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The Personality Assessment Inventory in the Evaluation of Multiple Channel Exposure Therapy

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The National Comorbidity Survey (NCS) determined that the comorbidity rate of posttraumatic stress disorder (PTSD) with panic disorder is 7.3% for males and 12.6% for females. A 21-year-old female's presenting symptoms corresponded to this dual diagnosis, with the addition of comorbid major depressive disorder. The Personality Assessment Inventory (PAI) was used as part of an initial comprehensive assessment battery. Treatment was provided over a period of 6 months, and multiple channel exposure therapy (MCET) was chosen as the primary treatment, as it has been shown to be a promising treatment for the comorbid presentation of PTSD with panic disorder. Upon completion of the MCET, the PAI was readministered as a posttreatment evaluation. The posttreatment PAI results indicated clinical improvement across all indices that initially suggested clinical problems. Results of this case study suggest that the PAI is sensitive to treatment gains from the MCET for the comorbid conditions of PTSD, panic disorder, and major depressive disorder.

Keywords: *posttraumatic stress disorder; panic disorder; major depressive disorder; multiple channel exposure therapy; Personality Assessment Inventory*

1 Theoretical and Research Basis

Posttraumatic stress disorder (PTSD), like many current psychiatric diagnoses, has evolved in name and symptomatology inclusion over many decades. Current PTSD lifetime prevalence rates are estimated to vary in the general population between 1% and 13% (Breslau, Chilcoat, Kessler, Peterson, & Lucia, 1999; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). A review of PTSD studies indicated that about 50% of rape victims develop PTSD (Kushner, Riggs, Foa, & Miller, 1993). Norris (1992) examined ten common traumatic events and found that tragic death was most frequently experienced, but sexual assault was the traumatic stressor that produced the highest rates of PTSD. Comorbidity of diagnoses is common in PTSD, and greater rates of substance abuse, chronic disease, functional impairment (home, work, or school), decreased overall life satisfaction, and increased rates of interpersonal violence have been found (Zatzick et al., 1997). The National Comorbidity Survey (NCS) determined that the comorbidity rate of PTSD with panic disorder is 7.3% for males and 12.6% for females for those individuals

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diagnosed with PTSD (Eaton, Kessler, Wittchen, & Magee, 1994), with reports of up to 44% comorbidity in some disaster populations (Green, Lindy, Grace, & Leonard, 1992).

Researchers and therapists began to focus therapeutic approaches based on learning theory when large numbers of returning veterans were affected with PTSD during the Vietnam War. In particular, extinction techniques counteracted the classical and operant conditioning of the conditioned fear response (PTSD trauma) where previously neutral stimuli had been paired with fear and anxiety (Keane, Zimering, & Caddell, 1985). This approach, however, did not address all the PTSD symptoms according to Lang's (1968) proposed fear network of three channels—the physiological, cognitive, and behavioral.

Stress Inoculation Training (SIT) was developed, which incorporated social learning theory (Meichenbaum, 1985). Several variations of SIT exist and they all include the same basic process: an educational element and the training of coping skills (muscle relaxation, breathing control, covert modeling, role playing, thought stopping, and guided self dialogue; Kilpatrick & Amick, 1985). Exposure techniques have also been used in the treatment of PTSD, among them systematic desensitization, direct therapeutic exposure/flooding, and prolonged exposure (PE). All these techniques use the same basis premise that requires the individual to imagine themselves in the traumatic situation that produced their PTSD (Shalev, Orr, & Pitman, 1992), and is theorized to work by decreasing physiological arousal to cognitive perceptions of danger.

Cognitive therapy has also been used effectively to treat PTSD. This form of treatment is based on a belief that PTSD reflects an inability to utilize psychological processes that would help natural recovery. Negative cognitions are believed to play a key role in maintaining and even widening the extent of PTSD symptomatology (Foa, 1997), and cognitive therapy helps transform negative cognitions by teaching patients to recognize how their own thought patterns can lead to negative emotions and adverse physiological reactions. Conceptualization of PTSD based on Lang's fear network (Foa, Steketee, & Olasov-Rothbaum, 1989), led to cognitive processing therapy (CPT). CPT was designed to address the symptoms of PTSD in sexual assault victims and incorporates components of cognitive therapy with exposure techniques (Resick & Calhoun, 2001).

