DIFFERENTIATING RESPONSES TO TRAUMA:
THE CAUSAL MECHANISMS

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ABSTRACT

Current trauma theories lack etiological knowledge. Specifically, examining the ignored cognitive and emotional processing differences within the trauma disorders reveals heterogeneity in the diagnoses. This paper differentiates the disorders using two main traits that determine how and for whom pathological traumatic responses occur. Coping capability is defined as the ability to separate emotion, cognition and perception, allowing cognitive processes to regulate intense emotions and perceptions. Regulation entails filtering and altering perceptions. This paper hypothesizes that there are individual differences in this information processing function. Reflective Processing is the name of this trait and determines the kind of traumatic response. Emotional Perception is the other central determining trait. It is a perception and is therefore subject to the same Information Processing modes. How this trait (or absence thereof) is managed or mismanaged shapes how other emotions are dealt with. Eleven types of Emotional Perception are proposed. In general, high Emotional Perception is a risk factor for pathological responding. Affect Intensity is a third minor trait in this model that exacerbates traumatic responses. The end result of this paper places Reflective Processing and Emotional Perception on a circumplex diagram. The far corners represent being extreme on both of these traits; these corners characterize personality disorders. Traumatic reactions are also placed on this circumplex. The center of the circumplex, where the lines intersect, represents a “normal” response to trauma, and represents individuals who are not personality disordered.
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INTRODUCTION

This paper attempts to differentiate traumatic responses into fundamentally different coping styles according to specific personality traits. Pathological responses to trauma are inadequately understood. Current theories lack knowledge about how and for whom pathological responses occur. Vague understanding of the cognitive and affective states that accompany pathological traumatic responses impedes gaining this knowledge. Understanding emotional regulation is central to understanding traumatic responses. However, emotional regulation processes are not observable and thus have been neglected. This paper differentiates traumatic responses by clarifying emotional regulation processes by establishing various cognitive and affective reactions. A clear understanding of the underlying defensive mechanisms makes linking personality traits to response types possible. It is hypothesized that two personality traits determine the four main traumatic response types.

The two main personality traits are Emotional Perception and an information processing trait called Reflective Processing. Emotional Perception interacts with the information processing trait, creating five main effects of intense negative emotion on consciousness: 1) direct cognitive thwarting of emotion 2) indirect cognitive processes to lower emotion (such as withdrawal and fantasy) 3) perceptual blocking 4) no explicit cognitive processing, only superficial perceptual processing 5) no explicit cognitive or perceptual processing. The first two groups have Strong or Very Strong Reflective Processes that “re-construct” through cognitive alterations and filtering, preventing a severely altered consciousness in response to the trauma. The third group has Weak
Reflective Processing that has minor deconstructed higher-cortical levels but prevents further deconstruction by perceptual blocking. The fourth and fifth groups have Very Weak Reflective Processing and cognitive deconstruction is severe.

Emotional Perception largely determines if a pathological traumatic response will occur at all. Emotional Perception is a visceral perception to the emotions of others and is therefore a reaction to the environment. It intensifies the impact and meaning of situations that involve interacting with other people, increasing the depth of emotions. Generally, a lack of Emotional Perception is an anti-distress factor and an excess of Emotional Perception is a distress factor. This theory deems Emotional Perception a central formative trait. How this trait (or absence thereof) is managed or mismanaged, shapes how other emotionally charged environmental circumstances are managed. Importantly, pervasive mismanagement influences the development of personality disorders.

This theory also includes a non-causal trait, Affect Intensity, that exacerbates traumatic responses. It is a quantitative trait, rather than a qualitative trait. It will not, on its own, cause pathological responses to trauma.

The end result of this paper places Reflective Processing and Emotional Perception on a circumplex diagram. The far corners represent being extreme on both of these traits; these corners are associated with personality disorders. Traumatic reactions are also placed on this circumplex. The center of the circumplex, where the lines intersect, represents a “normal” response to trauma, and represents individuals who are not personality disordered.
This proposed division and re-classification endeavors to reveal covert differences in traumatic response phenomena, challenging the assumption that all dissociative disorders lie on a single continuum and questioning the logic of having one post-trauma response for all people. Determining if there are coping style differences within the dissociation construct is important clinically, forensically and theoretically. Clinically, understanding underlying coping mechanisms and personality types associated with specific disorders would improve treatment effectiveness. Forensically, dissociative states occasionally occur in both victims and offenders, resulting in qualitative and quantitative differences in event recall. Understanding when and for whom these phenomena present themselves would improve credibility assessment. Theoretically, discovering different underlying mechanisms of pathological traumatic responses would create diversity in constructs that assume homogeneity.
CHAPTER 1: PURPOSE #1: DIFFERENTIATING PATHOLOGICAL RESPONSES TO TRAUMA

Problem: Emotional over-regulation & under-regulation processes ignored

Emotional regulation is central to understanding individual differences in response to trauma. A traumatic event is by definition an emotionally negative event. The management of negative emotion is fundamental to the development of a pathological response to trauma. Van der Kolk, Pelcovitz, Roth, Mandel, McFarlane and Herman (1996) describe that emotional under-regulation explains many psychological problems, including traumatic disorders. However, what about emotional over-regulation? This concept has psychodynamic roots and has largely been ignored. If emotions can be under-regulated in a pathological way, can't they be over-regulated too? I propose that recognizing emotional over-regulation and under-regulation permits the differentiation of traumatic disorders.

What is considered “non-pathological” traumatic responding

Understanding non-pathological responses to trauma increases understanding about pathological responses. Easterbrook (1959) first noted that during an emotional event, peripheral details are not remembered, but the central details are. This has been termed “Tunnel Memory” (Safer, Christianson, Autry & Osterlund, 1998, p. 100). Tunnel Memories are said to “be the outcome of this narrowed attention” in which the central details are elaborately and emotionally processed (Safer, Christianson, Autry & Osterlund 1998, p. 100).

After the trauma, the memories are typically processed more gradually than non-traumatic memories. Van der Kolk and Fisler (1995) believe that, unlike non-traumatic
memories which people “synthesize...into symbolic form, without conscious awareness of the processes that translate sensory impressions into a personal story” (van der Kolk & Fisler, 1995, p. 513), traumatic experiences are initially re-experienced “without semantic representations” and instead as “fragments of the sensory components of the event: visual images, olfactory, auditory or kinesthetic sensations, or intense waves of feelings” (van der Kolk & Fisler, 1995, p. 513). These unprocessed sensory fragments are believed to cause the involuntary intrusive memories many people experience following a traumatic event (van der Kolk & Fisler, 1995). These intrusive recollections are thought to be virtual replications of the sensations experienced during the trauma. They are considered beneficial to the individual because they moderate the emotions connected with the trauma, eventually allowing a tolerance for the content of the memories (Horowitz, 1983). Following this line of thought, some consider the re-experiencing symptoms that characterize part of the diagnostic criteria for Posttraumatic Stress Disorder, to be actually adaptive and normal (Eberly, Harkness & Engdahl, 1991). There is support for this idea; intrusive recollections after the trauma have not been found to be predictive of subsequent psychopathology, such as Posttraumatic Stress Disorder (see McFarlane, 1992; Shalev, 1992).

In summary, what can be considered “normal” processing of trauma? During the event, cognitive, perceptual and emotional processing of the event are narrowed. Emotions are neither cut off nor uncontrolled. Cognitive and perceptual processing of the event is not all or none – it is simply less. Integration of the trauma is gradual. The trauma is not resistant to becoming cognitively integrated into memory and is not prematurely cognitive integrated.
Two long-established defense mechanism categories

Descriptions of defense mechanisms to reduce anxiety developed primarily from psychodynamic theory (Byrne, 1964). Defense mechanisms are useful because they theorize about unobservable emotional states. Byrne describes the two broad divisions of defense mechanisms:

At one end of the continuum of defensive behaviors are those responses which involve avoidance of the anxiety-arousing stimulus and its consequents. Included here are repression, denial, and many types of rationalization. At the sensitizing extreme of the continuum are behaviors which involve an attempt to reduce anxiety by approaching or controlling the stimulus and its consequents. The latter mechanisms include intellectualization, obsessive behaviors and ruminative worrying (Byrne, 1964, p. 170).

It is well known that repressors tend to deny feeling anxious despite physiological indications of anxiety. In contrast, sensitizers report high levels of anxiety but exhibit low physiological signs of anxiety. In other words, as Roth and Cohen (1986) note, repressors exhibit low subjective distress but high electrodermal indicators of distress, whereas sensitizers show high subjective distress and low electrodermal indicators of distress (p. 814). This can be interpreted as thought processes thwarting emotion, or at least translating the physiological reactivity that accompanies emotion, into thought processes.

