therapeutic needs of the participant. Had this study been conducted for research purposes first and foremost, this decision likely would have swung in the opposite direction.

CONCLUSIONS

The use of a case-based daily measures design seems to have confirmed its value as a clinically oriented, researcher/practitioner- and client-friendly method of analyzing treatment effectiveness (Borckardt, 2006; Borckardt et al., 2008). Experts have suggested the potential therapeutic benefit of case-based clinical research employing self-monitoring of change and symptom improvement during baseline and treatment phases (e.g., Kazdin, 2010; Lambert, 2010). In alignment with one of the main goals of TA, daily monitoring invites clients to observe themselves and discover differences in their internal and environmental features (Bateson, 1972). With the backing of an empathic and supportive TA assessor, clients can begin to discriminate between contexts in which certain affect and behavior occurs. Similarly, reflecting on the variations, covariations, and patterns of their daily ratings initiates a process of "mentalizing" (Fonagy, Gergely, Jurist, & Target, 2002). This case study is important in demonstrating that the single-subject time-series design can be applied to the adult TA model. Future studies could examine how involving clients in the interpretation of their daily ratings can promote active engagement as "experts" on their own experience not only in the therapeutic part of the assessment, but in the research aspects as well. Despite the potential therapeutic benefits of daily monitoring, Claire's post-TA feedback to the assessor identified the face-to-face discussion as the most useful aspect, which points to the power of the intersubjective characteristics of TA.

Based on the time-series results, Claire appears to have experienced a general improvement during the study period, as evidenced by significant changes in the level and trajectory of the composite score. Although the treatment cannot be ascribed a causal role in these observed changes, one aim of TA is to promote small changes in the way clients perceive themselves and their lives (Finn, 2007). Finn also proposes that an "interaction effect" exists between a new outlook on life and external contingencies, which over time can reveal the full amplitude of change. The basic shift in Claire's story, from seeing herself as inadequate and unable to effectively cope with problems to understanding that she is slowly recovering from severe trauma experiences, can be considered an important turning point to be promoted and worked through in individual therapy.

A common question many assessors pose is in regard to the added value or incremental validity of TA over traditional assessment with feedback. Although addressing this issue empirically was not the goal of this case study, we would like to comment on this topic. Undoubtedly, many seasoned assessors are capable of facilitating similar therapeutic benefits with clients through a more traditional report-writing and feedback process. One advantage of utilizing a semistructured TA method, however, is that it maximizes the potential of achieving therapeutic aims. This might be particularly true with less experienced assessors. In this case, at the time of the assessment, the assessor had not yet completed doctoral training. Similarly, the studies conducted by Smith and colleagues (Smith et al., 2010; Smith et al., 2011; Smith et al., 2009) and Tharinger et al. (2009), which provide support for the effectiveness of the child TA model, were conducted by predoctoral student therapists. We also

believe that the positive effects clients experience as the result of any psychological assessment occur mainly through a trusting relationship with the assessor. The procedures and techniques of TA capitalize on the potential of these relational factors to maximize the possibility of positively effecting clients. Empirical examination of the incremental validity of TA in comparison to other assessment paradigms is an important area for future research.

ACKNOWLEDGMENTS

The authors wish to thank Deborah Tharinger and Stephen Finn for their helpful suggestions and thoughtful comments during the preparation of this article.

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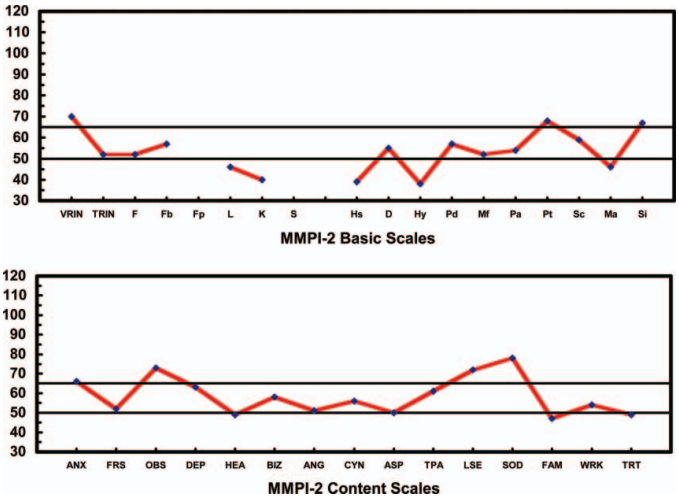
APPENDIX A

MMPI–2 Basic and Content Scales



Excerpted from the MMPI(r)–2 *(Minnesota Multiphasic Personality Inventory(r)–2) Manual for Administration, Scoring, and Interpretation,* Revised Edition. Copyright © 2001 by the Regents of the University of Minnesota. All rights reserved. Used by permission of the University of Minnesota Press. "MMPI" and "Minnesota Multiphasic Personality Inventory" are registered trademarks owned by the Regents of the University of Minnesota. (Color figure available online.)

