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Functional Contextual Processes in Posttraumatic Stress

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ABSTRACT

A functional contextual conceptualization of posttraumatic stress is detailed. The preliminary model considers the role of several psychological processes that work to increase trauma victims' exposure to aversive stimulation and decrease their access to stable and long-term sources of positive reinforcement. These processes include cognitive fusion with negative evaluations, problematic behavioral rules, and recollections of traumatic events. Other processes addressed include experiential avoidance, skills deficits and excesses, stimulus discrimination problems, long-term effects of heightened physiological arousal, and physical barriers to positive reinforcement imposed by trauma. The article concludes with a discussion of assessment and treatment implications.

Key words: Posttraumatic stress, PTSD, model, functional contextual, behavioral, relational frame theory, psychological processes.

RESUMEN

Procesos contextual funcionales en estrés postraumático. En el presente artículo se detalla una conceptuación contextual funcional del estrés postraumático. El modelo preliminar presentado considera el papel de diversos procesos psicológicos que funcionan para aumentar la exposición de las víctimas de trauma a la estimulación aversiva y para reducir su acceso a fuentes de reforzamiento positivo estables y a largo plazo. Estos procesos incluyen la fusión cognitiva con evaluaciones negativas, reglas conductuales problemáticas, y sucesos traumáticos. Otros procesos estudiados incluyen la evitación experiencial, los déficits y excesos en habilidades, problemas de discriminación de estímulos, los efectos a largo plazo de la elevación del arousal fisiológico y las barreras físicas al reforzamiento positivo impuestas por el trauma. El artículo concluye con una discusión sobre las implicaciones para la evaluación y el tratamiento.

Palabras clave: estrés postraumático, PTSD, modelo, contextual funcional, conductual, teoría de los marcos ralacionales, procesos psicológicos.

It is estimated that between 8-15% of the general population will meet criteria for Post-Traumatic Stress Disorder (as defined by the DSM-IV; American Psychiatric Association, 1994) at least once in their lifetime (Fedoroff, Taylor, Asmundson, & Koch, 2000). A much larger percentage of individuals will exhibit "subsyndromal"

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symptoms of PTSD, indicating that the traumatic events they experience (interacting with other, more longstanding aspects of their histories) leave a lasting negative impact on their lives. The detailing of functional contextual processes contributing to posttraumatic stress presented here serves as an attempt to provide a theoretically consistent, comprehensive, and practically applicable sketch of the development, maintenance, and psychotherapeutic treatment of posttraumatic stress.

The reader may rightly ask why a paper describing one more preliminary model of posttraumatic stress is necessary, given the existence of models from a variety of orientations already in existence (e.g., Ehlers & Clark, 2000; Brewin, Dalgleish, & Joseph, 1996; Naugle & Follette, 1998; Foa & Jaycox, 1999; Van der Kolk, 1996a). There are several reasons for this. First, it is suggested that there are some general conditions a theory of psychopathological conditions should meet in order to be considered viable. The model should be firmly grounded in basic and applied research, should have direct utility for both assessment and treatment, be applicable to a wide variety of traumatic events, and account for the results found in existing research. Further, to avoid the self-contradictory pitfalls and potentially unfocused objectives inherent to models based on hybrid theories (e.g., cognitive-behavioral or other theoretically eclectic approaches; see, for example, and Lazarus, 1996; see also Patterson, 1997 and Wheeler, 1999), the model should ideally be based on an homogenous theory with good empirical support. While some existing models of posttraumatic stress meet some of these requirements, none of them meet all.

Second, it appears that modern cognitive and emotional processing theories (e.g., Ehlers & Clark, 2000; Brewin, Dagleish, & Joseph, 1996; Resick & Schnicke, 1992; Foa & Kozak, 1991) of posttraumatic stress may contain some critical flaws. While this class of theories is more thoroughly critiqued in Blackledge and Hayes (in preparation), a succinct and more immediately relevant portion of this argument is presented here.

These emotional and cognitive processing theories propose that much of the improvement during successful trauma treatment comes through the process of repeated construction, integration, and elaboration of experiential stimuli (thoughts, feelings, and sensations) associated with problematic experiences, and the adaptive restructuring of cognitive schemas representing these experiences. One concern with emotional and cognitive processing theories is that they arguably fail to focus on a strategically critical problem commonly faced with psychotherapy clients. Foa, Resick, Brewin, Ehlers, and their respective colleagues recognize that avoidance must be eliminated before emotional or cognitive processing can occur (at least when they have applied processing theory to disorders like PTSD, where avoidance is an explicit definitional attribute of the disorder). For example, Ehlers and Clark (2000) stated with respect to trauma memories that, “efforts to not think about the traumatic event prevent individuals from elaborating the trauma memory and linking their experience with its context... They also prevent changes in appraisals about what would happen if they thought about the trauma.” (p. 328). Efforts not to think about the traumatic event, of course, constitute avoidance, and these authors clearly acknowledge that such avoidance must be cut through for therapy to proceed. But these researchers have not specified how to eliminate or attenuate in-session avoidance that interferes with such processing. A class of theories that apparently

ignores a ubiquitous feature of therapy (i.e., that distressed clients very often attempt to avoid full experiencing of the very distress that may need to be elicited to make progress in therapy) arguably has limited utility. A theory that specifies in detail how to approach and attenuate such avoidance might be more useful, either as an adjunct to these processing theories (if theoretically consistent), or as an alternative.

In addition, the role avoidance plays in preventing comprehensive and integrated client disclosures of distressing experiences raises a point of skepticism regarding the viability of emotional and cognitive processing as active mechanisms of change. By definition, a distressing experience cannot be fully acknowledged and disclosed unless the discloser is not avoiding aversive aspects of that experience. Full elaboration of a trauma memory or other distressing experience cannot occur unless the client has learned how to start accepting the high degrees of distress involved. Such elaboration may thus constitute an artifact of this new-found ability to accept rather than avoid psychological pain, as opposed to representing a process of generating adaptive cognitive consistency that is therapeutic in and of itself. It is not argued that there is no utility in arriving at changes in the way people think about difficult personal experiences, or in broadening a client's awareness and understanding of her experience. It is simply that these processes may serve as artifacts of more fundamental processes and more directly manipulable environmental operations.