Three treatments for panic disorder are well supported in research literature, panic control treatment (PCT; a cognitive-behavioral therapy), cognitive therapy, and progressive muscle relaxation (PMR) with breathing retraining. PCT was developed in the 1980's and is the most comprehensive of the three treatments. PCT is based on the conceptualization that panic attacks are an acquired fear of bodily sensations, and therefore focuses on exposing the patient to interoceptive sensations (physiological sensations similar to those of the panic attacks; Barlow & Craske, 2000). An examination of a cohort of panic disorder patients revealed that 24.2% of females and 5% of males reported traumatic experiences, which suggests that trauma may act as a risk factor for panic disorder (Leskin & Sheikh, 2002).

There is one treatment that specifically targets both PTSD and panic disorder symptomatology. Multiple channel exposure therapy (MCET) utilizes aspects of empirically supported treatments for both disorders and combines them (Falsetti & Resnick, 1997). A model was developed to treat panic disorder in individuals with PTSD (Falsetti, Resnick, Dansky, Lydiard, & Kilpartick, 1995), which was based on Barlow's model and treatment of panic disorder (*Mastery of Your Anxiety and Panic*; Barlow & Craske, 2000) and Foa's

information-processing theory (Foa et al., 1989) that was incorporated into CPT (Resick & Schnicke, 1993). This new model proposed that panic symptomatology arose from the traumatic experience and maintained chronic hyperarousal, which in turn sustained the PTSD symptomatology (Falsetti et al., 1995). An efficacy study revealed that MCET produced significant reduction in the symptomatology of panic attacks, PTSD, and depression (Falsetti & Resnick, 1999). MCET provides an average of 12 sessions of treatment that can be presented to a group or an individual, and has been used in the treatment of PTSD from a wide range of events such as sexual assaults, homicide of a family member, physical assaults, military combat, and witnessing serious injury or death (Falsetti & Resnick, 2000).

2 Case Presentation

When she first presented to our clinic, Ms. Smith (name changed to preserve anonymity) was a 21-year-old, single, childless, unemployed, White female with a GED certificate. She was residing with her boyfriend of 2 years. She reported experiencing difficulty in daily living activities that had begun when she was raped and was then intensified by an additional sexual assault.

The first sexual assault occurred when Ms. Smith was 13 years old and she was raped by an acquaintance. At the time of the rape she had been a virgin, and the incident had a profound effect on her self-image. Ms. Smith was then sexually molested at 17 years of age, by a male in her extended family.

Diane Petrac, an advanced doctoral student in a clinical psychology PhD Program, conducted the individual treatment sessions. Dr. Jeffrey Bedwell served as the clinical supervisor for the majority of the treatment.

3 Presenting Complaints

Ms. Smith reported that she felt overwhelmed by constant anxiety and stress, because of her distrust and fear of men. Such pervasive distrust of men appeared to stem from the two sexual assaults that occurred in her childhood. Ms. Smith reported feeling sad and tearful most of the day, having diminished interest in activities she used to enjoy, periods of insomnia, feelings of worthlessness, and a diminished ability to concentrate. She reported experiencing flashbacks, heightened vigilance, occasional uncontrollable anger (that at times included violence against her partner), emotional lability, fatigue, lack of motivation, symptoms of avoidance, intrusive thoughts, unfounded jealousy, and panic attacks.

Ms. Smith stated that she began to experience panic attacks several weeks after the molestation at age 17, and that they have occurred at least once a month since that time. She reported that it was very rare for her to go out alone at night, even to a store, as she was concerned about having a panic attack and being attacked. She reported that she reexperienced the intense fear that she felt during her rape and sexual molestation whenever she was an unfamiliar place alone at night, or when something reminded her of the events (e.g., a television show). She reported it was difficult to talk about the incidents, and that she had never been

able to discuss the details of the attacks with anyone. She stated that she has to remain hypervigilant so that no one else can hurt her. She reported that psychotropic medications helped lessen the severity of her symptoms in the past, but never adequately treated the symptoms.

