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Contextual Behavior Therapies in the Treatment of PTSD: A Review

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Empirical evidence supports cognitive -behavioral interventions for the treatment Posttraumatic Stress Disorder (PTSD), with exposure therapy typically being the most frequently utilized. While the success of exposure treatments is well established there are factors which may hinder their use in "real-world" settings (e.g., poor treatment compliance, high drop-out rates, aversive nature of the procedures). These limitations indicate that the field of psychology needs to continue to search for effective and palatable PTSD interventions. Contextual behavior therapies, such as Acceptance and Commitment Therapy, Behavioral Activation, Dialectical Behavior Therapy, and Functional Analytic Psychotherapy, may be these alternatives. This paper reviews the theoretical rationale and available empirical literature related to the use of these treatments with trauma populations.
Keywords: Post-traumatic Stress Disorder, Contextual behavior therapies, Acceptance and Commitment Therapy, Behavioral Activation, Dialectical Behavior Therapy, Functional Analytic Psychotherapy.

It has long been recognized that traumatic events can produce psychiatric symptoms[1] in individuals who were previously well adjusted; however, the overriding notion was that the stress-induced symptoms were transient (Wilson, 1994). The *Diagnostic and Statistical Manual for Mental Disorders* (*DSM*; American Psychiatric Association, 1952) contained the diagnosis of "gross stress reaction" and *DSM-II* (APA, 1968) contained the diagnosis of "transient situational disturbance." As the *DSM-II* diagnostic label indicates, both versions assumed that trauma- induced symptom-responses were temporary and would dissipate, and any symptoms that remained were characteristic of a separate psychological disturbance (McNally, 1999). The return of Vietnam veterans and increasing awareness of their symptoms generated a debate that helped change the professional perception of psychological response to traumatic events (McNally, 1999). The APA *DSM-III* Task Force explored cases of individuals who had experienced incidents of war, rape, and natural disasters. They concluded that these types of events could give rise to a common constellation of symptoms and a unique psychological syndrome. Based on their recommendation, *DSM-III* (APA, 1980) was the first edition to include the diagnostic label of Posttraumatic Stress Disorder (PTSD). The diagnosis has remained throughout the revisions of *DSM-III-R* (APA, 1987), *DSM-IV* (APA, 1994), and *DSM-IV-TR* (APA, 2000) with slight modifications to the original defined criteria. The current criteria include symptoms from three defined symptom clusters: (1) recurrent re-experiencing of the trauma (e.g., nightmares, intrusive thoughts), (2) avoidance symptoms (e.g., avoidance of the reminders of the trauma, avoidance of thoughts about the trauma, emotional numbing), and (3) increased arousal (e.g., heightened startle response, insomnia). The diagnosis of PTSD is satisfied if the symptoms persist for a minimum of 4 weeks.

Exposure to the types of traumatic events that can lead to psychiatric difficulties is extremely common. Nearly 60% of men and 50% of women experience a traumatic event at some point during their lifetime (Resick, 2001; Schnurr, Friedman, & Bernardy, 2002). There is great variation in the prevalence rates of PTSD in the general population. Kessler, Sonnega, Bromet, Hughes, and Nelson (1995) found that among the general population, estimates of lifetime PTSD are 5% for men and 10% for women. Among traumatized individuals, lifetime prevalence rates increase to 8% in men and 20% in women (Kessler et al.). It is difficult to gather a very clear picture of the frequency of this disorder by looking at the general population because the likelihood of developing PTSD varies with the type of trauma experienced. Those that occur with the most frequency (motor vehicle accident, witnessing someone being injured/killed, and natural disasters) tend to have lower PTSD prevalence rates than those less frequently experienced (combat, child abuse, and sexual

[1] While we use the nomenclature of DSM in this paper, when we speak of "symptoms" of a disorder we are not speaking of signs of some underlying problem other than the behavior itself. The symptoms are behaviors, and the disorder represents a commonly-occurring set of behaviors.

assault), with sexual assault being the most likely event to result in PTSD (Resick). Kessler and colleagues found that the vast majority of men (88%) and women (79%) who met criteria for PTSD also met criteria for at least one other DSM diagnosis. Substance abuse and depression are the most frequent, with co-morbidity rates consistently exceeding 50% (Gold, 2004; Kessler et al.; McFarlane & de Girolamo, 1996; Resick).