In other words, one group of defenses over-regulates emotion through cognition. For example, intellectualization involves the minimization of emotion through thought (American Psychiatric Association, 2000, p. 812). The other set of defenses cognitively avoid the threat and emotion is not regulated; repression expels "disturbing wishes, thoughts, or experiences from conscious awareness. The feeling component may remain conscious, detached from its associated ideas" (American Psychiatric Association, 2000, p. 813). Thus, intellectualization/sensitization involves lowered emotion, increased
thought and approach behavior. Repression involves decreased thought, emotion is not necessarily lowered and avoidance behavior.

The categories are useful and have research support

Links with cognitive, perceptual and emotional tendencies

These generic coping divisions are linked with perceptual, cognitive and emotional styles. First, Field Dependence is the extent that one’s perception is “strongly dominated by the overall organization of the field, and parts of the field are experienced as ‘fused’ [as opposed to] a Field Independent mode of perceiving [where] parts of the field are experienced as discrete from organized background” (Witkin, 1965, p.318). Field Independence is associated with sensitization and Field Dependence is associated with repression (Bonanno & Singer, 1990). Witkin hypothesizes that this perceptual tendency has implications for how emotions are regulated. Witkin (1965) states, “it seems true of persons with a global cognitive style that feelings strongly influence thought and perception, in other words, that feelings are not kept sufficiently discrete from thought and percepts” (p. 322). Witkin summarizes how coping strategies relate to this concept

Studies have shown that persons who experience in articulated fashion tend to use specialized defenses, as isolation. In contrast, persons with a global cognitive style tend to use such defenses as massive repression and primitive denial. These latter defenses involve an indiscriminate, total blotting out of memory for past experiences and of perception of stimuli. Compared to such mechanisms as isolation, they represent relatively nonspecific ways of functioning....[in persons with a] global cognitive style...feelings are not kept sufficiently discrete from thoughts and percepts (Witkin, 1965, p. 322).

In summary, Witkin links repression with an inability to separate emotion, cognition and perception, and sensitization with an ability to do so. Thus, in terms of Byrne’s two
coping styles, the cognitive over-regulation group can separate emotion, cognition and perception, and can therefore cope more effectively.

Shapiro (1965) links perceptual and cognitive styles with defense mechanisms and psychopathology. Obsessive-compulsivity is associated with a sensitization coping style and hysteria is linked with a repression coping style (Bonnano & Singer, 1990). In terms of perception, Shapiro links obsessive-compulsivity with an “intense, sharp focus... limited in both mobility and range” (p. 27). Conversely, the perception in the hysterical personality is described as “global, relatively diffuse, and lacking in sharpness, particularly in sharp detail. In a word, it is impressionistic” (p.112). Further, hysteria is associated with a lack of “integrative mental processes:”

The normal integrative mental processes through which, we may imagine, a half-conscious hunch becomes a conscious judgment, a half-formed and diffuse impression becomes a clear idea, and a half-conscious and immediate feeling-sensation becomes an articulated and deep emotion; these processes are, in the hysterical person, markedly attenuated (Shapiro, 1965, p. 130).

In addition, Shapiro notes that hysterical individuals have limited fantasy life.

Shapiro also describes affect regulation differences between obsessive compulsives and hysteria: The hysteric is highly influenced by emotion and emotions are labile and shallow:

... the emotional outbursts of the hysteric, the abrupt discharges of affect that subside quickly are experienced later as though they had passed through their subject without...real participation.... The absence of complex cognitive integration--the quick, impressionistic cognition, in other words--will have a parallel in the immediacy and peremptoriness of affect. This affect, easily triggered or excited, abruptly emerges into consciousness as the final affective product, just as the immediate, global impression emerges as the final cognitive product (Shapiro, 1965, p.130).

On the other hand, the obsessive-compulsive style is characterized by emotion that “shrinks” (p.30).
Thus, defense mechanisms form a useful dimension that describe various levels of functioning. Sensitizers have extensive cognitive processing mechanisms and a narrow attention span. Emotion is recognized and regulated. Anxiety is acknowledged but managed. Anxiety manifests itself less in physiological reactions and more in cognition. Emotion, cognition and perception are more easily separated, allowing for greater coping capability. In contrast, repressors lack extensive cognitive processing mechanisms. Emotion is not recognized or regulated and perception is global with limited processing. Anxiety is cognitively denied but physiologically experienced. Emotion, cognition and perception are more intertwined, causing greater coping difficulty. What is most important in this summary of psychodynamic theory is the detailed understanding of different underlying emotional, cognitive, physiological and perceptual facets of phenomena without using outward behavior as definitive.

**Biological support**

Kendell (1989) notes that biological support is a critical component for determining the etiology of a phenomenon.

(a) criterion of validity is evidence that the syndrome is habitually associated with some more fundamental abnormality—histological, biochemical, physiological, psychological or molecular. The discovery of relationships of this kind is, of course, commonly the vital clue leading to understanding of aetiology (Kendell, 1989, p. 50).

There is tentative biological support for emotional under-regulation and emotional over-regulation.

The biological processes behind trauma, particularly PTSD and dissociative amnesia, have been extensively researched. It is important to note that there is an historical connection between emotionality and PTSD (Nijenhuis and van der Hart,
Nijenhuis and van der Hart (1999) cite Myer's 1940 observation that traumatized soldiers with an 'emotional personality', are more likely to suffer from vivid, painful memories and images of a traumatic experience. Van der Kolk et al. classify PTSD as an affect dysregulation problem. Thus, researching post-trauma pathological responses can be viewed as actually predominantly researching a specific kind of pathological post-trauma response: emotional under-regulation.

Another kind of post-trauma response, that I propose is emotional over-regulation in nature, is Depersonalization. This response is beginning to be biologically researched. Steinberg (1995) notes that individuals with Depersonalization frequently feel “dead” or “emotionally numb” (Steinberg, 1995, p. 93). Thus, Depersonalization is not associated with the same kind of emotional under-regulation exhibited by Posttraumatic Stress Disorder (PTSD). PTSD includes emotional numbing as a symptom, but some believe that emotional numbing does not fit with the other PTSD criteria (Ross, Figueredo, Bell, Tharan & Tromp, 1999; King, Leskin, King & Weathers, 1998; Asmundson, Frombach, McQuaid, Pedrelli, Lenox & Stein, 2000). The preliminary findings indicate that Depersonalization and PTSD involve different biological processes. PTSD is discussed first, followed by Depersonalization.

Biological theory points to several types of cognitive deficits associated with PTSD. These are: limited depth of processing, specific processing deficits in terms of placing the event in context, physiological reactivity, sensory filtering deficit and a lack of visual imagery control. First, there is biological evidence to support the cognitive theory that traumatic memories involve limited explicit memory processing. Explicit memory is the conscious recollection of previous experiences (Schacter, 1993, p. 387). van der Kolk,
Burbridge and Suzuki (1997) note that hippocampal volume is decreased in individuals with PTSD, a part of the brain which is central to the development of explicit memory. Thus, hippocampus malfunctioning is theorized to inhibit explicit memory development. Spiegel (1997) also theorizes that dissociative amnesia is linked to hippocampal malfunctioning.

Second, biological theory postulates that pathological post-trauma responses occur because of a specific kind of deficit in cognitive processing. Armony and Ledoux (1997) suggest that the hippocampus causes individuals to attach fear responses to a variety of non-threatening situations after the trauma. The amygdala, which is central to emotional responding and important for conditioned fear responses, receives input from a variety of sensory and cognitive sources. For example, the thalamus contributes low-level sensory information and the hippocampus contributes higher order information about context. Armony and Ledoux suggest that the hippocampus functions less effectively under stress and that this causes maladaptive, context-less conditioning of fear responses. Thus, re-experiencing symptoms are triggered by stimuli in a completely different context than the original trauma (Armony & Ledoux, 1997). In this view, the malfunctioning of higher order brain processes is partly responsible for PTSD symptoms.