4 History

Ms. Smith was the youngest of three siblings within a large, extended, Italian-American family. Her parents divorced when she was 10-years old, and she has three half-siblings from her parents' remarriages. She reported several close friendships and few social problems. She stated that she felt very close with her mother and grandmother, and enjoyed spending time with her siblings and step-parents.

She noted that from the time when she began to date, at around 15 years of age, she would find it difficult to trust her partner, and would "fly into jealous rages." This history of jealous rages included times in which she would physically attack her male companions, often leaving them bruised, though none had reciprocated the violence. She denied ever using weapons in these attacks. Ms. Smith reported no physical violence in other types of relationships, although she would inflict damage on inanimate objects (i.e., she punched a hole through a glass window). She reported that these rage episodes increased after the molestation that occurred at 17 years of age.

Ms. Smith reported no main occupation. She was last employed for several months as a bartender, which she reported leaving 3 months prior to the assessment. Her employment history included several positions working in stores and cleaning houses. She reached managerial status in one position at age 20, but she resigned from this position after one month, following a panic attack that occurred in the store.

Following her molestation incident at age 17, Ms. Smith was treated for depression, anxiety, and panic attacks for one year, during which time she received both psychotherapy and psychotropic medication. It appears that she met criteria for a severe major depressive episode at that time. An attempted suicide only failed because of her previous boyfriend's intervention. She reported that her symptoms were greatly reduced by the medication and psychotherapy.

She has been prescribed Zoloft since 19 years of age by her general practitioner. Ms. Smith reported that this medication has helped curtail the night terrors that she experienced for several years after the molestation.

5 Assessment

Ms. Smith was evaluated by the authors at age 21, using an unpublished in-house customized semistructured clinical interview and the Personality Assessment Inventory (PAI; Morey, 1991). The semistructured interview has been used in the clinic for several years, and allows the clinician the flexibility to explore issues of clinical importance including the use of symptom checklists for precise diagnosis. The PAI is a personality measure with 344 items with 22 nonoverlapping scales, including 4 validity scales and 11 clinical scales. The

PAI uses *T*-scores with a mean of 50 and a standard deviation of 10. A *T*-score of 70 or higher indicates an area of clinical concern. The PAI was chosen as it was designed with a stringent theoretical framework that incorporated both content validity and discriminant validity, with internal consistency alphas in the .80s for full scales (for a thorough review see Morey, 1991 or Morey & Boggs, 2004). Ms. Smith completed the PAI without omitting any items and responding in a consistent manner to similar items (Appendix A). There was a mild suggestion that she endorsed items to present an unfavorable impression (negative impression $T = 73$). This is often an indication of a "cry for help," or a marked negative outlook, but can also represent true psychopathology. However, the strongest elevations on her profile can be considered to be a valid reflection of her experiences. Ms. Smith received full scale clinical elevations on somatic complaints ($T = 78$), anxiety ($T = 81$), anxiety-related disorders ($T = 91$), depression ($T = 77$), schizophrenia ($T = 72$), borderline ($T = 85$), drug problems ($T = 70$), aggression ($T = 89$), and suicidal ideation ($T = 80$). Several scales and subscales were particularly elevated (more than two standard deviations above the mean for a sample of clinical patients), anxiety-related disorders ($T = 91$), aggression ($T = 89$), phobias ($T = 79$), activity level ($T = 79$), verbal aggression ($T = 74$), and physical aggression ($T = 100$).