The inferential, metaphorical, and mentalistic aspects of these cognitive and cognitive-behavioral accounts of exposure appear troublesome as well. Emotional and cognitive processing involves a directly unobservable set of operations. While one can directly observe that a client is, for example, constructing an apparently coherent and comprehensive trauma narrative that elicits appropriate affect, one cannot directly observe whether or not memories have been properly encoded, "categorized, stored, integrated with knowledge that is already present, and subsequently retrieved" from long term storage (Brewin, 1989, p. 380). The latter process of encoding, storing, and retrieving is a set of directly unobservable operations that must be inferred from observable behaviors (like the former), and need not be inferred if a theory accounting for observed behavior and behavioral change based on directly observable data can be posited.

There is a metaphorical component underlying these emotional and cognitive processing theories that poses a danger as well. As with cognitive theories in general, these theories utilize a working metaphor of the *brain as computer*. Metaphors are useful in science when they allow a complex set of phenomena to be better understood until more precise and concrete technical descriptions of those phenomena can be advanced. Metaphors carry the disadvantage of imposing inapplicable and misleading aspects of the compared entity these phenomena are related to. We all know that a brain is not a computer, but continued use of a metaphor based on the mind-as-computer carries the continued risk of obfuscating the actual phenomena we are attempting to study.

Finally, these theories demonstrate the risks of positing causal behavior-behavior relations, such that thoughts are considered to be causes of other behaviors in and of themselves, without reference to the broader context they occur in (see, for example, Hayes & Brownstein, 1986); the utility in addressing this broader context will be

illustrated in the next section. It is suggested that the active mechanisms of change in exposure-based psychotherapy can be conceptualized without taking these inferential, metaphorical, and mentalistic scientific risks.

The preliminary model of posttraumatic stress presented here is based on modern functional contextual principles and research, and thus includes elements of Relational Frame Theory (RFT; Hayes, Barnes-Holmes, & Roche, 2001) as well as conceptualization based on more traditional radical behavioral principles and research. Functional contextualism is a behavioral approach to psychology that pays explicit attention to the functions behaviors serve in different contexts in order to understand their maintaining factors, and has as its goal the prediction and influence of events (see, for example, Hayes 1993). However, the model proposed here uses as raw material research findings from a variety of theoretical orientations. It is felt that sufficient basic research on RFT principles exists to begin fleshing out an RFT-based analysis of posttraumatic stress, and elements of the analysis based on more well-worn behavioral principles may benefit more robustly from those principles longer lineage of supportive evidence. This analysis does not yet benefit directly from applied research that supports its claims, and thus should be taken tentatively until or unless such applied research is conducted. More importantly, this is not intended as the final functional contextual word on posttraumatic stress, but rather as a discussion of functional contextual processes plausibly operative in posttraumatic stress. Whether or not the processes discussed here facilitate a practical advantage in conceptualizing and treating posttraumatic stress remains unknown absent empirical research.

Finally, the analysis is intended to account for all 'brands' of posttraumatic stress, whether such reactions occur to violence, sexual abuse, accidents, or natural disasters. It is one of the strengths of all versions of behavioral theory that models arising from them provide functional accounts of behavior that cross topographical categories, and this account is intended to capitalize on this strength. Most importantly, this preliminary model is intended to exemplify the functional contextual intention to identify and treat psychological processes as opposed to topographically defined, medicalized syndromes.

The term 'posttraumatic stress', as used in this article, refers loosely to problematic or maladaptive behavior that finds its proximal origins in a traumatic event involving violence, sexual assault or abuse, or life-threatening accidents or natural disasters, whether such events occur or are threatened. These problematic or maladaptive behaviors are specifically described in the account that follows. Postulates regarding the ultimate causes of such behaviors (i.e., the overarching patterns of responding and subsequent consequences that further shape these problematic responses) are also detailed.

While this analysis is not intended to be strictly tied to the criteria specified for Post Traumatic Stress Disorder in the DSM-IV, an abbreviated version of the criteria for this disorder are offered here to provide a preliminary set of bearings for the reader as the analysis is first approached. Once the analysis itself is understood, it is intended to provide a more thorough and functionally-based description of what posttraumatic stress "is" from a functional-contextual perspective, and the syndromal description of PTSD offered here as a point of reference may be set aside. According to the DSM-IV, individuals eligible for a diagnosis of PTSD must: (1) have had a severe & intense

response to events involving death, threatened death, injury, or serious threat; (2) exhibit persistent re-experiencing of the event(s); (3) consistently avoid trauma-related stimuli; (4) be persistently hyperaroused; and (5) demonstrate clinically significant impairment (American Psychiatric Association, 1994).

Functional Contextual Processes in Posttraumatic Stress

The following discussion considers the role of several, often interrelated processes that contribute to and maintain the kind of clinically significant posttraumatic distress and impairment alluded to in the DSM-IV definition of PTSD. All of these factors serve to increase the posttraumatic stress victim's access to aversive stimulation and decrease their opportunities to emit responses likely to be positively reinforced. These factors include:

(1) The destructive effects of excessive cognitive fusion with negative self- and global-evaluations, with counterproductive behavioral rules, and with aversive recollections of traumatic event(s);
(2) Pervasive and counterproductive experiential avoidance;
(3) Inadequate skills and/or stimulus discrimination problems;
(4) Heightened physiological arousal; and
(5) Physical barriers to opportunities for positive reinforcement.

Each of these processes will be detailed in the analysis that follows, and pertinent literature that speaks to these points will be briefly reviewed along with each component of the analysis. The remainder of the article will address some practical implications for assessment and treatment of posttraumatic stress suggested by the analysis. First, however, a discussion of RFT implications for posttraumatic stress is warranted.

Relational Frame Theory and Posttraumatic Stress

From an RFT perspective, words come to share many of the stimulus functions of the events and experiences they designate through operant processes. In other words, language-able individuals can react to words, in many ways, as if the conditions described by those words are objectively true and currently present because they have a long history of reinforcement precisely for doing so. Two issues flowing from this point warrant special clarification. First, RFT assumes that it does not matter whether our thoughts and verbalizations map on well to real-world contingencies. It only matters that such verbal formulations have a history of sufficient reinforcement to allow their emission under specific conditions. Often, verbal formulations are negatively reinforced through avoidance that appears to prevent imagined aversive consequences. For example, if I follow through on a belief that disagreeing with my boss will cause more trouble than it is worth, and no negative consequences ensue, my belief that disagreeing with my boss is profitless will be reinforced regardless of whether or not it is true. Given the high prevalence of avoidance in posttraumatic stress, one could well imagine that

such 'self-fulfilling prophecies' play important roles there.