Modern behavioral treatment of PTSD focuses on exposure, although relaxation techniques are often also applied. Exposure is based on the simple notion that anxiety subsides through a process of habituation after exposure to the feared stimulus. Applied to PTSD, the exposure usually involves imaginal re-presentation of the traumatic events and blocking escape (through dissociation or distraction). While extensive research supports the use of exposure therapy in the treatment of PTSD (Rothbaum, Meadows, Resick, & Foy, 2000), exposure interventions appear to be most effective in treating re-experiencing and hyperarousal symptomatology, with less impact on the avoidance symptoms (Blake & Sonnenberg, 1998).

Despite this strong empirical evidence, practitioners in "real-world" settings do not appear to utilize exposure interventions with great frequency (Becker, Zayfert, & Anderson, 2004; Cook, Schnurr, & Foa, 2004). There is debate as to why these therapies are not implemented at a higher rate. Commonly suggested barriers include: high rates of treatment non- compliance (Foa, Rothbaum, Riggs, & Murdock, 1991; Tarrier et al., 1999; Vaughan & Tarrier, 1992); high drop-out rates (Schnurr, 2001); the observation that some patients fail to enroll because they are intimidated or may find the treatment too aversive (Rothbaum et al., 2000; Scott & Stradling, 1997); limited empirical work to guide clinicians on how to treat PTSD when it co- occurs with another Axis I disorder (Cook et al.; Shalev, Friedman, Foa, & Keane, 2000); and lack of comfort with or knowledge of the intervention by clinicians (Becker et al.). While these difficulties do not negate the value of exposure therapy, they do suggest that the field needs to continue to search for effective PTSD interventions, particularly those that target avoidance behaviors, which may be more palatable to both clinicians and clients.

It is possible that contemporary behavior therapies might provide effective alternatives to these exposure-based interventions. In fact, the last decade has witnessed the emergence of a "third wave" of behavior therapies (Dougher & Hayes, 2000; Hayes, 2004; Hayes, Masuda, Bissett, Luoma, & Guerrero, 2004). This current movement includes therapies such as Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999), Behavioral Activation (BA; Martell, Addis, & Jacobson, 2001), Dialectical Behavior Therapy (DBT; Linehan, 1993), and Functional Analytic Psychotherapy (FAP; Kohlenberg & Tsai, 1991).

These "third wave" therapies share a contextualistic world view. Pepper (1942) described two possible world hypotheses or world views—contextualism and mechanism —which have largely dominated the field of behavioral therapy (Dougher & Hayes, 2000; Martell et al. , 2001). In distinguishing these views it is important to explore their root metaphors (their comprehensive way of representing things in the world). The root metaphor for mechanism is the machine. The mechanistic perspective views the world as individual parts working together to make up the whole. This mechanistic view is held by first generation behavioral theories, cognitive theories, and biological theories of psychopathology. If there are problems, the mechanist locates the part that is broken (i.e., neurotransmitter imbalance, depressive schema, poor social skills) and repairs it, thus returning the system to normal. In contrast, the root metaphor of contextualism is the "ongoing act in context" (Dougher & Hayes). Action is integrated within its context and setting rather than separated from it. Simply put, contextual interventions focus on the function of behavior, rather than the form. For example, the action of running can have very different meaning depending on the context (e.g., exercising, late for work, being chased by a rabid dog). A similar analysis can be constructed by looking at the avoidance behavior frequently seen in individuals who suffer from PTSD.

As stated earlier, avoidance symptoms are one of the core diagnostic, and most difficult to treat, features of PTSD. Individuals will go to great lengths to avoid people, places, objects, thoughts, and feelings associated with the traumatic event. Within the contextualist approach it is not the anxiety, sadness, and/or aversive thoughts and memories that are pathological, rather the pathology lies in the avoidance strategies (Follette, 1994; Pistorello, Follette, & Hayes, 2000; Walser & Hayes, 1998). As a result, while exposure-based interventions attempt to eliminate aversive emotions (i.e., repair the broken part), contextual behavior therapies are focused on assisting the client to explore the function of their avoidance behaviors (i.e., action in context).