6 Case Conceptualization

Ms. Smith's responses during the clinical interview and on the PAI reflected marked distress over impairment of daily functioning. Distress included severe anxiety over the reoccurrence of sexual violence, which had led to hypervigilance and severe restriction of her daily activities. Her responses suggested that she was somewhat of a perfectionist and tried to control her environment at all times, including making living areas overly clean and ordered. When unable to control events, she experienced extreme mood swings, which she felt to be uncontrollable. Her emotional lability, particularly her verbal and physical aggression, was interfering with her interpersonal relationships. She ruminated over the emotional damage she inflicted to those she is closest too, and this added to her anxiety and depression. Her responses suggested that she was plagued by thoughts of worthlessness and hopelessness, and her concern over the physiological symptoms of anxiety and depression added to her pessimistic outlook. She described the panic attacks as the "worst feeling—like dying."

She reported suicidal ideation, which needed to be closely monitored. Her self-esteem appeared fragile, and was overly affected by people around her. However, she had a number of supportive relationships that served as a buffer against some of the major stressors she perceived. Her motivation for treatment appeared to be driven by a desire to have a more stable romantic relationship. The possibility of an axis II diagnosis was considered, due to elevations on the PAI and some diagnostic interview responses, but at the end of the assessment Ms. Smith did not meet full criteria for any axis II disorder and axis I disorders better accounted for the behaviors. Ms. Smith's symptoms were so pronounced that she received a diagnosis of posttraumatic stress disorder, with comorbid panic disorder and major depressive disorder.

7 Course of Treatment and Assessment of Progress

The initial treatment plan was threefold, to treat symptoms of panic, PTSD, and depression. These three disorders all had one type of therapy in common that has been demonstrated to be efficacious: for depression (Dobson, 1989); PTSD (Dancu & Foa, 1992); and panic disorder (Beck, Sokol, Clark, Berchick, & Wright, 1992) cognitive therapy. Use of cognitive therapy would allow treatment of all three disorders at the same time, and enable the most prominent and troublesome cognitions from any of the disorders to be examined first. The initial treatment was based around the handbook of *Cognitive Therapy* (Beck, 1995), and a hierarchy of distorted cognitions was created. As Ms. Smith was experiencing severe somatic and physiological symptoms, an immediate goal of therapy was to reduce the lack of control she felt over her bodily sensations by training her in relaxation and breathing techniques. Overall, the goal was to give Ms. Smith some confidence that she had control over her thoughts and physiological sensations as quickly as possible.

During the first few sessions it became apparent that Ms. Smith was often confusing feelings with thoughts, and accessing more surface cognitions. The most pressing panic symptoms were the only cognitions being addressed, as the fear of their reoccurrence was severely restricting Ms. Smith's activities of daily living. Her continuing high level of depression led to a suicide prevention contract and plan, which was successfully completed. Due to Ms. Smith's multiple diagnoses, research into alternate treatment therapies had been ongoing. She had responded well to psychoeducational handouts, and commented that she liked to have something to read at home whenever she was feeling upset. It was thought she may respond well to a manualized treatment where she would be able to learn adaptive coping strategies and have written materials to help her focus on the process. Cognitive processing therapy was under consideration for use with Ms. Smith as it was designed to specifically address the symptoms of PTSD in sexual assault victims, and during the literature review of CPT, references for MCET were found. The literature on MCET, though small, showed it to be a promising treatment for combined Panic Disorder and PTSD.

It appeared to be an ideal fit to help reduce Ms. Smith's multiple symptomatology. With Ms. Smith's permission, and agreement to spend the minimum 12 sessions to complete the course of treatment, MCET was introduced during session 5.

Chapters 1 and 2 were reviewed, and the homework in chapter 2 was discussed and assigned. Ms. Smith appeared enthusiastic about the manual and looked forward to starting the process. Chapter 1 of MCET focuses on the expectations of treatment and outlines each of the 12 sessions. The most important aspect of chapter 1 is ensuring that the patient is committed to complete the entire treatment. Chapter 2 encompasses education about reactions to trauma and includes discussions of comorbidity and treatment rationale. PTSD and panic attack symptoms are detailed and homework is introduced. Monitoring forms for PTSD symptoms and panic attacks are included in the homework, and are given with all of the 12 treatment sessions. They are an invaluable tool for both clinician and patient to track change in these symptoms over time. A "Meaning Worksheet" is also part of chapter 2's homework, which asks the client to write at least one page on what the experiencing of the traumatic event means to them and how it has affected their beliefs about themselves, others, and the world.