RFT assumes that the degree to which any individual relies exclusively and rigidly on his thoughts as accurate descriptions of the world *and* compelling guides to subsequent behavior may vary based on differential learning histories. While all language-able people generally assume some degree of correspondence between thoughts and the phenomena described by those thoughts, some people assume a higher degree than others. A Zen monk, for example, might assume that one should "not use the fluctuating mind to discuss the characteristics of reality" (Kokushi, 2001, p. 220) because his learning history has shaped him to believe that reality cannot be captured by words. Alternately, a staunch dogmatist may assume his thoughts correspond to reality even amidst overwhelming evidence to the contrary. Indeed, empirical research on rule-governed behavior (summarized in *Rigid fusion with maladaptive rules*, below) indicates that language-able individuals have a differential propensity to rigidly follow verbal rules, even when such rules yield highly aversive consequences. While empirical research on posttraumatic stress does not yet unequivocally support this claim, individuals affected by posttraumatic stress may well follow such rules more rigidly than those who become less disabled by trauma.

Second, the processes posited by RFT whereby words come to share stimulus functions of the events and experiences (whether real or imagined) they designate guarantee that merely thinking of aversive content will bring aversive stimulation. This has implications for the recollection of traumatic experiences and other past misfortunes, the imagination of aversive experiences in the future, and the consequences of negative evaluations of self and environment in the present. Relational responses (e.g., cognitions) involving all such phenomena would be expected to provide at least a degree of the aversive stimulation provided by the actual occurrence of the events and experiences described by these responses, and those who believe words are entirely binding could expect even greater aversive stimulation. While empirical research must again bear out this claim to verify it, it is hypothesized that individuals affected by posttraumatic stress may believe or fuse with the content of aversive or maladaptative cognitions to a greater and more extensive degree than those who weather trauma more adaptively.

Problematic Cognitive Fusion in Posttraumatic Stress

Cognitive fusion is an RFT-based process involving implicit assumptions that one's own thoughts correspond fully to reality (see, for example, Hayes, Strosahl, & Wilson, 1999; see also Blackledge & Hayes, in preparation). In a more technical sense, cognitive fusion is inherent to any instance of derived relational responding (i.e., any instance of thinking, speaking, listening, or reading) where stimulus functions are verbally transformed through mutual and combinatorial entailment. Rigid fusion with a set of derived relational responses mandates the circumscribed set of functional transformations designated by that set, and functions that would be present given a different way of verbally framing events (or functions arising solely from direct, non-verbal contingencies) simply do not arise. Since a stimulus function involves both a stimulus and a discrete class of responses made to the stimulus, this means that the range of available responses

narrows to the response class designated by that transformed function. This is a problem when the functional transformations designated by a given frame do not yield responses maximally effective in providing access to stable sources of relatively high rates of positive reinforcement.

Fusion with negative self-evaluations. A large body of empirical evidence suggests that negative self-evaluations are at the core of posttraumatic stress, and fusion with such evaluations can both instantiate the aversive state of affairs designated by these evaluations and force subsequent maladaptive behavior. As Van der Kolk and McFarlane (1996) stated, “although the reality of extraordinary events is as the core of PTSD, the meaning the victims attach to these events is as fundamental as the trauma itself” (p. 6). Guilt about the trauma -an emotion generally experienced when an apparent wrong has been committed by oneself- is common among people diagnosed with PTSD (Riggs, Foa, Rothbaum, & Murdock, 1991). Joseph, Brewin, Yule, and Williams (1991, 1993) found that those diagnosed with PTSD tend to self-blame for aversive outcomes in general. Shalev (1996) remarked that trauma survivors continually judge and evaluate their actions during the trauma. He further stated “that these evaluations may yield a non-specific and overgeneralized appraisal of the stressor and of one’s own resources, thereby leading to the formation of negative beliefs about oneself and one’s resources.” (p. 90; see also, Foa, Steketee, & Rothbaum, 1989). Dunmore, Clark, and Ehlers (1999) stated that "the experience of PTSD symptoms overall may be viewed as a sign of inadequacy or impending madness [by the individuals displaying those symptoms]." (p. 825). Several studies have found that PTSD victims even go to such great lengths as to blame themselves for the occurrence of the trauma (e.g., Frazier & Schauben, 1994). Reiker and Carmen (1986) found that children, especially, tend to do so. (Perhaps this has something to do with common childhood rule or belief that one is only punished if they have done something wrong).

Dunmore, Clark, and Ehlers (1999) found that chronic PTSD assault victims had significantly higher levels of mental defeat, mental confusion, and negative evaluations of emotions during the assault, more negative evaluations of their actions, more negative evaluations of their symptoms, and higher rates of reporting that the trauma had a permanent negative life-changing effect than assault victims who had both recovered from PTSD or had not developed it in the first place. In addition, chronic PTSD victims reported significantly more negative beliefs one month post-trauma than both comparison groups, even though retrospective reports did not differ in this respect between the three groups. These authors noted that such individuals:

> (...) question their own personality [with thoughts such as] ‘I am disgusting’; ‘I am a loser’; ‘I cannot be relied upon’, their safety [with thoughts such as] ‘There is no place which is safe’; ‘You never know who may harm you’; ‘People have bad intentions’ and the meaning of their world [with thoughts such as] ‘There is no justice in the world’; ‘The world is dark and evil’ (p. 825).

When the posttraumatic stress victim negatively evaluates himself in ways such as those just described, RFT would predict that substantial problems would follow. Regardless of how the individual's world is *actually* structured, rigid fusion with such negative self-evaluations would, for all practical purposes, change that world to one that is consistent with those evaluations. Describing oneself as disgusting and unreliable, for example, would result in the undesirable aversive properties of things that are more objectively disgusting and unreliable to become attached to oneself. Such unfortunate functional transformations would also be expected to participate in maladaptive rule-governed behavior. One who is "disgusting", for example, should keep hidden from view, and should not pursue meaningful goals due to unworthiness. And one who is "unreliable" cannot enter into meaningful relationships with others because they will inevitably be let down. Believing the content of such evaluations makes the world so, regardless of what the world is.