Third, individuals with PTSD are found to have high physiological responses at the time of trauma. Individuals with PTSD have appear to have low cortisol levels (Yehuda, 2000). The two major stress hormones are the catecholamines and cortisol. Catecholamines increase bodily responses to fight the threat, whereas cortisol shuts down sympathetic activation. High levels of cortisol are supposed to slow down the release of more cortisol, through a negative feedback mechanism. Yehuda (2000) notes that studies
have shown that the original cortisol response is significantly lower in individuals who develop PTSD. In addition, the low cortisol levels do not appear to result from a gradual process; malfunctioning cortisol levels are evident from the start of the trauma. Likewise, Shalev, Sahar, Freedman, Peri, Glick, Brandes, Orr & Pitman (1998) researched the relationship between the development of PTSD and heart rate and blood pressure recorded in the hospital immediately after a traumatic event. They found that those individuals who subsequently developed PTSD had significantly higher heart rates at the hospital and one week later, but they did not show these symptoms after one month or after four months. The researchers state that individuals with PTSD may have a "hyperresponsiveness" trait, causing such physiological symptoms as high heart rate and PTSD (p. 559). The researchers note that a hyperresponsiveness tendency would be consistent with other PTSD findings such as high physiological arousal to various non-traumatic stressors. However, the most cautious statement would be that the Hypothalamic-Pituitary-Adrenal Axis (also known as the HPA axis, that is involved in cortisol responses) and the body's sympathetic response system are not communicating properly (Yehuda, 2000).

Fourth, abnormal stimulus processing and abnormal visual imagery control are both related to PTSD. Individuals with PTSD have been found to have abnormal stimulus processing (McFarlane, Weber, & Clark, 1993). A study by McFarlane, Weber and Clark (1993) compared individuals with PTSD and those without, in their ability to detect an auditory target stimuli against a background of distracting noise. The study found that individuals with PTSD have difficulty differentiating relevant from irrelevant stimuli. According to Horvath (1980), Janet's original conception of hysteria included sensory
screening difficulty, resulting in sensory overload. Stutman and Bliss (1985) compared imagery ability in Vietnam veterans with high levels of PTSD and low levels of PTSD. The two groups were given an imagery ability scale. The group with high PTSD levels had significantly higher imagery ability scores than individuals without PTSD. Laor, Wolmer, Wiener, Weizman, Toren and Ron (1998) found that individuals with high levels of PTSD and a low ability to control images had more affect regulation problems such as controlling anger, compared to individuals with PTSD who had a high ability to control images. Eisenberg et al. (1996) also postulate that control of attention is related to affect regulation.

These biological findings differ from the traumatic responses exhibited by individuals with Depersonalization Disorder. Simeon, Guralnik, Knutelska, Hollander & Schmeidler (2001) found that individuals with DSM-IV diagnosed Depersonalization Disorder demonstrate different cortisol abnormalities. Whereas PTSD is associated with low levels of cortisol and enhanced negative feedback, Depersonalization is associated with high levels of cortisol and diminished negative feedback. Another way that PTSD and Depersonalization diverge from one another is vivid imagery. Individuals with Depersonalization Disorder showed a significant impairment in this area compared to controls (Lambert, Senior, Phillips, Sierra, Hunter and David, 2001). This contrasts with individuals with PTSD.

This research on Depersonalization provides preliminary evidence of differences in emotional, physiological and perceptual regulation processes between a disorder characterized by emotional under-regulation and a disorder characterized by emotional over-regulation.
Support from a phenomenological study

Is there empirical evidence of emotional over-regulation and over-regulation of a traumatic experience? In other words, do both sensitization and repression types of defenses occur in response to trauma? Analyzing purely descriptive accounts of traumatic responses is a good starting point to answering this question. Noyes, Hoenk, Kuperman & Slymen (1977) developed a questionnaire based on descriptions of traumatic responses and Depersonalization. They gave the questionnaire to accident victims and factor analyzed the responses. Noyes et al (1977) found 3 major factors:

“Depersonalized” factor
1) Detached from world
2) Detached from Body
3) Wall between self and emotions
4) World strange or unreal
5) Self strange or unreal
6) Objects small, far away
7) Loss of control
8) Events in slow motion
9) Time slowed
10) Thoughts slowed

“Mental Clouding” factor
1) Images blurred or dull
2) Images of future events
3) Vision, hearing blurred or dull
4) Revival of memories
5) Dreaminess
6) Absence of bodily sensations
7) Thoughts disconnected

“Alertness” Factor
1) Unusual Alertness
2) Thoughts sharp or vivid
3) Increased awareness of world
4) Thoughts blurred or dull
5) Controlled by outside force
6) Heightened bodily sensation
7) Vision, hearing sharper
8) Thoughts speeded
9) Déjà vu
10) Increased control
11) Objects large, close at hand
12) Intensified emotions

(Noyes, Hoenk, Kuperman & Slymen, 1977, p. 403)
This study appears to correspond to sensitization, repression and a complete absorption in
the event. The Depersonalized factor corresponds to intellectualization. This is
eotional over-regulation. If repression/emoional under-regulation are viewed as
cognitive avoidance and emoional non-avoidance, the last two factors both partly
correspond to emoional under-regulation. The mental clouding factor is cognitive
absence. The “alertness factor” is emoional non-avoidance, or emoional intensification.
Interestingly, this last factor appears to involve no active coping whatsoever. Instead, the
event is fully experienced. There is not even cognitive absence to attempt to regulate
emoion. In terms of the repression-sensitization dimension, this intensified kind of
response needs to be understood because it is not explicitly either repression or
sensitization.

Why emoional regulation processes are ignored: Not directly observable

Obviously, emoional regulation is not directly observable. Unfortunately, the rise
in behaviorism emphasized the importance of researching observable phenomenon. As
behaviorism became more dominant, psychodynamic ideas were less accepted. Ross
(1996) describes the impact of the rise of behaviorism on understanding dissocation:
“...behaviorism...does not allow consideration of internal states of consciousness,
divided consciousness, or symptoms that evolve from causes 20 to 30 years in the
patient’s past” (Ross, 1996, p.6). Some believe that this behavioral emphasis on overt
symptoms prevents complete understanding of disorders:

The DSM system was changed in 1979-1980 with the DSM III in order to establish clear
definitional criteria for the major psychiatric disturbances. Its method has been to
identify sets of descriptive diagnostic criteria that are as observable and as replicable as
possible. To this end, DSM III offers a descriptive system. Under the DSM, diagnostic
specificity for many entities has been sharpened. By excluding much dynamic and
developmental data, however, the system has been weaker in addressing complex
relationships among disorders and limited effectiveness differentiating between
conditions like MPD and BPD (Marmer & Fink, 1994, p. 746).
Roth and Cohen’s (1986) article on coping behavior demonstrates the modification of defense mechanisms to a more behavioral perspective. Roth and Cohen make behavioral actions primary. First, they equate cognition and emotion together as one process, assuming that if one is cognitively approaching, they are also emotionally approaching. They state that the repression and sensitization dimensions “are shorthand terms of the cognitive and emotional activity that is oriented either toward or away from threat” (p. 813). Second, their description of the repression-sensitization dimension is interpreted in a largely behavioral sense:

... repression involves an avoidance of anxiety-arousing stimuli and their consequences and is a general orientation away from threat. Sensitization, on the other hand, is the approach toward anxiety-arousing stimuli and their consequences and is an orientation toward threat (Roth & Cohen, 1986, p.813).

Missing in this definition is the repressor’s lack of acknowledgement of anxiety despite being highly physiologically aroused. Likewise, the sensitizer’s cognitive rumination about the threat and acknowledgement of anxiety with lower physiological arousal, is missing. This is important because, as will be shown, behavioral avoidance and behavioral approach do not necessarily correspond to emotional and cognitive approach and avoidance. Briefly, there can be cognitive approach and emotional avoidance, leading to approach behavior or avoidant behavior. There can be cognitive approach and emotional approach behavior that leads to approach behavior, but it can be adaptive or maladaptive. There can be cognitive avoidance and emotional approach leading to approach behavior or avoidance behavior. There can be cognitive avoidance and emotional avoidance leading to avoidance behavior. What, then, does simple behavioral approach or behavioral avoidance tell us? Emotional regulation is not observable by
behavior.