APPENDIX B.—Rorschach Comprehensive System 5th Edition Structural Summary

LOCATION FEATURES	DETERMINANTS BLENDS	DETERMINANTS SINGLE	CONTENTS	APPROACH
	M.CF		H = 3	I : W.W
Zf = 16	FM.CF	M = 2	(H) = 0	II : D.D.W
ZSum = 48.5	FM.FC	FM = 5	Hd = 0	III : W
ZEst = 52.5		m = 1	(Hd) = 0	IV : W.W
		FC = 2	Hx = 2	V : W.W
W = 11		CF = 0	A = 15	VI : W
D = 12		C = 0	(A) = 1	VII : W
W+D = 23		Cn = 0	Ad = 2	VIII : W.D.D
Dd = 1		FC' = 0	(Ad) = 0	IX : D.D.D
S = 0		C'F = 0	An = 0	X : D.D.D.Dd.D.D
		C' = 0	Art = 1	
		FT = 0	Ay = 1	SPECIAL SCORES
DQ		TF = 0	Bl = 2	Lv1 Lv2
+ = 12		T = 0	Bt = 3	DV = 0 x1 0 x2
o = 12		FV = 0	Cg = 0	INC = 2 x2 0 x4
v/+ = 0		VF = 0	Cl = 0	DR = 4 x3 0 x6
v = 0		V = 0	Ex = 0	FAB = 1 x4 0 x7
		FY = 0	Fd = 0	ALOG = 0 x5
FORM QUALITY		YF = 0	Fi = 1	CON = 0 x7
		Y = 0	Ge = 2	Raw Sum6 = 7
FQx MQual W+D		Fr = 0	Hh = 0	Wgtd Sum6 = 20
+ = 0 = 0 = 0		rF = 0	Ls = 0	
o = 12 = 2 = 12		FD = 2	Na = 0	AB = 0 GHR = 2
u = 5 = 0 = 4		F = 9	Sc = 0	AG = 2 PHR = 4
– = 7 = 1 = 7			Sx = 0	COP = 1 MOR = 5
none = 0 = 0 = 0			Xy = 0	CP = 0 PER = 0
		(2) = 13	Id = 0	PSV = 0

RATIOS, PERCENTAGES, AND DERIVATIONS

R = 24	L = 0.60			FC:CF+C	3 : 2	COP = 1	AG = 2
				Pure C	= 0	GHR:PHR	= 2 : 4
EB = 3 : 3.5	EA = 6.5	EBPer	= N/A	SmC':WSmC	= 0 : 3.5	a:p	= 4 : 7
eb = 8 : 0	es = 8	D	= 0	Afr	= 1.00	Food	= 0
	Adj es = 8	Adj D	= 0	S	= 0	SumT	= 0
				Blends/R	= 3	Human Cont	= 3
FM = 7	SumC' = 0	SumT	= 0	CP	= 0	PureH	= 3
m = 1	SumV = 0	SumY	= 0			PER	= 0
						Isol Indx	= 0.21

a:p	= 4 : 7	Sum6	= 7	XA%	= 0.71	Zf	= 16	3r+(2)/R	= 0.54
Ma:Mp	= 1 : 2	Lv2	= 0	WDA%	= 0.70	W:D:Dd	= 11 : 12 : 1	Fr+rF	= 0
2AB+Art+Ay	= 2	WSum6	= 20	X–%	= 0.29	W:M	= 11 : 3	SumV	= 0
MOR	= 5	M–	= 1	S–	= 0	Zd	= –4.0	FD	= 2
		Mnone	= 0	P	= 5	PSV	= 0	An+Xy	= 0
				X+%	= 0.50	DQ+	= 12	MOR	= 5
				Xu%	= 0.21	DQv	= 0	H:(H)+Hd+(Hd)	= 3:0

PTI = 1	DEPI = 4	CDI = 1	S-CON = 5	HVI = No	OBS= No