In this paper, we provide brief theoretical and empirical reviews of ACT, BA, DBT, and FAP. Due to space limitation, we are not able to supply comprehensive theoretical descriptions of each intervention, but foundational principles and rationale for their use with the PTSD population will be presented. Given that the field is still in its infancy in exploring these therapeutic approaches in the treatment of PTSD, there is limited empirical literature available that examines their effectiveness. The majority of literature available is in the form of case studies or conference presentations.

Acceptance and Commitment Therapy (ACT)

Acceptance and Commitment Therapy is a comprehensive intervention that has been implemented in various modalities and with a variety of psychiatric populations (Hayes et al., 2004; Hayes et al., 1999). The philosophical grounding of ACT is in functional contexualism (Hayes, 1993) and Relational Frame Theory (RFT; see Hayes, Barnes-Holmes, & Roche, 2001 for RFT review). At its essence, ACT targets experiential avoidance: An unwillingness to remain in contact with particular private experiences coupled with attempts to escape or avoid these experiences (Hayes, 2004; Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). These authors

suggest that experiential avoidance often does not work, as the events (thoughts and feelings) targeted for avoidance often are respondent or classically conditioned. In addition, experiential avoidance may work in the short term (reduction/elimination of unwanted private event) but lead paradoxically to a subsequent increase in the events targeted for avoidance and produce chronic aversive private events in the long term (e.g., heightened re-experiencing symptoms, numbing, dissociation). When experiential avoidance does work in the short term, a generalized avoidance repertoire may be reinforced which may result in poor problem solving and restricted change efforts when needed in the future.

While research on experiential avoidance as a precise technical process is still in its infancy (Hayes et al., 2004), Hayes and colleagues (1996) reviewed several converging lines of experimental evidence (e.g., thought suppression, avoidant and "emotion-focused" coping styles) that implicate experiential avoidance as functionally important to many clinical syndromes, including PTSD. A key feature of this description is that it highlights environmental factors necessary for the acquisition of a generalized experiential avoidance repertoire. In other words, while private events may be naturally aversive, and thus avoidance of private events may be reinforcin g in the short term without additional training, the theory of experiential avoidance largely suggests that most clinically-relevant private events are not inevitably aversive but only become so through complex language and socialization processes.

In ACT, many PTSD symptoms are seen as related to an experiential avoidance response class, resulting not only avoidance of environmental stimuli associated with the traumatic event, but avoidance of thoughts, memories, and other verbal stimuli that obtain aversive functions by being in relational networks with such environmental stimuli. ACT also highlights how efforts to avoid these stimuli may in fact backfire, leading to uncontrollable, intrusive thoughts, nightmares, and hyperarousal about future sources of related aversive stimulation. ACT techniques directly target these processes. First, clients are helped to contact the fact that their efforts to avoid aversive private experiences may be making the situation worse. Then, defusion, mindfulness, and acceptance exercises teach clients alternate response options when faced with aversive private events. Finally, clients are taught to focus on personally-chosen values and guided to make and keep commitments to behavior change in the service of those values rather than in the service of experiential avoidance. In doing so, ACT moves away from the symptom reduction goal underlining standard exposure-based interventions.

Two published case studies address the use of ACT with individuals suffering from PTSD symptomatology. Orsillo and Batten (2005) comprehensively outlined the specific therapeutic aspects of ACT in treating a 51-year-old Vietnam War combat veteran. While the authors did not report specific data on standardized psychological measures, they did provide details of each stage of treatment, the specific interventions used, and positive clinical results seen in the client over the course of treatment. Batten and Hayes (in press) examined the use of ACT with a 19-year-old female who was suffering from co-morbid polysubstance abuse and PTSD (childhood sexual abuse). At the pre-treatment assessment the client demonstrated a moderate level of general psychological distress, depressive symptomatology, experiential avoidance, and thought suppression. Despite experiencing significant life stressors (death of her mother and an unexpected pregnancy) over the 18 month course of treatment, the post-treatment assessment demonstrated improvement across all measures to below clinically significant levels.