Unfortunately, there are now many similarly dichotomized coping style constructs to the repression-sensitization dimension that are behaviorally based, for example: avoidance-vigilance, selective inattention-attention, reducers-augmenters, blunting-monitoring, rejection-attention, retreat-encounter and fragmentation-containment (Roth & Cohen, 1986, p. 814). Solomon, Mikulincer & Arad (1991) demonstrate the confusion that results from assuming that behavior represents cognitive and emotional states. They assessed coping style effectiveness of soldiers. Specifically, they assessed the effectiveness of monitoring behavior (disposition to seek out informational cues about the threat and to attend to information relevant to it) and blunting behavior (avoid informational cues about the threat and attend to distracting stimuli). Monitoring corresponds to sensitization and blunting corresponds to repression (Roth & Cohen, 1986). The researchers hypothesized that the inability to blunt trauma would be associated with more PTSD. In other words, the assumption is that the behavioral action of blunting the threat is a beneficial action because emotions are avoided as well as cognition. What they found, expectedly, was the opposite. Those who utilized blunting strategies had more PTSD. Blunting conceptualized as a repression strategy means that emotions are not effectively thwarted. On the one hand, in the sensitization defense, cognition thwarts emotion, allowing for cognitive approach and emotional avoidance. On the other hand, in the repression defense, cognition cannot thwart emotion so cognition about the threat is avoided. As discussed earlier, PTSD relates to emotional under-regulation.
Problem: Behavioral focus results in constructs built on superficial foundations

Dissociation construct in general

Where does dissociation fit in terms of the defense mechanism dimension? Currently, dissociation is its own defense. It is simply some kind of splitting apart of consciousness. The DSM-IV-TR describes dissociation as a defense mechanism where, “the individual deals with emotional conflict or internal or external stressors with a breakdown in the usually integrated functions of consciousness, memory, perception of self or the environment, or sensory/motor behavior” (American Psychiatric Association, 2000, p. 811). Bernstein (1986) acknowledges that the underlying mechanisms of dissociation are not well understood and that “our current state of knowledge does not permit a more exact differentiation of dissociation from mental processes such as regression and isolation” (Bernstein, 1986, p. 728). Isolation is a similar defense to intellectualization, defined as “the separation of ideas from the feelings originally associated with them. The individual loses touch with the feelings associated with a given idea...while remaining aware of the cognitive elements” (American Psychiatric Association, 2000, p. 812).

The various dissociative responses are assumed to result from the same process, even though the process of dissociation is not understood. In fact, the definition of dissociation itself specifies the result of a process, neglecting to describe how it occurs. How do the facets of consciousness become unintegrated? Potential cognitive and emotional differences among the disorders are, for the most part, not researched or acknowledged. Does the process differ depending on whether the perception of the self or the perception of the environment is affected? Current conceptualization does not
consider this. Instead, dissociative disorders are placed on a continuum, differing quantitatively not qualitatively. Superficially, each dissociative disorder shares the same resulting state: at least one facet of consciousness is unintegrated with the rest of consciousness. The dissociative disorders are arranged on a continuum of increasing complexity and severity in reaction to more extreme trauma (Bernstein & Putnam, 1986; Ross, 1996). Figure 1 below shows how Braun (1986) conceptualizes the continuum.

Figure 1: The Dissociation Continuum

NORMAL DISSOCIATION- e.g. Hypnosis, Automatism (driving a car automatically, without thought)

↓

DISSOCIATIVE EPISODE- Fear, Repression, Highway Hypnosis, Mystical Experience

↓

DISSOCIATIVE DISORDER- Psychogenic Amnesia, Fugue, Depersonalization

↓

POST-TRAUMATIC STRESS DISORDER

↓

ATYPICAL DISSOCIATIVE DISORDER-

↓

ATYPICAL MULTIPLE PERSONALITY DISORDER

↓

MULTIPLE PERSONALITY DISORDER (DISSOCIATIVE IDENTITY DISORDER)

(Braun, 1986, p.12)

If all of the facets of consciousness are affected, this is called Dissociative Identity Disorder, considered the most extreme form of dissociation. Is Dissociative Identity Disorder necessarily the sum of its parts? What if the parts, on their own, differ fundamentally from one another in terms of cognitive and affective processes? In other words, what if a dissociated memory results from a different process and is related to different personality traits, than a dissociated identity? If so, the continuum idea is faulty. Not understanding the process permits the impression of homogeneity within the dissociation construct, maintaining the assumption that more severe forms of dissociation evolve from less severe forms. Although the continuum notion is widely held, it is not universally accepted and has not been empirically tested (Ross, 1996). In fact, Frankel
(1996) suggests that the continuum concept contrasts with Janet's original formulation of dissociation and was primarily intended to foster acceptance of the dissociation phenomenon within the psychological community.

Although Janet's original concept of dissociation might have allowed for degrees or types of disconnectedness, the clinical amnesia he described was dramatic and, even if not total, certainly created the impression that the affected patient's conscious awareness was out of touch with current or past realities. By reexamining Janet's dissociation theory that had come out of abnormal psychology a century earlier, Hilgard, "attempted to develop a current form of it, to be taken seriously within general psychology" (emphasis added)....Whereas Janet attributed what he had found in pathological states to a deficiency or weakness in the integrative psychological abilities of vulnerable individuals, Hilgard emphasized that there was a continuum of dissociative experiences that ranged from automatisms and the ordinary daily activities of normal individuals to the pathological experiences of depersonalization, fugue, and other disruptions of memory (Frankel, 1996, p.65).

Researchers have asserted that conceptualizing an interconnection between all the dissociative symptoms overlooks essential differences. For example, van der Kolk and Fisler (1995) point out:

The precise interrelationships among these various phenomena remain to be spelled out: not all people who have vivid sensory intrusions of traumatic events also experience depersonalization, while only a small proportion of people who have both of these experiences will go on to chronically dissociate, or to develop a full-blown dissociative disorder (van der Kolk & Fisler, 1995, pp. 510-511).

Nevertheless, the continuum idea is central to the concept of dissociation, further propagated by the Dissociative Experiences Scale (DES), which was developed under the continuum idea. The Dissociative Experiences Scale (DES) (Berstein & Putman, 1986) claims to be a measure of general dissociation. However, it is conceptualized on the current understanding of dissociation and therefore assumes that all dissociative disorders differ from DID only in terms of severity, not kind. The researchers who constructed the DES claim high construct validity of the test because those who are expected to score high do score high (such as trauma victims with PTSD and individuals with DID) and those who should not score high do not (Carlson, 1993). However, this claim is not as
entirely straightforward as it seems. Frankel (1990) states that the majority of DES items measure cognitive control and imagination, and therefore do not indicate pathology. For example, the first three items are:

1) Some people have the experience of driving or riding in a car or bus or subway and suddenly realize that they don't remember what has happened during all or part of the trip
2) Some people find that sometimes they are listening to someone talk and they suddenly realize that they did not hear part or all of what was said
3) Some people have the experience of finding themselves in a place and having no idea how they got there (Carlson & Putnam, 1993, p. 26).

Along these same lines, Merckelbach, Muris & Rassin (1999) found that high DES scores in a non-psychiatric population were significantly correlated with fantasy proneness, a lack of cognitive control and imagination. Moreover, these high correlations are not due to association with the absorption factor of the DES that describes normal, benign experiences. Instead, fantasy and cognitive control were related to the more pathological factors of the DES as well. Does this mean that those who are fantasy prone are prone to pathological dissociative experiences? Or does this mean that the DES isn't measuring pathological dissociation? Kihlstrom, Glisky & Anguilo (1994) suggest that fantasy proneness and hypnotizability are in fact risk factors for pathological dissociative disorders because of the relationship between dissociation, posttraumatic stress disorder, hypnotizability and fantasy proneness.

However, before jumping to that conclusion, the nature of the connection between DES and pathological dissociation requires illumination. It is clear that the DES reflects traumatic reactions of some kind because of the robust correlations between traumatic disorders and DES scores. It is also evident that the DES correlates with non-pathological fantasy related cognitive mechanisms. How can the pathological connection be explained? Applying the two general coping tendencies, emotional over-regulation through cognitive processes and emotional under-regulation reveals two possible routes
to pathological dissociation that would result in high DES scores. First, emotional over-regulators may utilize cognitive processes such as fantasy to cope. Incidentally, these individuals would score high on the DES also in normal, non-traumatized states too. Second, as Shapiro (1959) noted in the section on cognitive differences between emotional over-regulators and under-regulators (see page 7), repressors, or emotional under-regulators do not have an active fantasy life. Cognitive mechanisms, such as fantasy, are likely more associated with emotional over-regulation. Thus, there may be a more direct relationship between trauma and DES scores in emotional under-regulators. In other words, the DES actually measures a traumatized state, rather than a normal state, in emotional under-regulators. Allen, Console & Lewis (1999) describe a specific way that individuals can experience dissociative detachment that is not fantasy oriented and results in amnesia. Some individuals “go beyond feeling ‘spacey’...to being utterly ‘blank’ or ‘gone’, as if they are in ‘blackness’ or ‘a void’” (Allen, 1997, p. 163). These individuals might very well “…have the experience of finding themselves in a place and having no idea how they got there” (Carlson & Putnam, 1993, p. 26). I propose that this “blankness” may result from extreme emotional under-regulation.