As of the 6th therapy session, Ms. Smith was making progress, as she reported limited panic symptoms (fewer than 4 symptoms) and no full-blown panic attacks had occurred since the beginning of therapy. The connection between physiological reactions to stress and the actual symptoms experienced by Ms. Smith was particularly important for her progress. She was able to connect hyperventilation with panic attacks, and rapidly mastered diaphragmatic breathing.

The main goal for MCET session #3 was to continue to slow down Ms. Smith's breathing rate, and illuminate the connection of events, thoughts, feelings, and behavior. The breathing exercises described in the chapter were completed. Ms. Smith was able to grasp the concept rapidly as it was already familiar to her from the pre-MCET sessions. Continuing use of homework, and Ms. Smith's ability to routinely complete the homework, resulted in weekly gains in mood and functioning. The MCET patient manual provides blank "Event-Thoughts-Feelings" worksheets (for daily events and the trauma), specific homework assignments (e.g., continuation of breathing retraining), and symptom monitoring forms.

Despite treatment gains, Ms. Smith's commitment to therapy was reevaluated, as she missed three appointments after MCET session #3. However, she returned to therapy to complete MCET session #4 after she reported being able to cope with several very stressful personal events more effectively than she thought possible. Session 4 focuses on changing thinking, and questions such as "Do I jump to the Worst Conclusion?" and "What evidence is there against this thought?" were addressed. Extreme thinking, using words such as "never," "always," "forever," "need," "should," and "must," was focused on and challenged. Session 5, "Facing the Panic Sensations," included eight exercises that were used in an attempt to recreate some of Ms. Smith's panic attack symptoms, with hyperventilation and shortness of breath being the most closely linked, followed by a rapid, seemingly uncontrollable, heart rate, and overall muscular tension. The following week was spent focusing on a number of interoceptive exposure exercises, which allowed Ms. Smith to repeatedly experience her feared physiological symptoms for homework. Ms. Smith's panic symptoms had dramatically decreased by MCET Session 6.

The sixth MCET session focused on reviewing the trauma. The analogy suggested in MCET session #6 is that avoiding thinking through the details of traumatic incidents is like switching off a horror movie on television. If the movie is not played to the end then the fear of the unknown becomes very powerful, but the more times the movie is played right to the end the less frightening it becomes. Ms. Smith reported that this was a powerful analogy for her. Her avoidance of remembering the details of the molestation had appeared to help her neutralize some anxiety-provoking thoughts, but appeared, at the same time, to severely restrict her ability to evaluate the impact that the attack had made on her life. Neutralization in many anxiety-related disorders can be positive or negative, but for Ms. Smith her attempts at anxiety-neutralization appeared to have intensified her maladaptive behaviors (for neutralization in anxiety and exposure treatments see Parrish, Radomsky, & Dugas, 2008). After practicing the analogy, and "replaying" the molestation all the way through several times, Ms. Smith was able to talk about it in greater detail. She remembered aspects she had previously forgotten and reported a subjective decrease in physiological arousal (reduction in her heart rate, feelings of nausea, and choking). Ms. Smith reported that she still did not want to talk about the rape, but her memory of the molestation was

becoming clearer and easier to talk about. Part of her homework was to write about the event with as much detail as possible, and then reread it every day.

During MCET session #7, Ms. Smith reported that she completed her homework of writing out the attack in detail, and she read aloud the account in the session. The process of writing out and rereading the attack was discussed, including her thoughts and the physiological symptoms that she experienced. The actual reading aloud of the account and the emotions it evoked were compared to her previous avoidance and distress in even thinking about the event. Ms. Smith's ability to do this had great personal impact, and she reported that her feelings of guilt, fear, and anxiety were diminishing.