Fusion with negative global evaluations. Negative evaluations of one's external environment can be made just as easily as self-evaluations, and lead individuals to frame their environments in correspondingly negative and maladaptive ways. Strong tendencies for trauma victims to interpret a wide variety of stimuli negatively have been found by several researchers, and fusion with these global negative evaluations would be expected to be as problematic as fusion with their self-evaluative counterparts. A study by Smith and Bryant (2000) assessed cognitive bias toward increased perceptions of external harm, adverse somatic sensations, and adverse interpretations of external events in subjects diagnosed with acute stress disorder (ASD) versus normal subjects. They found that ASD subjects perceived an exaggerated probability of external harm, and an exaggerated frequency of occurrence of negative somatic symptoms and social events compared to normal subjects. Foa and Riggs (1993), Ehlers and Steil (1995), and Dunmore et al., 1997 have found a relationship between negative evaluations of initial post-trauma symptoms and PTSD in both multiple vehicle accident and assault victims. Negative evaluations of the degree of support received from others post-trauma is related to increased rates of psychopathology and poorer levels of adjustment (e.g., Keane, Scott, Chavoya, Lamparski & Fairbank, 1985; Riggs et al., 1991; Joseph, Andrews, Willimas, & Yule, 1992; Ullman, 1996; Dunmore et al, 1997). According to Ehlers and Clark (2000), even the sequelae of trauma, including the effect it has on other areas of life, also are interpreted negatively by PTSD victims. McCann et al (1988) and Resick, Schnicke, and Markway (1991) indicated that trauma results in negative belief changes regarding life and the world in general. Janoff-Bulman (1989) added that PTSD victims' changed assumptions about their potential for safety and self-sufficiency are especially common as a result of traumatic experiences.

Rigid fusion with maladaptive rules. The study of rule-governed behavior, although initiated by radical behaviorists (Skinner, 1966), has received explicit attention by functional contextualists and has been described in relational frame terms (Hayes, Zettle, & Rosenfarb, 1989). A verbal rule was first defined by Skinner (1966, 1969) as a contingency-specifying stimulus, meaning that rules describe some of the contingencies

controlling behavior and thus have the potential to influence more effective action. Later, Hayes et al (1989) defined a verbal rule essentially as a verbal stimulus that "organizes responding through the participation of events in relational frames" (p. 199). As such, rules are really just a way of describing a subset of relations between stimuli, but the topic is described separately from the discussion of negative evaluations because of the powerful effects rules can have on maladaptive behaviors. From this perspective, rules consist of verbal formulations that instruct subsequent behavior. They can be implicit or explicit, and can be the product of direct training or can be derived.

From a functional contextual perspective, it is important to emphasize that verbal rules, in and of themselves, do not cause behavior. Rather, they serve as markers for the overtly manipulable contingencies of reinforcement that control derived relational responding in general. That is, the same operant consequences that lead individuals to emit verbal responses and to react to verbal stimuli as if they share some of the same functions as the events they designate also can lead to individuals behaving in accordance with verbally formulated rules.

Excessive or rigid rule-governance describes what is happening in the person who most often ignores the effects that direct contingencies produce and focuses instead on the indirect stimulus functions generated by rules. Excessive rule-governance is occurring in the rape victim who consistently passes up becoming more intimate with good men because she holds the rule, "If I allow myself to get close, I will get hurt". Rule-following rigidity has often been empirically linked to inflexible responding in the laboratory (e.g., Galizio, 1979; Lowe, Beasty, and Bentall, 1983; Matthews, Shimoff, Catania, and Savgolden, 1977; and Hayes, Brownstein, Haas, and Greenway, 1986), and has been identified as a major contributor to psychopathology by Hayes, Kohlenberg, and Melancon (1989) and Follette, Naugle, and Linnerooth (2000). Rules about the necessity of avoiding negative affect and cognitions may be particularly problematic (Hayes, Strosahl, & Wilson, 1999).

Although rule governance has never been directly investigated in PTSD, some applied evidence that may speak to the role rigid rule governance plays there exists. Van der Kolk and McFarlane (1996), for example, noted that "traumatized people often are incapable of finding flexible and adaptive solutions" (p. 17), behavior commonly displayed by subjects rigidly following rules in laboratory experiments on rule-governed behavior. Ehlers and Steil (1995), in providing examples of problematic interpretations common to PTSD victims as assessed by a self-report instrument, included statements made in response to the traumatic event that could be framed as rules, such as "The fact that I have these uncontrollable memories means that I am going crazy "; "My life is ruined" and "It will happen again." While such thoughts can be more readily thought of in basic relational frame terms (e.g., "I have uncontrollable memories" framed as equivalent to "I am going crazy"), they could also be components of verbal rules like "I must eliminate my uncontrollable memories to avoid going crazy", "My life is ruined, so there is no point in trying to make things better", and "It will happen again because I often feel like it will happen again", and still be considered a faithful representation of the way PTSD victims think. As with negative evaluations, such rules might take shape regardless of direct or real-world contingencies. Such rule-governance

and relational responding issues would also be expected to impact an individual's responding independent of trauma-related material, and may thus require targeting for their own sake.

Fusion with recollections of the traumatic event. One significant observation that emerges upon looking at the vast amount of literature on PTSD are the frequent descriptions of PTSD victims responding as if they were trapped in the past or reliving traumatic events as if they were actually occurring in the present (McFarlane & Girolamo, 1996). For example, Ehlers & Clark (1999) noted in PTSD victims that "sensory impressions are experienced as if they were happening right now rather than being memories from the past.....They lack the awareness of remembering that usually accompanies autobiographical memories" (p. 324). From an RFT perspective, rigid fusion with trauma recollections is fundamentally no different than rigid fusion with negative evaluations or problematic rules. Words and images participating in a relational frame involving a traumatic event share the functions of that traumatic event, and share them to a greater and more vivid degree when an individual rigidly fuses with them. An individual who fuses tightly with verbal evaluations and rules might also be expected to fuse tightly with verbal descriptions of past events.