The DES is widely used in dissociation research. The ambiguity of the measure’s actual construct validity makes interpretation of studies that utilize it difficult.

Post trauma construct in general

There is only one kind of post-trauma disorder. Is having one type of post-trauma disorder for all people sound? As discussed on page 9, PTSD-type symptoms have been historically connected to an “emotional personality.” Van der Kolk et al. (1996) note that PTSD and other associated disorders are emotional under-regulation problems.
With the creation of the DSM-III system of diagnostic classification, PTSD was introduced as a new diagnosis. Simultaneously, hysteria disappeared from psychiatric nomenclature and was deliberately "split asunder" into multiple different diagnoses: somatoform disorders, factitious disorders, dissociative disorders, and histrionic and borderline personality disorders....With the renewed interest in the role of overwhelming experiences in the origins of psychopathology, modern psychiatry is rediscovering the intimate relations among trauma, dissociation, somatization, and a host of psychological problems that can most easily be categorized as disturbances of affect regulation: unmodulated anger and sexual involvement, self-destructive behaviors, and chronic suicidality (van der Kolk, Pelcovitz, Roth, Mandel, McFarlane, 1996, p. 86).

Thus, van der Kolk et al. (1996) classify PTSD symptoms as affect regulation problems. Therefore, not only is there just one kind of PTSD, but it is not even representative of all types of post-trauma responses — it is biased in terms of emotional under-regulation. If there are in fact individuals who emotionally over-regulate trauma through cognitive processes, what kind of post-trauma reaction would occur for them?

In addition, depression commonly occurs in conjunction with PTSD (for e.g., Feeney, Zoellner, Fitzgibbons & Foa, 2000). Would both emotional over-regulators and under-regulators experience depression? If so, would the kind of depression differ?

**Heterogeneity among the disorders in terms of emotional regulation**

This section describes the illusion of homogeneity in traumatic responses in terms of emotional regulation. Depersonalization and Derealization are often seen as the same disorder, whereas closer examination demonstrates cognitive and emotional differences. The same is true with Borderline Personality Disorder and Dissociative Identity Disorder. Emotional numbing, stupor, Posttraumatic Stress Disorder and Dissociative Amnesia are intended to be uniform diagnoses or symptoms, but closer examination reveals that each can be broken down into sub-types with opposing cognitive and emotional processes.
Depersonalization and Derealization

The Diagnostic Statistical Manual IV (DSM-IV) defines Depersonalization as "persistent or recurrent experiences of feeling detached from the self, and as if one is an outside observer of one’s mental processes or body (e.g. feeling like one is in a dream)” (American Psychiatric Association, 2000, p. 532). Steinberg describes Depersonalization as, “feeling unreal; like a stranger; dead (emotionally numb); as if the real self is far away; or as if parts of the body are separate” (Steinberg, 1995, p. 93). Derealization results in the "world" feeling unreal or strange. The Derealization concept is related to perceptions rather than emotion. Steinberg describes the following possible Derealization responses: feeling that friends or family are unreal, unfamiliar or strange; feeling that one’s surroundings are unreal; or experiencing perceptual distortions (Steinberg, 1995, p. 93).

Clearly, Depersonalization involves affective avoidance. The cognitive and emotional processes in Derealization are not so clear. Some theorists believe that Derealization is part of Depersonalization—the boundary has been deemed a “convenient” (Jacob & Bovasso, 1992) and useless separation of the same process (Sierra & Berrios 2000; Coons, 1996; Sierra & Berrios, 1997; Hollander, 1989). Sierra states that, “there is little conceptual or clinical evidence that Depersonalization and Derealization are independent phenomena” (1997, p.214). However there have been few, if any, studies that compare Depersonalization to Derealization. The theories that do exist about Depersonalization and Derealization have largely not been empirically tested (Trueman, 1984). In 1935, Mayer-Gross first raised the issues of phenomenon-
independence and individual differences in Depersonalization and Derealization and since then the issue has largely been ignored. He states:

There is no doubt that these phenomena belong together on various theoretical grounds. My material shows that they also occur together in approximately half of the cases. But even in these cases, I did not always find both Depersonalization and Derealization equally changed. Either the subjective disturbance or objective disturbance is usually more emphasized. I have not yet been able to discover the reasons for this (Mayer-Gross, 1935, p. 104).

This theory suggests that Derealization is an opposite coping response to Depersonalization. However, confusing characterizations of Depersonalization and Derealization obscure the fundamental nature of Derealization. There are two major reasons for the confusion about whether the phenomena are the same or different. First, the definitions of the phenomena include the use of vague metaphors. Second, the function of Derealization switches; sometimes the criteria represent Derealization as its own coping mechanism, sometimes as the secondary concomitant of Depersonalization and sometimes as not a coping mechanism at all, but simply as an intensified response to trauma.

Vague metaphors

When these phenomena were first noted a century ago, the definitions were based on vague metaphors because, obviously, these experiences are subjective and therefore unobservable by clinicians (Saperstein, 1949). Currently, our understanding of these phenomena continues to rely upon vague metaphors such as “felt like a dream.” Because of the use of vague and subjective metaphors without knowing the theoretical underpinnings, Depersonalization has become “one of those chameleon words that change their meaning with the context...all that one can find is a variety of descriptions which often disagree with one another” (Taylor, 1982, p. 297). Many metaphors used are
too vague — metaphors mean different things to different people. For example, the metaphors “as if in a dream, fog or trance” are used interchangeably (Simeon, & Hollander, 1993). But do they actually represent the same phenomenon? “As if in a dream” is the metaphor the DSM-IV uses to describe Depersonalization. But if we assess the use of the words ‘dream’ in the literature, we find different representations:

It was as though I was separate from myself and watching, like in a dream when you are watching yourself (Noyes, 1977, p 379).

This metaphor uses ‘dream’ to describe the mind-set during self-observation, a symptom characteristic of Depersonalization.

 Patients often feel as if they are about to go into a trance, or dream or as if a sort of veil interposed between them and the outer world (Stockings, 1947, p. 63).

This metaphor uses trance and dream interchangeably, suggesting that this mind-set is accompanied by a distortion or blocking of the environment, typical of Derealization.

**Derealization responses as secondary to Depersonalization**

The world may be experienced as strange as a direct result of the self feeling strange. In other words, Derealization results from Depersonalization. Cardena and Spiegel (1996) delineate Depersonalization with a variety of detachment features: events at a distance, sensations at a distance, emotions at a distance and thoughts at a distance. It is understandable that the environment may be perceived as strange if the self is. For instance, the following example of Depersonalization likely also involves detachment from surroundings: “I stood about 50 ft off and saw myself from the side, I looked small” (Noyes, 1977, p 379). Thus, in some cases of Depersonalization, the environment may appear altered secondary to the self feeling detached.
Derealization not as a Coping Response but as an Intensified Response

Mayer-Gross (1935) observes that some Derealization experiences involve, “sensory impressions as more vivid, clearer, brighter and...nearer” (p. 111). Noyes (1977) characterizes this experience as “participating dissociation”. He refers to it as “participating” because the individual is involved in what is happening in an intensified way. This designation is problematic: if dissociation is a coping mechanism, how can intensifying the experience, and therefore increasing the anguish, be considered coping with the trauma? This type of environmental alteration may be considered Derealization because the world is experienced as altered. However, because the perceptual, cognitive and emotional involvement in the event is presumably intense rather than disconnected, coping is questionable.

Derealization as its Own Coping Mechanism

Cardena and Spiegel (1996) characterize Derealization as experiencing unreal surroundings and withdrawal. Thus, dulling the environment or making it appear less real lowers the impact of the event. In this sense, Derealization is itself, a coping mechanism. Dealing with perceptions is the primary defense style in Derealization rather than Depersonalization’s direct focus on lowering emotions.

Emotional and Cognitive Differences in Depersonalization and Derealization

This paper hypothesizes that the emotional and cognitive/perceptual states of Depersonalization and Derealization are opposite. Emotional differences are discussed first, followed by cognitive differences.