During MCET session #8, Ms. Smith shared that the process of writing out, thinking, and talking about the attack was becoming easier and easier. She had no physiological reactions (racing heart beat/sweaty hands) when she read over the account, which contrasted dramatically with her reaction at the beginning of therapy. The process had such an impact on her thinking that she began to talk about the rape that took place when she was 13 years of age. She had written out a new account of what had taken place and was able to talk at length about the attack for the first time in her life. A review of panic symptoms from the first homework was compared to her last homework. The contrast was dramatic, with almost no panic symptoms being reported versus daily reports at the beginning of therapy. Session 8 focused on how the trauma affected Ms. Smith's sense of safety.

MCET sessions #9 and #10 analyzed the effects of the trauma on trust, power, and control. Separate handouts are provided on these issues. For Ms. Smith, the issue of trust was still a major part of her battle to regain complete control of her life. A hierarchy of her fears was made and homework of confronting those places and situations was assigned. During MCET session #11, she processed how the two traumas had eroded her belief in her own worth and the worth of all men. An "Esteem Issues" handout was read aloud and processed. It is noted that part of this session's homework was to continue to work on the fear hierarchy, but Ms. Smith had been able to complete the whole hierarchy the previous week.

During the final session of MCET, Ms. Smith addressed her frequent automatic thought "I am so stupid." This was explored in the context of her self-beliefs and how that affected her interactions with other people. Ms. Smith was able to express that her symptomatology had decreased greatly, from experiencing daily-multiple PTSD symptoms and weekly panic attacks, to no noticeable symptoms. The gradual cessation of panic symptoms was charted from MCET's weekly report forms in the patient manual.

Ms. Smith noted that she had struggled at times with therapy, as many issues and negative thoughts that she had not previously addressed came to light. Ms. Smith discussed how she had been able to use her relaxation and breathing techniques to work through the more difficult times. She had been adept at generating alternate thoughts and by the final session, her daily living activities returned to a level she considered normal. She was able to drive alone at night, visit gas stations alone, return to work full-time (plus working overtime regularly), talk to strangers more readily, see her boyfriend (now fiancée) interact with females without becoming enraged, and start to think of her future—college and wedding plans. The rereading of the accounts helped her overcome the trauma-related fear, and she commented that the MCET analogy of the scary movie worked—she kept replaying the past until it no longer made her afraid. During the last session of MCET, Ms. Smith reported a continued increase in self-confidence and self-efficacy, and was experiencing no

panic, anxiety, or depressive symptoms. She also expressed that she no longer felt worthless. The remarkable changes that Ms. Smith had been able to make were perhaps due to locating a treatment protocol that was able to address many of her multiple symptoms. Ms. Smith reported enjoying the structure of the MCET, and was observed responding positively to the manual throughout treatment. She also was prepared to put in the necessary work outside of therapy sessions, like completing her homework every week and carefully reading and rereading the manual and handouts. This appeared to be a great contribution to her symptom reduction, as she reported reaching for her reading materials whenever she began thinking negatively, or feeling negative emotions, and using the suggestions in the moment. She was able to replace her maladaptive coping strategies (avoidance of people and situations) with adaptive coping strategies (changing her physiological and psychological reactions to negative stimuli by controlling her breathing and challenging her automatic thoughts). Her intelligence and her willingness to make changes in her life made her an exceptional client to work with.

8 Complicating Factors

Several complications meant supplementary work was needed in addition to the MCET. In particular, Ms. Smith's extreme jealousy and aggressiveness meant that several therapy sessions included work in these areas and additional materials were used. Her unpredictable violence toward her boyfriend, though a rare occurrence, raised safety concerns. Jealously issues for Ms. Smith stemmed from her deep mistrust of men in general and esteem issues, and, for her, the greatest personal victory of therapy was being able to see her boyfriend talk to another woman without feeling deep internal rage.