Behavioral Activation (BA)

For the purpose of exploring the mechanism of action of Cognitive Therapy for depression (CT; Beck, Rush, Shaw, & Emery, 1979), Jacobson and colleagues (1996) conducted a component analysis of the intervention. Their research provided evidence that BA, the behavioral component of CT, was as effective at reducing depressive symptomatology as the full CT intervention, and results were maintained over a two-year follow up (Gortner, Gollan, Dobson, & Jacobson, 1998). These results called into question the need for explicit cognitive interventions when treating depression and led to a number of studies that have more thoroughly examined the effectiveness of BA as a stand-alone treatment. In an effort to replicate and extend the original findings, Dimidjian and colleagues (2004) conducted a study comparing BA (Martell et al., 2001), CT (Beck et al. , 1979), paroxetine (Paxil) with clinical management (Fawcett, Epstein, Fiester, Elkin, & Autry, 1987), and pill placebo in the treatment of depression. The results indicated that BA and paroxetine were comparable in their effectiveness and that both outperformed CT and pill placebo. Additionally, Porter, Spates, and Smitham (2004), explored the effectiveness of BA in a group modality (BAGT) on a chronically depressed, difficult -to-treat public mental health population. The researchers demonstrated that those individuals who received BAGT (N = 26) demonstrated a statistically and clinically significant reduction in their symptoms of depression from pre-treatment to 3-month follow-up.

As the clinical utility of BA has emerged, the authors of this early research have clarif ied the theoretical underpinnings of the intervention (Jacobson, Martell, & Dimidjian, 2001; Martell et al. , 2001) by incorporating Ferster's (1973) functional analysis of depression. In this theory it is an assessment of the function of the behavior, rather than the form, that is important in facilitating clinical change. This view can be differentiated from the work of Lewinsohn (1975), who suggested an increase in pleasant events was indicated in the treatment of depression. Thus, the modern theory of BA demands that the clinician and client perform a functional analysis of the client's behavior and develop a treatment plan focused on address ing the client's avoidance behavior in an attempt to assist him or her to engage in more active behaviors. An increase in active behaviors enables the client to come into contact with more reinforcers in his or her environment. Behavioral Activation holds that it is unrealistic to assume that an individual is able to go through life engaging

in only pleasurable activities. As told to clients, it is not a matter of doing things when you feel like it. Rather, it is engaging in activity because the behavior will help you to accomplish goals you have set (Martell et al.). The client must be taught to effectively and consistently engage with his or her life.

Behavioral Activation's focus on modifying avoidance strategies suggested it as an effective treatment for PTSD. As stated above, avoidance is a key symptom of PTSD and individuals with PTSD have become hypervigilant in assessing their environment to locate any indication of trauma related cues, including their emotional responses. Perceived risk leads to avoidance responses which are negatively reinforced, even if the risk was never actually present. Behavioral Activation targets these avoidance responses and assists clients in engaging in behaviors that are intended to facilitate accomplishing their goals, rather than feeling good. It is a subtle form of exposure because individuals are asked to engage in behaviors that may have become associated with the traumatic experience. However, they are not asked to engage in these behaviors for the explicit purpose of exposure, rather it is simply an attempt to remain active with their environment.

Three studies have been completed that examine the effectiveness of BA in treating PTSD alone or the co-morbid condition of PTSD and Major Depressive Disorder (C-P/D). Mulick and Naugle (2004) completed a case study that examined BA in treating a 37-year-old, married, Caucasian male who had experienced numerous traumatic experiences (i.e., attempts on his life, investigations and witnessing accidents involving loss of life) during the course of his careers as a police officer and a member of the military. He met *DSM-IV* criteria for both PTSD and MDD. The client had been through numerous other modalities of treatment in the past, including group and pharmaceutical interventions. The BA treatment consisted of 11 sessions, which occurred on a weekly basis. Self-report data were gathered at each session and again at mid-point between each session. At post-treatment assessment, self-report and observer rated data indicated that the client no longer met criteria for either PTSD or MDD. Results at 1-month follow-up suggested that the therapeutic gains were not only maintained, but that the client continued to improve. The authors made particular note of the client's high satisfaction with BA. They indicated that this aspect should not go unnoticed given the perceived aversive nature exposure therapy.