Research shows that emotions are over-regulated in Depersonalization and under-regulated in Derealization. For example, individuals with Depersonalization do not
exhibit Emotional Stroop task interference effects and attentional bias (Guralnik, Schmeidler, & Simeon, 2000). The Emotional Stroop task measures the degree that emotional stimuli captures attention and can be an indication of emotionality or emotional reactivity. In contrast, Jacob and Bovasso (1992) found that mood fluctuation correlates significantly with Derealization. This study compared types of Depersonalization and Derealization experiences to pathological traits as assessed by the Differential Personality Inventory (DPI; Jackson & Messick, 1972), in 368 college students. Derealization was defined as perceptual alterations of people and objects.

These differences in emotional regulation also appear to translate into different associated pathologies. Nijenhuis and van der Hart (1999) believe that PTSD is characterized by emotional regulation difficulty. In contrast, Depersonalization does not appear to be linked with PTSD. For example, one study found that of thirty individuals with Depersonalization Disorder, only one person had ever suffered from PTSD (Simeon, Gross, Guralnik, Stein, Schmeidler & Hollander, 1997). It is important to note that this is not a highly traumatized sample, although their childhood trauma rates are significantly higher than the control group. The defenses and disorders associated with depersonalization are largely emotional over-regulation defenses. Psychopathology pertaining to obsessions is associated with Depersonalization (Shilony & Grossman, 1993). Likewise, Sedman (1970) notes that obsessional character traits may predispose individuals to Depersonalization mechanisms. The separation of the observing and participating self that is often characteristic of Depersonalization is thought to be a form of the isolation and intellectualization defenses used by obsessive personalities (Simeon

Conversely, Derealization is linked to Borderline Personality Disorder (BPD), a disorder characterized by emotional under-regulation problems. A study investigating the connections between childhood sexual abuse and Borderline Personality Disorder found that Derealization, rather than Depersonalization, masochism or promiscuity, is the most significant predictor of childhood sexual abuse in patients with borderline personality disorder (Ogata, Silk, Goodrich, Lohr, Westen & Hill, 1990).

It is important to note that there are different degrees of emotional management in Depersonalization. For instance, “the feeling of not belonging to my body but being outside of it” (Myers, 1972, p. 60) seems to be stating, “this isn’t happening to me.” Conversely, the Depersonalization experience of “my emotions are gone, nothing affects me” (Mayer-Gross, 1935, p. 108-109), seems to be stating, “I know this is happening to me but I can’t feel anything.” The first example is using cognitive processes to avoid, lowering emotion in a secondary, indirect way. The second example is using cognitive processes to directly lower emotion.

Research comparing cognitive processes in Depersonalization and Derealization is nonexistent. However, there are discrepancies that can be theoretically resolved by assessing how patients experiencing these phenomena describe their cognitive functioning. Depersonalization includes metaphors where the feeling of what has happened to one’s mind is characterized in two opposite ways. On the one hand, the following Depersonalization symptoms all describe a feeling of being connected to the mind but the mind is disconnected from the body:
I felt disembodied...only my mind seemed to exist...I would have to pinch myself to reassure myself that I did exist (Myers & Grant, 1972, p. 60).

I am analyzing on the surface all the time but there is nothing underneath (Mayer-Gross, 1935, p.108-109).

I suddenly felt that I was really behind myself, not watching myself but detached from everything, including my body to some extent (Myers & Grant, 1972, p.60).

on the one side are my thoughts, then a blanket, a sheet, and then myself (Mayer-Gross, 1935, p. 109).

On the other hand, Depersonalization metaphors describe the mind as simply not functioning:

he describes the sensations during the episodes as being in a dream, detached from reality, as though half his mind is asleep (Davison, 1964, p.508).

Stockings describes that many patients feel "emptiness in the head" or as though the "brain is dead or had stopped working (Stockings, 1947, p.63).

How can the mind be “dead” by one person and "separated but still functioning" by another, if it’s the same phenomenon? The DSM-IV-TR explicitly states that Depersonalization reactions may involve "a sensation of being an outside observer of one’s mental processes” (American Psychiatric Association, 2000, p.530). It is likely therefore, that Depersonalization coincides with the mind being described as far-removed, and emotionless. Cognitive processes are experienced as distant because the self feels detached, but cognition is fully functioning. In contrast, Derealization involves diminished cognitive functioning. Lowered emotion is attained by cognitive blocking or perceptual numbing rather than by active cognitive processes. Therefore, in these cases the mind might be described as not functioning, in other words, “asleep” or “miles away.”
In summary, the boundary separating Depersonalization and Derealization is superficial because it stereotypes all alterations affecting the self as Depersonalization and all alterations affecting the world as Derealization. This clear-cut assumption is unlikely in the real world and overlap is unavoidable. However, the boundary represents a very meaningful distinction: changes in the "world" represent a perceptual/cognitive blocking, withdrawal or numbing of the environment. Changes in the "self" represent cognitive processing of the environment at the expense of not remaining emotionally connected to the self.

**Emotional numbing**

This paper hypothesizes that the term emotional numbing is comprised of two different phenomena: it is emotional avoidance that enables a person to still function and it can be part of a behavioral shutdown that includes cognitive avoidance.

Thus far, emotional numbing has been discussed in terms of the loss of feeling that occurs in Depersonalization reactions. In this situation, emotional numbing enables the person to still function and cognitive processes remain intact. Conversely, Foa and Riggs (1993) postulate that emotional numbing is a biologically determined reaction that is parallel to the freezing state observed in animals. They suggest that, “when active avoidance strategies fail to reduce distress, one way for the victim to gain relief is to ‘shut down the system’ ” (p.283). Thus, emotional numbing can be split into emotional avoidance that occurs in Depersonalization and part of a more global freezing reaction that involves cognitive avoidance. This theory suggests that both cognitive avoidance and emotional avoidance signifies a more extreme reaction to trauma. The freezing reaction is not an active coping strategy but a reaction to ineffective coping.
Stupor

I hypothesize that stupor, like emotional numbing, is both a proactive coping mechanism and a reaction to ineffective coping. On the one hand, Spiegel, Koopman, Cardena and Classen (1996) describe stupor as a more severe form of Derealization: “stupor is similar to Derealization in being related to one’s experience of one’s environment lacking the usual associations; however stupor constitutes a lack of awareness rather than alterations of aspects of the environment” (p. 370). In this case, stupor is a perceptual coping mechanism whereby the environment is extremely dulled to the point of blocking.

Alternatively, stupor is also associated with an almost comatose state. Individuals “sit and stare” like in a catatonic or comatose state (Allen, Console & Lewis, 1999, p. 163) and experience “a dulling of the senses and decreases in behavioral responsiveness” (Spiegel, 1997, p. 228). This is similar to a more global freezing reaction that Foa and Riggs (1993) describe as “shutting down the system” (p. 283).

Fantasy

Clearly, fantasy during trauma involves using cognitive processes to avoid becoming involved emotionally. War captivity research has found that under prolonged trauma, it appears that most people tend to resort to fantasy to cope:

Even POWs not prone to using such mechanisms in their daily lives are said to resort to devices such as daydreaming and fantasizing in the helplessness and regression into which their captivity places them (Solomon, Ginzburg, Neria & Ohry, 1993, p. 67).

There are three important points pertaining to this statement. First, some people tend to use fantasy more than others. Second, fantasy is used in the unusual circumstance of long-term, on-going trauma. Third, when emotions cannot be controlled, fantasy is
resorted to. In terms of emotional under-regulation and emotional over-regulation, emotional over-regulators are more likely to utilize cognitive processes such as fantasy. Moreover, fantasy is more likely to be utilized in these individuals when emotion cannot be controlled. Under long-term, on-going trauma, emotional under-regulators may use fantasy as a coping mechanism too.

Posttraumatic Stress Disorder

The Posttraumatic Stress Disorder (PTSD) diagnostic criteria include: 1) exposure to a traumatic event that induces fear, helplessness or terror 2) re-experiencing the trauma in recurrent images, thoughts, dreams, illusions, flashbacks or a sense of reliving the experience 3) increased avoidance which includes both avoidance of reminding stimuli and emotional numbing (American Psychiatric Association, 2000).