Ms. Smith's comorbid major depressive disorder added another dimension to treatment that needed to be addressed. However, with the intensive cognitive therapy used during the first four sessions together with Ms. Smith's willingness to engage in more routine daily activities (e.g., walking and visiting family and friends) led to dramatic reductions in her depressive symptoms.

9 Managed Care Considerations

There were no managed care considerations for the treatment of Ms. Smith as the treatment was provided at a free training clinic. However, research suggests that the MCET is a promising manual-based treatment that may be acceptable to some managed care organizations. Ms. Smith found the MCET manual to be particularly useful, as some of the examples used were from sexual assault victims and reflected the same feelings and thoughts that she had experienced. Ms. Smith may have also responded particularly well due to her ability to analyze her own thoughts, her willingness to try alternative thinking patterns, and her high motivation. In a client with limited cognitive abilities, there may be more time required to successfully complete treatment. This factor is recommended to be carefully considered prior to using this treatment in a managed care environment.

10 Follow-Up

Follow up one month after the completion of the MCET revealed that Ms. Smith was still successfully coping with a demanding work schedule, and she reported that she had been capable of handling any stressful situation that occurred. She also revealed that she was being considered by her employer for early enrollment into a management-training program.

Follow up at a 2-month booster session involved career counseling. Ms. Smith reported that her primary relationships had continued to strengthen. She was proud to report that she had successfully resolved several areas of possible conflict without becoming enraged, depressed, or anxious. Ms. Smith's current symptomatology was evaluated. She reported virtually no PTSD, panic, or anxiety symptoms since the end of treatment. Ms. Smith had decided to go to community college and had begun the process of signing up for classes. Her employment continued to be successful and she was about to enter management training. Several measures were taken during the booster session, which were primarily related to career counseling (to be discussed in a separate document). The PAI was readministered during the booster session as an outcome measure to evaluate the efficacy of the treatment (Appendix A).

The following full scale elevations that Ms. Smith endorsed at pretreatment were all reduced to the normal range at posttreatment: somatic complaints ($T = 52$), anxiety ($T = 49$), anxiety-related disorders ($T = 53$), depression ($T = 47$), schizophrenia ($T = 47$), borderline ($T = 56$) , drug problems ($T = 56$), aggression ($T = 42$), and suicidal ideation ($T = 54$). Several subscales that were significantly elevated pretreatment (more than two standard deviations above the mean for a sample of clinical patients) also decreased to normal range posttreatment, phobias ($T = 45$), activity level ($T = 60$), verbal aggression ($T = 39$), and physical aggression ($T = 52$).

From results of the posttreatment assessment measure and interview, Ms. Smith no longer met criteria for major depressive disorder, PTSD, or panic disorder. The posttreatment assessment on the PAI revealed that out of the 22 full scale scores (Validity 4, Clinical 11, Treatment 5, and Interpersonal 2), 17 of Ms. Smith's had changed toward the normal level in a statistically reliable manner. This was calculated by considering that one standard error of measurement (SEM) is four *T*-score points (Morey & Boggs, 2004), which was used in the standard formula for reliable change index (RCI) of two SEM's (Jacobson & Truax, 1991). Of the 22 scale scores, 17 met this criterion of a decrease of eight or more *T*-score points.

11 Treatment Implications of the Case

Ms. Smiths's positive response to this treatment is consistent with reports of the efficacy of MCET for comorbid PTSD and panic disorder for young females who have a PTSD as a result of sexual abuse. It also continues to strengthen the growing reputation that the MCET has in providing therapeutic gains for most cases of PTSD, due to Ms. Smith's other issues. This case highlights how comorbid symptoms of depression can be ameliorated readily with the use of the MCET with few supplementary sessions or activities. The

MCET format was broad enough that additional strong personal feelings that were disruptive to daily functioning, like jealousy and anger, were able to be addressed seamlessly during the manualized treatment. Of special interest was the use of the PAI to track Ms. Smith's dramatic changes made through her treatment. This measure may be particular useful in providing quantitative data for managed care organizations and for controlled research studies when investigating the MCET or other manualized therapy treatments.