Mulick and Naugle (2002) further investigated the efficacy of 10-weeks of BA in the treatment of C-P/D in four adults using a nonconcurrent multiple baseline across participants design. Again, all participants met *DSM-IV* criteria for both MDD and PTSD at the pre-treatment assessment session. The participants had experienced various traumatic experiences: two women (21- and 28-years-old) had been sexually assaulted, one male (56-years-old) was a Vietnam War combat veteran, and one male (47-years-old) had experienced physical and sexual abuse between the ages of 5 to 21. Self-report data were gathered at each session and again at mid-point between each session for the duration of the baseline and intervention phases of the study. At the post-treatment assessment sessions, self-report and observer rated data indicated that two participants no long met criteria for either MDD or PTSD and an additional participant no longer met criteria for MDD. Again, it was specifically noted that all participants rated their satisfaction with BA as very high, providing further evidence of the palatability of this particular intervention.

Jakupack and colleagues (2004) reported the results of a pilot study examining a 16-week BA intervention in the treatment of PTSD in a veteran population. Nine of the original 11 participants completed all assessments and the treatment phase of the study. Self-report and observer rated measures of depression, PTSD, and quality-of-life were administered pre- and post-treatment. Additionally, depression and PTSD self-report measures were completed by the participants before their weekly therapy sessions. Results demonstrated statistically significant improvement in PTSD symptomatolo gy and quality-of-life scores. In aggregate, there was not a statistically significant change in self-reported scores of depression. However, the authors indicated that this may be a result of numerous participants having pre-treatment scores of depression in the mild range. When examined as a whole, the majority of participants had a reduction of BDI scores of 7 or more points from pre- to post-treatment assessment. Finally, all veterans tolerated BA very well and indicated that it was a useful intervention that affected numerous areas of their lives (e.g., health related behaviors).

Dialectical Behavior Therapy (DBT)

The correlation between a diagnosis of Borderline Personality Disorder (BPD) and a history of trauma is clear. Golier and colleagues (2003) found that outpatient subjects with BPD had significantly higher rates of childhood or adolescent physical abuse than those without a diagnosis of BPD but with other personality disorder diagnoses (52.8% versus 34.4%) and were twice as likely to develop PTSD. Herman, Perry and van der Kolk (1989) found a strong association between a BPD diagnosis and history of childhood abuse. Significantly more subjects with a BPD diagnosis (81%) had trauma histories including physical abuse (71%), sexual abuse (68%), and witnessing serious domestic violence (62%). A number of other researchers have found similar results, including evidence that those with a BPD diagnosis report more types of childhood trauma (Battle, Shea, Johnson, Yen, Zlotnick, & Zanarini, 2004; Ogata, Silk, Goodrich, Lohr, Westen, & Hill, 1990; Sansone, Songer, & Miller, 2005; Zanarini, Gunderson, Marino, Schwartz, & Frankenburg, 1989).

Dialectical Behavior Therapy (Linehan, 1993) is a behavior therapy originally designed for treating parasuicidal behavior in clients with a diagnosis of BPD. DBT uses exposure-based procedures "informally" throughout treatment to expose clients to aversive emotional states. However, DBT posits that PTSD symptoms in BPD clients should be targeted in a focused manner only after clients are stable and

life-threatening behaviors such as suicide attempts and self - mutilation are under control. In DBT, standard exposure procedures are used and somewhat modified. Modifications are made to target emotions such as guilt, shame, and anger. In addition, DBT offers several suggestions for how to engage clients in exposure treatment, including orienting clients to how the exposure treatment will help them reach their therapeutic goals, obtaining client commitment to do the exposure before beginning treatment, and validating the extreme difficulty of the aversive experiences elicited by exposure.