The Avoidance cluster of Posttraumatic Stress Disorder (PTSD) includes both cognitive and emotional avoidance items. The avoidance cluster is made up of the following items:

1) Efforts to avoid thoughts, feelings or conversations associated with the trauma
2) Efforts to avoid activities, places or people that arouse recollections of the trauma.
3) Inability to recall an important aspect of the trauma
4) Markedly diminished interest or participation in significant activities
5) Feeling of detachment or estrangement from others
6) Restricted range of affect (e.g. unable to have loving feelings)
7) Sense of a foreshortened future (e.g. does not expect to have a career, marriage, children or a normal life span)

(American Psychiatric Association, 2000, p.468)

Clearly, some items on the Avoidance cluster are cognitive avoidance (efforts to avoid thoughts, activities, inability to recall an important aspect of the trauma), while other items are emotional avoidance (efforts to avoid feelings associated with the trauma, feeling of detachment, restricted range of affect). As discussed in the section on biological support and emotional regulation (see page, 9), research shows that emotional
numbing does not fit with the other PTSD criteria (Ross, Figueredo, Bell, Tharan & Tromp, 1999; King, Leskin, King & Weathers, 1998; Asmundson, Frombach, McQuaid, Pedrelli, Lenox & Stein, 2000). For example, on the one hand, intrusive thoughts, emotional reactivity, hypervigilance, excessive startle reactions and physiological reactivity are linked, and on the other hand, emotional numbing, irritability and concentration problems are linked (Foa, 1995).

If emotional numbing is disregarded, there is a theme to PTSD criteria: regulation difficulties. PTSD is characterized by an inability to alter and integrate the trauma into memory, by sensitivity to the environment and by high emotionality. First, research has shown that people with PTSD do not synthesize or translate the traumatic event. For example, Foa, Molnar and Cashman (1995) assessed how traumatic memories change over time in a sample of 14 sexual assault victims. They found that, over time, the narratives of their traumatic memories became longer, included more thoughts and feelings and less actions and dialogue. This contrasts with the “normal,” gradual integration of trauma as discussed on page 4. Instead, the sensations and feelings they experience during the trauma remain fixed in consciousness and there is an inability to process information on a symbolic level (van der Kolk & Fisler, 1995). To exemplify the maladaptive case, van der Kolk and McFarlane (1996) state that:

Men (were) re-interviewed about their (combat) experiences 45 years later. Those who did not have PTSD had considerably altered their original accounts; the most intense horror of the events had been diluted. In contrast, time had not modified the memories of the minority of subjects who had developed PTSD. Thus, paradoxically, the ability to transform memory is the norm, whereas in PTSD the full brunt of an experience does not fade with time (van der Kolk & McFarlane, 1996, p. 9).

This inability to integrate results in intermittent forgetting and remembering:

The DSM definition of PTSD recognizes that trauma can lead to extremes of retention and forgetting; terrifying experiences may be remembered with extreme vividness, or
totally resist integration. In many instances, traumatized individuals report a combination of both. While people seem to easily assimilate familiar and expectable experiences, and while memories of ordinary events disintegrate in clarity over time, some aspects of traumatic events appear to get fixed in the mind, unaltered by the passage of time or by intervention of subsequent experience... while the vivid intrusions of traumatic images and sensations are the most dramatic expressions of PTSD, the loss or absence of recollections for traumatic experience is well-documented. ...Amnesia for these traumatic events may last hours, weeks or years. Generally, recall is triggered by exposure to sensory or affective stimuli that match sensory or affective elements associated with the trauma (van der Kolk & Fisler, 1995, pp. 354-355).

This link between PTSD and Dissociative Amnesia reveals that both disorders can readily suppress trauma. The difference is that PTSD involves intermittent re-experiencing of the trauma, rather than complete suppression.

Second, the role of imagery has been deemed essential to the understanding of PTSD (Brett & Ostroff, 1985, p.417). Reminders in the environment often trigger PTSD flashbacks and the person relives the memories as if the trauma is currently happening (Steinberg, 1995). During a flashback, the person, by definition, feels that the actual environment is unreal. The vivid images and flashbacks do not change through time: “these hallucinatory…and involuntary experiences consist of visual images, sensations and motor acts that engross the entire perceptual field. They are characterized by a sense of timelessness and immutability” (Steinberg, 1995, p.41). Therefore, there is an association between integration inability and an emphasis on vivid sensory recollections and triggers. These ideas correspond to imagery control and PTSD discussed in the section beginning on page 9.

Third, as previously discussed, emotionality is linked to PTSD. Studies using the Emotional Stroop task have demonstrated affect regulation problems in PTSD (Williams, Matthews & MacLeod, 1996; Guralnik, Schmeidler, & Simeon, 2000). For example, McNally, Kaspi, Riemann and Zeitlin (1990) found that Vietnam veterans with PTSD
experienced interference effects on the Emotional Stroop task in comparison to Vietnam veterans without PTSD. Similarly, van der Kolk et al (1996) found that not only did subjects with PTSD have significantly more dissociation, somatization and affect dysregulation symptoms than those who did not have PTSD, but even those who no longer had PTSD had more symptoms than those who never developed it. In other words, those who develop PTSD typically have more difficulty with emotional under-regulation. Whether this affect regulation problem existed prior to the development of PTSD, or resulted from PTSD, is not clear from this study. I propose that individuals with chronic PTSD have premorbid affect regulation difficulties. van der Kolk and Ducey (1989) assessed affect regulation in individuals with PTSD using the Rorschach (van der Kolk & Ducey, 1989). According to the Rorschach, the profile of a person who is “introversive” emphasizes thought, fantasy and imagination, or inner life and this is demonstrated by types of human movement responses. To the contrary, the profile of a person who is “extratensive” is focused on their affective responses to the environment and this is demonstrated by types of colour responses. Individuals can also score high on both profiles or low on both profiles. Results found that of 13 men with PTSD, 8 were extratensive, that is they predominantly focus on the affective responses to the environment. Four scored low on both profiles and 1 scored high on both profiles. None of the individuals were found to emphasize thought, fantasy and imagination.

The authors of this study state that:

These traumatized men lack the internal processing mechanisms that might lead to the resolution integration of trauma; they are unable to differentiate specific affects and to integrate them through introspection and fantasy. Affect is therefore dealt with through unreflective and impulsive action (van der Kolk & Ducey, 1989, 267-268).
The PTSD criteria appear to be biased in terms of emotional under-regulation problems and perceptual flashbacks. Interestingly, whereas most flashbacks are conceptualized as sensory, such as a visual flashback, Blank (1994) describes a purely emotional type of flashback. Blank notes,

At times the re-experiencing consists of sudden “pangs” of emotion which are not accompanied by...memories or dreams...In some instances these are the primary re-experiences for diagnostic consideration and may be missed...they may be termed “affect flashbacks” and suspected when a combat veteran refers to uncontrollable feelings (Blank, 1994, p. 357).

These intermittent surges of emotion are described as part of the healing process that integrates emotions into the memory. The potential importance and independence of emotional numbing and Emotional Flashbacks are largely ignored. I suggest that these phenomena relate to post-trauma emotional over-regulation difficulties.

Depression

As mentioned above, depression commonly accompanies PTSD (for e.g. Feeny, Zoellner, Fitzgibbons & Foa, 2000). Various descriptions of depression exist. I suggest that the two types that correspond best to emotional over-regulation and under-regulation are lack of Positive Affect (Clark & Watson, 1991) and anxiety/aggression driven depression (Van Praag, 1996). Thus, I propose that Depression can be split apart into depression accompanied by over-regulated emotions and by under-regulated emotions.

Lack of energy and lowered zest for life is conceptualized by Clark and Waton (1991) as a lack of Positive Affect. In depression accompanied by over-regulated emotions, it seems likely that pervasive negative thought processes can usurp energy in this way. I suggest that cognitive control results in set ways of managing emotion. Negative states become ingrained into consciousness instead of being reactive or re-
occurring states. Hirschfeld and Holzer (1994) suggest that there should be another type of personality disorder, namely, Depressive Personality Disorder. Their conceptualization is characterized by ongoing gloominess, feelings of worthlessness, worrying, criticalness towards others, pessimism and guiltiness. Perhaps Depressive Personality Disorder is pervasive Lack of Positive Affect.

Conversely, emotionally under-regulated depression would likely be the opposite. Instead of trait-like and low energy, it should be state-like and energetic. I propose that this kind of depression corresponds to the sub-type of depression Van Praag (1996) suggests. He suggests that there is a type of depression related to serotonin malfunctioning that results in anxiety/aggression driven depression. Although lowered mood exists in this sub-type, outwardly directed aggression, such as irritability, is a major component. State-like depression would likely mean cyclical in nature. Thus, I propose, first, a state-like, irritable, agitated, externalized depression that corresponds to emotional under-regulation and, second, a stable, trait-like, gloomy, melancholic internalized depression that corresponds to emotional over-regulation.