12 Recommendations to Clinicians and Students

PTSD significantly impacts the lives of thousands of people throughout the world. Patients presenting with this disorder often have other comorbid diagnoses that can complicate the effective treatment of their symptoms. In many cases, the length of time between seeking treatment and the actual time when traumatizing event occurred can extend over many years, as was the case with Ms. Smith. Results of Ms. Smith's treatment gains and progress throughout therapy were striking. This case study strengthens the findings that MCET may also be useful in PTSD cases that include comorbid major depressive disorder, although a few initial cognitive restructuring sessions were conducted to target depression symptoms prior to beginning the MCET. The PAI was particularly effective at capturing the significant treatment gains, and may be a useful measure to consider whenever treatment efficacy needs to be quantitatively demonstrated.

Appendix A
PAI Pre- and Posttreatment Scores

Full Scale	Pre Raw Score	Pre *T* Score	Post Raw Score	Post *T* Score	*T*-Score Change
ICN	6	52	8	58	–6
INF	2	47	0	40	–7
NIM	8	73[a]	0	44	–29
PIM	9	36	20	61	+25
SOM	39	78[a]	13	52	–26
ANX	49	81[a]	15	49	–32
ARD	54	91[a]	22	53	–38
DEP	40	77[a]	11	47	–30
MAN	30	58	22	49	–9
PAR	20	52	15	46	–6
SCZ	31	72[a]	12	47	–25
BOR	53	81[a]	24	56	–25
ANT	27	65	21	59	–6
ALC	9	57	3	47	–10
DRG	14	70[a]	7	56	–14
AGG	48	89[a]	8	42	–35
SUI	18	80[a]	5	54	–26
STR	13	66	5	48	–18
NON	1	39	2	42	+3
RXR	1	23	14	51	+28
DOM	20	49	28	63	+14
WRM	24	51	32	65	+14

a. >70 indicate scores of clinical concern.

Appendix B

Subscale	Pre Raw Score	Pre *T*-score	Post Raw Score	Post *T* Score	*T*-score Change
SOM-C Conversion	10	72[a]	1	46	–26
SOM-S Somatization	17	83[a]	6	54	–29
SOM-H Health Concerns	12	69	6	54	–15
ANX-C Cognitive	18	78[a]	7	52	–26
ANX-A Affective	18	81[a]	6	49	–32
ANX-Physiological	13	75[a]	2	44	–29
ARD-O Obsessive-Compulsive	17	70[a]	14	62	–8
ARD-P Phobias	17	79[a]	5	45	–34
ARD-T Traumatic stress	20	89[a]	3	48	–41
DEP-C Cognitive	13	75[a]	3	46	–29
DEP-A Affective	13	74[a]	2	44	–30
DEP-P Physiological	14	69	6	50	–19
MAN-A Activity level	16	79[a]	10	60	–19
MAN-G Grandiosity	2	35	3	38	–3
MAN-I Irritability	12	60	9	53	–7
PAR-H Hypervigilance	8	51	5	42	–9
PAR-P Persecution	4	51	2	45	–6
PAR-Resentment	8	52	8	52	0
SCZ-P Psychotic experiences	10	70[a]	5	53	–17
SCZ-S Social detachment	8	56	3	43	–13
SCZ-T Though disorder	13	75[a]	4	49	–26
BOR-A Affective instability	15	81[a]	5	51	–30
BOR-I Identity problems	17	86[a]	7	56	–30
BOR-N Negative relationships	13	75[a]	6	53	–22
BOR-S Self-harm	8	68	6	60	–8
ANT-A Antisocial behaviors	13	68	10	61	–7
ANT-E Egocentricity	5	55	5	55	0
ANT-S Stimulus-seeking	9	62	6	53	–9
AGG-A Aggressive attitude	16	78[a]	2	39	–39
AGG-V Verbal aggression	15	74[a]	3	39	–35
AGG-P Physical aggression	17	100[a]	3	52	–48

See note to Appendix A.

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