One reason an individual might fuse more rigidly with the content of relational responses describing events from the past may involve learning histories that have not shaped a sharp distinction between the relations *here and there* and *now and then*, verbal relations critical in establishing a consistent sense of self that is clearly distinct from constant changes in the environment and from events and experiences described by verbal responding (Hayes et al., 1999; Hayes, 1984; Barnes, Stewart, Dymond, & Roche, 2000; Kohlenberg & Tsai, 1991, pp. 125-168). One of the most critical discriminations for the establishment of a consistent sense of self involves the ability to "discriminate that [one's] own discriminating [of other stimuli] is *always* occurring from the same locus of perspective." (Barnes et al, 2000, p. 63). Children slowly learn to differentiate between their perspective and the perspectives of others, and through consistent shaping gain the ability to answer questions such as 'What are *you* doing?' and "What do *you* see?". With enough practice, children learn that verbalizations involving the word *you* (or *me* or *I*) refer to the constant locus from which they perceive the world. The process is intricately tied with learning to discriminate *here* from *there* and *now* from *then*. A child who can discriminate *here and now* from *there and then* has basically learned that *there and then* includes everything that is being perceived by you in a given moment of time, *except the constant perspective you are perceiving and remembering everything else from right now*. This is a complex discrimination to make, and conditions in one's environment must be conducive to facilitate it. Prior to learning this distinction, children (and adults not exposed to sufficient learning opportunities) seem to define themselves according to the content of what is being experienced from moment to moment, such that these experiences subjectively appear to be the 'whole world' and one's 'whole self'. Some psychotherapies (e.g., ACT; Hayes et al, 1999; DBT; Linehan, 1993a & b) go to great lengths to teach the client to take on a self-definition of 'self as context' (defined as the constant perspective, always located here

and now, from which the client experiences ever-changing stimulation) as opposed to 'self as content' (where one's self is defined differently, from moment to moment, by the ever-changing content of what is experienced).

An individual who has not clearly taken on a sense of self as context accordant with the ability to reliably distinguish *here and now* from *there and then* would not be expected to reliably discriminate that recollections of events *there and then* are something entirely distinct from one's current reality. When coupled with the natural salience with which incredibly aversive events can typically be recalled, this confounding of past with present could yield particularly potent re-experiences. When such recollections occur, an individual who defines himself according to the content of what is currently experienced may react as if the trauma being recalled is re-occurring and is a binding threat to his well-being.

Summary

From an RFT perspective, problematic cognitive fusion may contribute to clinically significant posttraumatic impairment in at least four ways. Fusion with negatively self-evaluative relational responses would be expected to yield increased aversive stimulation, as the states of affairs described by such evaluations would share their functions with these verbal formulations. Fusion with negative global evaluations would yield similar results, often transforming (and making aversive) potentially reinforcing stimuli in one's overt environment. Rigid fusion with counterproductive prescriptive and proscriptive behavioral rules would necessitate the problematic behavior specified by those rules, reducing opportunities for positive reinforcement and increasing exposure to aversive stimulation. Fusion with aversive recollections of traumatic events would also clearly increase aversive stimulation, as well as affording opportunities for potentially problematic avoidance. The issue of fusion with these particular types of evaluations, behavioral rules, and recollections is emphasized here in part because speaking about these phenomena in such terms affords assessment and treatment utility beyond what arises when it is assumed that such evaluations, rules, and recollections must be changed, eliminated, or attenuated in order for positive change to occur. This additive utility will become apparent in the assessment and treatment sections of this article.

Pervasive and Counterproductive Experiential Avoidance

A host of aversive emotions, cognitions, physiological, physical, and overt environmental stimuli arise as a result of a traumatic event and its sequelae. In addition, many of the things trauma victims do to cope after the trauma create situations that present even more such aversive stimulation (see the section on maintenance and expansion of post-trauma problems, below). According to Ehlers and Clark (2000), feelings of anger, shame, fear, guilt, and sadness are common, as are thoughts such as "Nowhere is safe", "Others can see that I'm a victim", "I deserve that bad things happen to me", "My marriage will break up", I'll never be able to relate to people again", "I'll never get over this", "I'm going mad", "I cannot rely on other people", "I will never be able

to lead a normal life again", etc. (p. 322). McFarlane and Girolamo (1996) noted that “Central to the experience of traumatic stress are the dimensions of helplessness, powerlessness, and threat to one’s life.” (p. 136). Given the choice and the means, virtually anyone would choose to avoid exposure to such thoughts and emotions.

The DSM-IV (APA, 1994) lists avoidance as a feature of PTSD, and avoidance is mentioned by name in many empirical and theoretical treatments of PTSD, usually to refer to the act of physically avoiding trauma-related stimuli. But a functional contextual conceptualization of the problem casts avoidance as much more inclusive and pervasive. The term experiential avoidance refers to any behavior, private or public, that functions to eliminate or attenuate aversive stimulation arising from emotions, cognitions, physical sensations, or other experiences. Such avoidance strategies can take a broad variety of forms. Behaviors as apparently diverse as physical avoidance, thought suppression, dissociation, rumination, mental undoing, drinking, drug use, distraction, numbing, inability (or unwillingness) to articulate details of the trauma, can be thought of as examples of experiential avoidance because they function to attenuate, eliminate, or stave off aversive emotions, cognitions, and sensations. More extreme responses such as dissociation may simply require the kind of intense stimulation provided during a trauma and the failure of less extreme avoidance responses to shape their emission.

So pervasive is avoidance in posttraumatic stress, that Van der Kolk and Ducey (1989) stated, "Once traumatized individuals become haunted by intrusive reexperiences of their trauma, they generally start organizing their lives around avoiding having the emotions that those intrusions evoke" (p. 12). In RFT terms, suppression and functionally similar responses strengthen the operant relations between the suppressed thought or emotion and other stimuli they are related to. This means that avoidance actually works, over the long run, to increase the frequency and intensity of the thoughts and feelings that are avoided.

Examples of a wide body of empirical research support this claim. Breslau and Davis (1992) and Koopman, Classen, and Spiegel (1994) found that dissociation (essentially avoiding the aversive aspects of the experience) during the occurrence of the trauma itself correlates with more severe PTSD symptoms. Mechanic and Resick (1993) found a relationship between post trauma symptomatology and attempts at mental undoing. Mental undoing essentially involves attempts to convince oneself the trauma did not happen, often by imagining that the events leading up to the trauma happened differently and the trauma was thus avoided. Functionally, such behavior involves attempts to avoid the aversive aspects of the experience by constructing a world where it never happened. Ehlers, Mayou and Bryant (1998) found a relationship between rumination (thinking about ways the trauma could have been avoided, or why it happened, etc.) and posttrauma symptomatology. Rumination can also be readily conceptualized as experiential avoidance. Perhaps one of the most common verbal rules people carry with them tells us that figuring out the cause of a problem is vital to solving that problem. Rumination can thus be thought of as an attempt to banish the aversive effects of a traumatic event by understanding exactly why everything happened as it did.