Wagner and Linehan (1998) proposed a behavioral approach using select strategies and skills from DBT for treating dissociative behavior, which has been reported in numerous studies of trauma populations (e.g., Chu & Dill, 1990; Zlotnick, Begin, Shea, Pearlstein, Simpson, & Costello, 1994). Dissociative behavior can be viewed as avoidance of aversive internal or external stimuli. First, a behavioral analysis of the dissociative behavior is conducted by getting a description of the behavior and then conducting a chain analysis of the sequence of events before and after the behavior. The goal is to find the factors related to the behavior and identify places for behavior change. Based on the analysis, the therapist can use strategies such as emotion regulation skills, cognitive restructuring, or exposure to aversive emotions. The first target in the treatment of dissociative behavior is to decrease the availability of cues to traumatic experiences which can elicit dissociative behavior. This includes avoiding discussion of trauma until Stage 2 of DBT treatment, avoiding current traumatic environments, or using distress tolerance skills. The second target is to regulate emotional responses to traumatic cues and aversive emotions. Dialectical Behavior Therapy accomplishes this goal through teaching mindfulness and emotion regulation skills and exposure to *present* emotions and traumatic experiences. Finally, the third target is to change the value of the cue linked to traumatic experiences. Formal exposure procedures used in DBT Stage 2 treatment are used to change these associations.

While a number of studies examining DBT outcomes in various populations have been conducted (for reviews, see Koerner & Dimeff, 2000; Koerner & Linehan, 2000), no studies have examined the use of DBT for treating PTSD specifically or the use of exposure in conjunction with DBT. One letter to the editor was found describing the use of DBT as a stabilization phase prior to trauma-focused therapy in a stage-oriented trauma treatment (Lanius & Tuhan, 2003). Data was collected from 18 female patients with diagnoses of BPD and PTSD who had completed 1 year of DBT. Data indicated a 65% decrease in duration of inpatient stays, 45% decrease in emergency room visits, and a 700% increase in employment and school attendance (only 1 patient worked before treatment and 8 were working or attending school after treatment).

Functional Analytic Psychotherapy (FAP)

Functional Analytic Psychotherapy is a clinical behavior analytic treatment based on a functional analysis of the therapeutic relationship described by Kohlenberg and Tsai (1991). Underlying FAP is the key behavior analytic position that it is easier to deal with actual behavior as it occurs in session as opposed to verbal descriptions of the behavior (Kanter, Callaghan, Landes, Busch, & Dee, 2004). FAP identifies in-session occurrences of relevant daily life behaviors and labels them Clinically-Relevant Behaviors (CRBs), and further specifies both client problems (CRB1s) and improvements (CRB2s) that occur in session. The therapeutic task in FAP is contingent responding to naturally reinforce and increase the frequency of CRB2s while ignoring, punishing, or otherwise decreasing the frequency of CRB1s (Follette, Naugle, & Callaghan, 1996). As described below, in the case of PTSD the task may also include elicitation of respondent CRB1s and habituation and extinction of them through non-reinforced exposure.

The in-session focus in FAP naturally leads to an emphasis on interpersonal problems, as the therapeutic relationship is a powerful stimulus that elicits and evokes interpersonal avoidance, problems with intimacy, conflict, fear, anger, inappropriate sexual feelings and other interpersonal difficulties. Thus, FAP may be useful whenever a client presents with significant interpersonal problems and there is potential for these problems to occur in the context of the therapeutic relationship. In the case of PTSD, FAP may be useful when the trauma is human- made (e.g., rape, violence) vs. natural (e.g., natural disasters), because if the traumatic stimulus itself is human and interpersonal, then the therapeutic relationship may elicit conditioned responses similar to those associated with the original trauma and evoke avoidance and dissociative responses in turn. In fact, FAP may be relevant to many cases of PTSD, as research indicates that the likelihood of developing a PTSD response to a trauma is greater for human- related than natural traumas (Breslau, Kessler, Chilcoat, Schultz, Davis, & Andreski, 1998).