The findings of many researchers and indicate general agreement that avoidance of trauma-related stimuli is a critical factor in maintaining and exacerbating posttraumatic

stress symptoms (e.g., Foa, Steketee, & Rothbaum, 1989; Foa & Riggs, 1993; Jones & Barlow, 1990; Salkovskis & Kirk, 1989; Van der Kolk & van der Hart, 1991). Rich (1998) found that attempts by PTSD-diagnosed subjects to suppress trauma-related experiences through suppression, actually increase levels of aversive physiological arousal. An array of laboratory studies of thought and emotion suppression have also more generally indicated that avoidance strategies such as suppression result in an increase in the frequency and/or intensity of the target thought or emotion. Some examples include Wegner, Schneider, Carter, and White (1987), Wenzlaff, Wegner, and Roper (1988), Wegner and Zanakos (1994), and Wenzlaff, Wegner, and Klein (1991).

From a functional contextual perspective, long-term, consistent use of such strategies can cause difficulties in several ways. Firstly, experiential avoidance can dramatically decrease exposure to opportunities for positive reinforcement. For example, a victim of combat trauma may avoid work due to the anxiety caused by noise and the proximity of co-workers, and may avoid close relationships because of the shame he feels about his past and the unpleasant memories of fallen comrades the closeness engenders. Both work and close relationships would be expected to provide him with a richer ratio of reinforcement than what is currently available to him. Second, experiential avoidance may increase exposure to aversive consequences. Some forms of avoidance (e.g., substance abuse, overeating) negatively effect health, and some other forms involve neglect of responsibilities (e.g, avoidance of work and relationship maintenance) that can culminate in punishing consequences delivered by others. Unwillingness and inability to foster and maintain close relationships may also minimize or eliminate the quality and number of close relationships in the trauma victim's life, further facilitating the decreased access to positive reinforcement such relationships can provide. Finally, avoidance can increase adherence to counter-productive verbal rules because it minimizes exposure to real-world contingencies that might extinguish adherence to those rules through provision of unexpected consequences.

It should be noted that the pervasiveness and intensity of experiential avoidance goes hand in hand with the extent to which an individual fuses with cognitive content. If negative framings of one's experience are thoroughly fused with and assumed to be accurate descriptions of reality, it is more likely that attempts will be made to avoid the situations described by such verbal formulations, or even to avoid contexts that simply elicit these verbal formulations in and of themselves.

Stimulus Discrimination Problems

The role that stimulus discrimination difficulties may play in PTSD have been described in more detail in Naugle and Follette (1998), and the reader is thus referred there for a more complete analysis. Briefly, both Van der Kolk and Ducey (1989) and McFarlane, Weber, and Clark (1993) found that PTSD victims are more likely to respond to trauma-related stimuli than to other, apparently neutral or reinforcing stimuli. Failures to discriminate other stimuli (particularly potentially reinforcing stimuli) may thus play an important role in the development and maintenance of PTSD-like symptoms and corrolary difficulties. Van der Kolk and McFarlane (1996) add that those who develop

post-traumatic reactions "have problems ignoring what is unimportant and selecting only what is most relevant" (p. 14). Such results may be a partial or complete function of avoidance rebounds and increasing transformation of functions to a negative valence (in addition to relevant respondent effects), as well. From an RFT perspective, the negative experiences of posttraumatic stress victims may cause them to transform the functions of a wide variety of neutral and reinforcing stimuli such that most important stimuli in their environment are framed in relation to aversive events.

Skill Deficits and Excesses

Individuals affected by posttraumatic stress may exhibit any one of a number of behavioral deficits and excesses. Naugle and Follette (1998) defined behavioral excesses as "behavior [that] is excessive in either frequency or duration and interferes with functioning" (p. 60), and noted that behavioral deficits are demonstrated when an "individual does not emit behaviors that will be subsequently reinforced" (p. 61). Deficits and excesses not uncommon to individuals affected by posttraumatic stress involve communication and other interpersonal skills, problem-solving skills, coping and distress tolerance skills, alexithymia, and conflict resolution skills (e.g., Cloitre, Koenen, Cohen, & Han, 2002; Roemer, Harrington, & Riggs, 2002; Vernberg & Johnston, 2001; Penk & Flannery, 2000). Such deficits and excesses may contribute to the onset, maintenance, and magnification of problems typically associated with posttraumatic stress, and may indeed predispose one to be more susceptible to longlasting psychological harm post-trauma.

A related issue noted by Naugle and Follette (1998) relevant to posttraumatic stress involves inappropriate stimulus control, which refers to responses that are appropriate in some contexts but emitted under inappropriate circumstances as well. A victim of multiple sexual traumas, for example, might be indiscriminately affectionate with newly met males. Such behavior would be appropriate in certain contexts, but could expose the individual to increased risk of retraumatization or other problematic consequences in other situations.

Heightened Physiological Arousal

A growing number of empirical studies have indicated that individuals affected by posttraumatic stress display various types of sustained, heightened physiological arousal. This can include an exaggerated acoustic startle respone (Morgan and Grillon, 1998) and physiological symptoms concordant with anxiety such as increased heart rate, sweating, and constricted and rapid breathing (Everly & Latin, 2002; Van der Kolk, 1996b). The latter authors summarized evidence that following many years of long periods of such heightened arousal, the effects of increased cortisol levels may effect possibly permanent biological changes that lead directly to even more intense and frequent aversive physiological arousal.

From an RFT perspective, increasingly aversive physiological stimulation can be particularly problematic because such salient aversive stimulation is more likely to be

framed in a debilitating manner. Sustained physical symptoms of anxiety or an exaggerated startle response, coupled with an individual's learning history, may lead this individual to frame such experiences as being indicative of real current threat or personal deficiency, regardless of what such physiological symptoms objectively suggest. Verbal derivations flowing from such framings may expose the individual to additional aversive stimulation, arising both from the verbal stimulus functions attached to these framings, and maladaptive behavior occurring in response to these evaluations.

Physical Barriers to Opportunities for Positive Reinforcement

Much of the literature on trauma focused solely on victims of physical assault, sexual assault, and war, so much so that some may forget trauma also occurs in response to such things as natural disasters and vehicular accidents. Loss of physical access to tangible sources of reinforcement such as food, shelter, transportation, social support, and work would be expected to take its toll on anyone. Such losses occur routinely for disaster and accident victims, and may also occur for assault and combat victims as well, especially when such traumatic events result in a temporary or permanent physical disability. As examples, Green and Glaser (1983) found that factors such as lost community support, loss of familiar surroundings, and longer periods of dislocation all contributed to greater degrees of distress. Freedy, Saladin, Kilpatrick, Resnick, and Saunders (1992) and Freedy, Saladin, Kilpatrick, Resnick, and Saunders (1994) found that the extent to which resources were lost predicted the degree of psychological distress occurring after natural disasters. McFarlane and Girolamo (1996) have found that property loss is a better predictor of long-term psychopathology than intensity level of exposure to a traumatic stressor. Given such a finding and the pervasiveness of physical loss of access to reinforcers in certain types of trauma, it is surprising that such factors are rarely addressed in theories of posttraumatic stress.