Kohlenberg and Tsai (1998) described two types of PTSD—circumscribed and elaborated. Circumscribed PTSD (CPTSD) occurs in response a specific event, such as a car accident or rape. Elaborated PTSD (EPTSD) results from repetitive interpersonal trauma over an extended period of time. Examples of such trauma include physical, sexual, and emotional abuse of children. Research clearly indicates that repetitive interpersonal trauma has more pervasive and long-lasting effects on the victim than circumscribed trauma (Herman, 1992; Herman, Russell, & Trocki, 1986). Dougher and Hackbert (2000) described such a history as a long-term establishing operation, resulting in a diverse array of social repertoire deficits, particularly difficulty with trust and interpersonal intimacy.

Kohlenberg and Tsai (1998) discussed how the avoidance associated with EPTSD may be quite different from that of CPTSD. For example, a young child who is being physically or sexually abused by a primary caretaker can not physically avoid or escape the caretaker, and furthermore the child is dependent on this caretaker for food and other life-sustaining functions. In this situation, successful avoidance requires somehow isolating the relationship with the abuser during the abuse from the relationship with the abuser during other

times, and perhaps altering how one remembers the abusive events. Kohlenberg and Tsai speculated that such "perceptual" avoidance may have serious consequences for the development of social interactions and the fundamental experience of the self and private events.

According to Kohlenberg and Tsai (1998), FAP directly targets these problems by providing in-vivo exposure to interpersonal intimacy through the skillful use of the therapeutic relationship as well as opportunities to shape social interaction skills and the awareness of private experience. Typical PTSD exposure protocols depend on the ability to specify the aversive stimuli and systematically expose the client to them. With EPTSD however, it is difficult to arrange for the in-vivo presentation of the appropriate stimuli in an exposure-based format. For example, in EPTSD, interpersonal intimacy and being with a trusting partner may be seen as eliciting stimuli and being physically or emotionally hurt are examples of aversive stimuli. How does one arrange for exposure to "trust" and "intimacy" in the standard exposure protocol? FAP solves this problem because the therapy relationship itself is seen as one in which trust and intimacy genuinely occur; thus, aversive and avoidance responses to these vague and difficult -to- define stimuli will occur in the therapy relationship and can be targeted with exposure procedures.

Importantly, the therapy relationship not only provides an opportunity for extinction and habituation of respondent fear responses to trust and intimacy, it also provides an opportunity for the therapist to shape a more pro-social operant repertoire. Depending on the specific conceptualization (Kohlenberg & Tsai, 2000), FAP therapists observe, evoke, and naturally reinforce in-vivo occurrences of these behaviors, such as tacting and expressing feelings and other private events directly, asking for what one needs, discussing conflict appropriately, trusting the therapist, and so on.

One qualitative case study and one empirical case study of the use of FAP in the treatment of EPTSD have been conducted. Kohlenberg and Tsai (1998) presented a qualitative case study of a client treated by Dr. Tsai for six years. The client had been a victim of rape and suspected past childhood abuse by her father. She entered treatment because of anxiety, insomnia, recurring nightmares of the rape, and waking flashbacks of imagined rape. She also reported difficulty in and avoidance of close personal relationships, which was conceptualized as avoidance of evocative stimuli associated with the trauma. The primary goal of therapy was to reduce avoidance of intimacy in the therapeutic relationship to aid in reduction of avoidance of intimacy in other interpersonal relationships. Simply put, the therapist exposed the client to caring that was not followed by hurt. An increase in intimacy with the therapist allowed the client to recall her trauma through exposure. Dr. Tsai also encouraged the client to ask for her needs to be met. One example of this was letting the client set the length and frequency of sessions. CRB2s that occurred for this client included remembering and emotionally responding to trauma, asking for her needs to be met, trusting, and accepting love. Kohlenberg and Tsai stated this client's therapy for EPTSD was successful for three reasons. First, the therapeutic relationship evoked negative feelings associated with the relationship with her father such as mistrust and vulnerability. Second, the closeness of the therapeutic relationship allowed the client to be willing to experience the negative feelings evoked. Finally, the behaviors involved in an intimate relationship such as trusting and positive responses were experienced *in vivo*.