A very noticeable exception to the trend of ignoring the importance of resource loss in trauma has been the work of Hobfoll and his colleagues (e.g., Hobfoll 1989; Hobfoll, Dunahoo, & Monnier, 1995; Freedy & Hobfoll, 1995). Hobfoll's Conservation of Resources Theory focuses on the role lack of access to resources plays in traumatic stress reactions. Hobfoll et al (1995) described a list of resources that are considered key, and thus more likely to elicit stress (particularly traumatic stress), when they are lost or made unavailable. Included are object resources (e.g., "housing that suits my needs"), condition resources (e.g., "status/seniority at work"), personal resources (e.g., "sense of optimism") and energy resources (e.g., "financial resources")" (all quotations from p. 32). Thus, the model incorporates not only tangible or physical resources, but also positively valenced cognitions and emotions such as "feeling that I know who I am" and "positive feelings about myself" (p. 33). Aside from accounting for resources that are lost, stolen, or destroyed (as in the case of natural disasters or thefts), the model also addresses resources that are made unavailable due to injury or psychological disability. For example, an individual unable to work because of injury or psychological distress would likely accrue increased levels of stress due to lost income.

From a functional contextual perspective, these results perhaps make the most

sense when resource loss is equated to decreased access to stable sources of positive reinforcement and increased access to punishment. Ferster and Lewinsohn (e.g., Ferster 1973, 1981; Lewinsohn, Youngren, & Grosscup, 1979) conceptualized depression, including the high degrees of avoidance displayed by depressed individuals, as a direct function of marked decreases in pleasant or reinforcing events and increases in aversive events. While depression has been conventionally established as a psychological problem separate from posttraumatic stress disorder, the fact remains that several conceptual similarities exist between the two topographically defined syndromes. Work by Hobfoll and colleagues cited above has empirically demonstrated that loss of access to reinforcers leads to distress amongst individuals exposed to trauma, and harmful effects of avoidance discussed by Ferster, Lewinsohn, and their colleagues well illustrates how this process could play a vitally important role in depression and posttraumatic stress. The negative effects of high ratios of punishment are well -and copiously- documented as well, and summarized neatly by Sidman (1989).

Summary

From a functional contextual perspective, several psychological processes interact to expose victims of posttraumatic stress to increased aversive stimulation, and decreased access to opportunities for positive reinforcement. Fusion with negative evaluations of self and environment, with problematic behavioral rules, and with recollections of the traumatic event result in functional transformations that make stimuli innocuous or even appetitive to others aversive to the trauma victim. The long term physical effects of heightened physiological arousal, coupled with negatively evaluative framings of the arousal's meaning and implications, add to this distress. Negatively reinforced efforts to avoid these aversive events and experiences decrease opportunities for the trauma victim to emit behavior likely to be positively reinforced, and the paradoxical effects of avoidance strategies such as suppression increase aversive stimulation in the long run. Skills deficits and excesses, along with stimulus discrimination difficulties, further increase the likelihood of aversive consequences and minimize positive reinforcement. Finally, physical barriers originating from the nature of the experienced trauma may pose additional hurdles to accessing stable sources of positive reinforcement and minimizing exposure to aversive stimulation. While it is clear that each of these processes will play differential roles (or no role at all) across individuals exposed to trauma, it would seem prudent to assess for the possible role each process may be playing with each individual client.

Assessment and Treatment of Posttraumatic Stress

Practical implications for assessment and treatment of individuals affected by posttraumatic stress flow directly from this conceptualization. As suggested by Hayes, Nelson, and Jarrett (1987), it is preferable to conduct assessments that directly suggest and facilitate differential treatment, and types of assessment suggested below are intended to afford such utility. Assessment implications are described first, followed by implications

for treatment.

Assessment Implications

Several implications for assessment with direct treatment utility are suggested by this conceptualization of posttraumatic stress. Ongoing assessment of the content of problematic negative self- and global-evaluations, the contexts in which they occur, and the degree to which the client fuses with or believes such cognitions is suggested. A few self-report instruments focusing on problematic cognitions related to posttraumatic stress have been developed (e.g., the IES Cognitive and Affective Scales in Stamm, Bieber, & Rudolph, 1996; the World Assumption Scale in Janoff-Bulman, 1996; the TSI Belief Scale in Pearlman, 1996; see also Ehlers & Clark, 2000, for a relevant measure currently being developed). Alertness to ways in which the client frames the meaning and implications of the traumatic event, instances of heightened physiological arousal, and the potential lack of success in living the client has had post-trauma may be prudent, as such topics can often be framed in a variety of debilitating and self-deprecating ways. While use of standardized assessment can be a useful first step, assessment of problematic cognitions can then be tailored to each individual client so that the idiosyncratic ways in which the client frames her experience can be adequately captured. Such a combination between standardized assessment and individually tailored follow-up may often reveal the operation of problematic behavioral rules.

Recurrent assessment of the contexts in which experiential avoidance occurs, the forms/topographies of avoidance, its effectiveness, and its consequences may also facilitate treatment. Cognitions prescribing this avoidance and other problematic behaviors would logically be of special importance. Assessment of the client's ability to discriminate a stable sense of self separate from fluctuating experiences might alert the clinician to the prudence of shaping such a discrimination. While no standardized means of assessing this ability have yet been developed, some informal techniques (e.g., variants of the "observer perspective" exercise described in Hayes et al, 1999) may facilitate a sense of how different clients perceive their 'selves'. Ongoing functional assessment of relevant skills and stimulus discrimination problems would also be highly beneficial from a functional contextual perspective (Naugle and Follette, 1998, and Follette et al., 2000, provide excellent descriptions of the nature of functional assessment).

When a trauma and its aftermath may have resulted in the loss of housing, transportation, or other basic resources, or resulted in physical injury or disability that could potentially hamper the client's well-being, his need for practical resources and assistance should also be assessed. Hobfoll et al. (1995) has developed a resource loss questionnaire that may facilitate this process, although more individualized assessment is recommended as well. Familiarization with local social work agencies and a willingness to follow through on such issues oneself is required to capitalize on such assessment. Preliminary assessment of health and medical needs (intended to set up medical referral to receive treatment to minimize aversive stimulation arising from illness or medical problems that may stem from the trauma) may prove helpful as well. Even when such resource losses or health issues may not be directly related to a trauma or its aftermath,

such steps can facilitate the increased access to positive reinforcement and decreased access to aversive stimulation all of the functional contextual processes detailed here call for.