Prins and Callaghan (2000) presented an empirical case study of FAP used as a Stage 2 treatment for PTSD. This client presented with PTSD (based on several sexual assaults and a robbery at gun-point), Dysthymia, Alcohol Dependence, Bulimia, and features of Dependent Personality Disorder. The first three years of treatment (noted as Stage 1) included exposure for PTSD symptoms, outpatient treatment for alcohol, CBT for bulimia, and psychopharmacology for depression. Data indicated that treatment was successful in reducing re-experiencing and hyper- arousal symptoms. The client also maintained sobriety for three years and stopped purging. However, treatment was less successful in decreasing interpersonal avoidance and detachment.

Stage 2 of treatment began at the start of the fourth year of therapy when the client relapsed on substance abuse and reported significant isolation and detachment from others; FAP was initiated at this time and lasted nine months. The treatment target was now interpersonal intimacy through disclosure. Outcomes were assessed using a self-report measurement system developed specifically for FAP , in which five classes of CRBs are identified and assessed through client self-report. The CRBs identified included problems with under-disclosing (difficulty identifying appropriate context), failure to disclose (escape or avoidance), and failure to solicit or respond to others' disclosure. Results indicated that avoidance of interpersonal closeness behaviors decreased and earlier treatment gains in regard to PTSD symptoms remained stable. Data also indicated a decrease in CRB1s (problem behaviors, such as non-disclosing) and an increase in CRB2s (improvements such as self-disclosure). Overall improvements at the end of treatment included an increase in frequency and effectiveness of social interactions, abstinence from alcohol, decreased health care utilization, and increased responsibility for choices.

CONCLUSION

There is no question that the field of psychology has made dramatic gains in the treatment of PTSD over the last quarter century, particularly within the realm of cognitive- behavioral interventions. Despite these gains, researchers have consistently found limitations with these interventions. The contextual behavior therapies described in this paper may address some of these limitations. This review suggests that there is a growing body of data which supports the use of contextual behavior interventions for Post-traumatic Stress Disorder. The theoretical rationale associated with each of the therapies, explicitly their contextual focus on avoidance behaviors, suggests that they maybe well suited for traumatized populations. It is obvious from this review that we are

at the very beginning of our exploration of contextual behavior therapies in the treatment of PTSD. Much more research is needed to determine the effectiveness of these treatments as stand-alone interventions, integrated with each other (Follette, Palm, & Rasmussen Hall, 2004), or integrated with traditional exposure-based interventions.

The field needs to be deliberate in its exploration. Researchers need to design studies carefully incorporating the findings from experiments conducted throughout the contextual domain. Often the temptation in research is to demonstrate how interventions are distinct from each other, rather then exploring how they are similar. Contextual behavior therapies allow us to look at variations of therapeutic techniques that have similar theoretical foundations. Additionally, research in this area has to be held to the same standards as the research that is being conducted on more traditional PTSD interventions. Consequently, as much as possible, we need to try to adhere to the "gold standards" (Foa & Meadows, 1997, p. 453) of treatment outcome research. Foa and Meadows provided seven parameters for methodologically sound outcome research: 1) clearly defined target symptoms; 2) reliable and valid measures; 3) use of blind evaluators; 4) assessor training; 5) manualized, replicable, specific treatment programs; 6) unbiased assignment to treatment; and 7) treatment adherence.

It is important to clarify how these standards may differ when applied to contextual behavior therapies. First, "clearly defined target symptoms" does not demand that the interventions directly target symptom reduction, rather to allow comparisons across studies we need to have clearly defined inclusion and exclusion criteria. Simply put, while mechanistic and contextual therapists have fundamental differences in how they view psychopathology, this does not negate the need for common points of comparison. Second, some may debate how contextual behavior therapies can fall into a "manualized, replicable, specific treatment program" and whether that label is even desirable. While contextual therapists reject the notion that therapy needs to follow an infle xible script, there is no disagreement that therapists need to have complete understanding of the principles and be thoroughly competent in the administration of the interventions associated with these principles. Each of the therapies discussed in this paper have substantial writings addressing the importance, purpose, and administration of the overall treatment and specific therapeutic interventions that can be administered in a principled fashion. In line with this thinking, some have called for examination of "empirically-supported principles" rather than "empirically-supported treatments" (Rosen & Davison, 2003). Contextual behavior therapies are ripe for contributing to this important shift in how therapy is conceptualized and performed.

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