Treatment Implications

Several treatment options also flow directly from this conceptualization and are facilitated by modes of assessment just discussed. Skills deficits, once identified through assessment, should logically be rectified during treatment. Viable skills training approaches for a variety of deficits that tend to occur amongst victims of posttraumatic stress are currently in existence. As examples, several social skills interventions are summarized in Trower (1995); similar interventions designed for children are discussed in Matson, Sevin, and Box (1995). Deficits in problem solving and in sexual interaction might be addressed by one of the approaches described by O'Donohue and Noll (1995) or Gold, Letourneau, and O'Donohue (1995), respectively. Skills involving emotional regulation and the labeling of emotions are discussed in Linehan (1993a) and Linehan (1993b), as well as Pierce (1995). Approaches relevant to marital problems that may well flow from posttraumatic stress are summarized by Gottman and Rushe (1995) and Jacobson, Christensen, Prince, Cordova, & Eldridge (2000). A therapeutic approach to a variety of interpersonal skills deficits and excesses has also been developed (Functional Analytic Psychotherapy; Kohlenberg & Tsai, 1991), and components of this approach have already been integrated into a treatment package for sexual abuse victims (Follette, 2003). Viable, empirically supported skills interventions other than those listed here are, of course, also available.

It may not be uncommon for individuals who have a given set of skills in their repertoire to nevertheless be unable to demonstrate these skills under appropriate circumstances because other factors block their emission (e.g., Ammerman & Hersen, 1986; Ammerman, Van Hasselt, Hersen, & Moore, 1989; Fingeret, Monti, & Paxson, 1985). One such factor might include experiential avoidance. Individuals affected by posttraumatic stress may often not emit skillful responses in a variety of contexts simply because doing so engenders degrees of aversive emotional stimulation that they choose to avoid. Empirically supported treatments for experiential avoidance exist (e.g., Acceptance and Commitment Therapy, a treatment grounded firmly in RFT; Hayes, Strosahl, & Wilson, 1999) and have been specifically applied to the treatment of posttraumatic stress (see Walser & Hayes 1994 and Follette 1994 for applications of ACT to sexual abuse victims), although no published data for experiential avoidance interventions with posttraumatic stress victims specifically is yet available. Still, it seems plausible, given the explicit role avoidance is thought to play in posttraumatic stress, that an intervention able to address this process with other topographically defined psychological problems would be applicable to trauma victims demonstrating avoidance as well. It may also prove useful in a number of cases to counter such experiential avoidance strategies in order to build a foundation that allows emission of skillful responses, whether already in the client's repertoire pre-treatment or conveyed during treatment. Instances where resource loss or lasting and debilitating physical damage

instigated by trauma occurs may require the enlistment of social agencies and workers skilled in providing tangible solutions and accommodations. As psychologists, we may often work in isolation of such social agencies and not consider utilizing such resources when available. But when assessment reveals that factors contributing to posttraumatic stress include imposed loss of access to resources vital to quality of life or even survival, it is imperative that we either acquire the knowledge necessary to rectify these situations ourselves or enlist the aid of those who can. The general idea behind such practical interventions is to increase the client's long-term access to stable sources of positive reinforcement and remove them from unnecessarily punitive environments. Such interventions can involve things as basic as increasing medical aid to clients suffering from trauma-induced chronic pain, assisting in the procurement of affordable and acceptable housing, providing reliable transportation to a stable job, or facilitation of needed financial assistance. Indeed, the idea behind all of the component interventions suggested here -when successful- can be conceptualized as increasing long-term access to stable sources of positive reinforcement.

Divergent treatment options for instances of problematic cognitive fusion exist. The cognitive and cognitive-behavioral perspective in psychological issues where problematic cognitions play a role in problems is that such cognitions (whether they involve negative evaluations or erroneously prescriptive or proscriptive rules) must be changed or eliminated in order for positive change to occur. Whether cognitive change is actually a viable and primary psychological process has been debated of late, but the fact remains that treatments based on this assumption can be effective in treating posttraumatic stress. Thinking errors common to posttraumatic stress might be addressed by cognitively-based treatments such as those reviewed by Foa & Meadows (1997). Exposure-based therapies may be particularly helpful in countermanding fusion with problematic behavioral rules and inaccurate negative evaluations, as maintained exposure to real-world contingencies can ideally provide consequences that do not maintain such cognitions.

RFT-based Acceptance and Commitment Therapy suggests an alternative to treatments targeting cognitive change in posttraumatic stress. From an ACT perspective, it is not necessary to reduce the frequency of problematic cognitions; it is merely necessary to reduce the degree to which the client believes that evaluative thoughts and the behavioral rules accurately correspond to reality. This flows from the RFT assumption that language -including the process by which we come to believe our words correspond ontologically to the events they designate- is an operant process, and that altering the contingencies surrounding language use in therapy can alter the role language plays in creating a debilitating life for our clients. ACT may prove to be highly suited for the treatment of posttraumatic stress because it addresses both maladaptive experiential avoidance and problematic negative evaluations and verbal rules. The rationale of acceptance-based treatments such as ACT may also prove beneficial in treating posttraumatic stress as it can circumvent the paradoxical effects of attempts at experiential suppression. Treatments like ACT that contain explicit techniques for shaping a sense of self as context may also prove beneficial for individuals affected by posttraumatic stress, if such issues of self manifest with a given client.

Conclusion

The current state of research on posttraumatic stress allows for multiple perspectives on its inherent processes and applicable treatments. This conceptualization marks an attempt to bring the strengths of functional contextual analysis to bear on the matter. From a theoretical standpoint, a treatment capable of addressing the psychological processes discussed here might be expected to demonstrate efficacy above that shown by current empirically supported treatments for posttraumatic stress. Further empirical analysis of the potential roles these processes play in individual reactions to trauma is required to verify whether they adequately capture the nature of the debilitating distress that can arise. Empirical research of treatments with components addressing these processes may then be able to answer the most important question: Does a functional contextual conceptualization of posttraumatic stress along these lines have direct treatment utility? It is hoped that this preliminary model may facilitate some of this required research.

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