Dissociative Amnesia

The Diagnostic Statistical Manual IV (DSM-IV) defines Dissociative Amnesia simply as the “inability to recall important personal information, usually of a traumatic or stressful nature, that is too extensive to be explained by ordinary forgetfulness” (American Psychiatric Association, 2000, p. 519). The possible cognitive and affective processes are unspecified by the DSM-IV. The only further distinctions the DSM-IV makes within the diagnosis of Dissociative Amnesia are superficial and observable; the distinctions pertain mainly to the forgotten time periods. The distinctions are:
Localized Amnesia: Inability to recall events related to a circumscribed period of time
Selective Amnesia: Ability to remember some, but not all, of the events during a circumscribed period of time
Generalized Amnesia: Failure to recall the whole life of the patient
Continuous Amnesia: Failure to recall successive events as they occur
Systematized Amnesia: Amnesia for certain categories of memory such as all memories relating to one’s family or a particular event
(American Psychiatric Association, 2000, p. 520)

Dissociative Amnesia can result from a variety of unacknowledged causes. For example, Dissociative Amnesia describes both repressed childhood abuse and not remembering how one arrived at their current destination. To postulate that similar mechanisms are involved when one forgets parts of childhood due to abuse as when one ‘spaces out’ and finds oneself in a strange place, is questionable.

Dividing amnesia into possible cognitive states is a useful approach. Kopelman (1987) describes three types of amnesia according to cognitive processes. The first type of amnesia Kopelman calls “motivated forgetting,” which is a post-trauma coping mechanism, whereby the individual suppresses the event.

Second, Kopelman suggests that an event can have “faulty encoding” if there is extreme emotional arousal, severe intoxication or psychoses. In this type of amnesia, Kopelman states that normal cognitive processing has likely malfunctioned. The event is not taken in whatsoever. I propose that when this state pertains to trauma, this can be classified as emotional under-regulation.

Third, Kopelman suggests that “retrieval deficits” can occur with emotional arousal causing state dependent memories. This differs from faulty encoding because in this sub-type, the amnesia is recoverable. State dependent theory assumes that

Memory is said to be mood-state dependent in case the memories that subjects store when they are in one emotional state are more retrievable later if they re-enter that same emotional state; and their recall is worse if they attempt to recall in a different emotional state (Bower, 1992, p.22).
Implicit in this idea is that cognition has been maintained. An obvious example would be that state dependent memory that is believed to occur in DID patients. Young (1988) describes the cognitive compartments that are created:

Repeated entry into states of withdrawal provides a dissociated substrate in which a fantasized system can become organized into a more permanent structure. The personality system evolves slowly as it is organized into these dissociated substrates and is separated by amnesic boundaries. This is akin to the hypothesis of state dependent learning that has been proposed by others. These boundaries provide the separation needed for the increasing structuralization of fantasy that progresses from childhood varieties of MPD to the clinical picture seen in adulthood with its forgotten fantasies (Young, 1988, p.17).

Therefore, the “amnesia” occurring in Dissociative Identity Disordered individuals is presumably recoverable. People with Dissociative Identity disorder have “alternate personality states (that) have never forgotten the child abuse, even if their presenting personality states have (Nakdimen, 1999, p. 976). I propose that Retrieval Deficits where “cognitive compartments” are created can be considered emotional over-regulation.

Dissociated Behavior

Little theoretical knowledge exists about the psychological phenomena behind acts carried out during altered states of consciousness. There are two reasons why understanding dissociated behavior is required. First, dissociated behavior is relatively common in emotionally intense violent behavior, such as domestic assault (Dutton, 1995; Simoneti, Scott & Murphy, 2000). Simoneti, Scott and Murphy (2000) examined the frequency of dissociative states in a sample of 47 men who were in counseling for domestic violence. The study found that about one third of the subjects had experienced dissociative phenomena during battering. Particularly, amnesia and depersonalization were reported. The authors admit that these forms of dissociation may reflect denial. However, the authors found that more than 10% state that they have, during the battering,
experienced observing depersonalization, blackouts not related to substance abuse, derealization, and flashbacks to their own victimization.

Second, the legal system needs to resolve how dissociative states affect behavior and free will. Our justice system is based upon the concept that we have free will — that we act voluntarily. The law, through recognizing the automatism defense, acknowledges that the mind can be dissociated and the will may not control all parts of consciousness in all circumstances, directly countering the free will expectation. Automatism is defined as, “…unconscious involuntary action and it is a defense because the mind does not go with what is being done” (Bratty v. Attorney General for Northern Ireland, 1963, p.407). The problem is, there are various ways that the mind can “not go along with what is being done.” When, if ever, is free will compromised? How can altered states of consciousness impact the will?

One potentially useful way of conceptualizing how altered consciousness can affect the will comes from hypnosis theories that discuss how the will is impacted during hypnotic states. Theorists view hypnosis as potentially illuminating to the construct of dissociation because both involve altered states of consciousness (Butler, Duran, Jasiukaitus & Koopman & Spiegel, 1996; Kirsch & Lynn, 1998). Neodissociation Theory (Hilgard, 1992) and Dissociated Control theory (Woody & Bowers, 1994) are two current, competing theories explaining hypnosis mechanisms (Kirsch & Lynn, 1998). Both theories hypothesize about higher cortical functions. Dissociated Control theory postulates a dissolution of higher cortical functioning, whereby will is truly compromised because the higher-level executive controls no longer function. Conversely, Neodissociation theory suggests that there are numerous control structures, thus a more
complicated higher-level. When one stream of consciousness is activated, other streams are not. The neglect of some streams and not others may appear to the person that they are not in control, but in fact, they are, according to this theory. I propose that both of these theories apply to dissociated behavior.

I suggest that the intense emotion that accompanies dissociated behavior has several possible effects. First, emotion can overpower higher-level cognition, in line with Dissociated Control Theory. This leads to Faulty Encoding of the event (see Kopelman (1987) in the section on Dissociative Amnesia, page 38). Second, emotion can lead to over-regulation, causing Depersonalized states but no amnesia. Third, the over-regulation can become so extreme that compartments are created to segregate emotion. This corresponds to Kopelman’s (1987) Retrieval Deficits, as discussed in the section on Dissociative Amnesia (see page 38) and corresponds to Neodissociation Theory. I propose that this compartmentalization is the result of a long-standing proactive response.

Current thinking about dissociated behavior is, of course, influenced by the current conceptualization that dissociation lies on a continuum. Recall that DID is considered the most extreme form of dissociation and that DID is said to involve cognitive compartments that segregate memory. If all forms of dissociation have the same underlying process, this leads to the assumption that unrecalled, dissociated behavior also involves cognitively compartmentalized memories for one’s behavior. Swihart, Porter and Yuille (1999) hypothesize that men who batter their partners may experience state dependent “red-outs” in which their anger creates an extremely unusual state of mind in comparison to their normal emotions. This experience is not recalled when normal consciousness is resumed. The authors suggest that it may only be recalled
if that same rage state occurs again. This hypothesis assumes that information is in fact being encoded. This implies cognition. Is it always a reasonable assumption that the batterer who experiences an intense rage state resulting in amnesia also has cognitive processing that is at a level high enough to encode the event? As noted above, I propose that cognitive compartments are created as a way to respond proactively to a long-standing emotional state. In contrast, an intense rage state is reactive. Further, I propose that intense rage states that result in amnesia likely involve malfunctioning higher-level cognition and therefore irrecoverable memory.

**Dissociative Identity Disorder/Borderline Personality Disorder**

Some theorists believe that Dissociative Identity Disorder is actually a manifestation of Borderline Personality Disorder, a disorder that also includes dissociative symptoms within the diagnosis (Sar, Yargic & Tutkun, 1996; Kemp, Gilbertson & Torem, 1988; Horovitz & Braun, 1984). The two disorders have common characteristics that make differentiation difficult. Research has demonstrated little differences between the two. For example, the Minnesota Multiphasic Personality Inventory (MMPI) found no significant differences between the two disorders (Kemp et al, 1988). A study of 35 DID patients found that the most frequent borderline symptoms endorsed by DID patients are intense anger or lack of control of anger, chronic feelings of emptiness and boredom, and frequent mood swings (Sar et al, 1996, p. 32). Other researchers point to the following comorbid symptoms: identity disturbance; affective instability; propensity for self-damaging acts; depression; anxiety and depersonalization (Kemp, 1988). Horovitz and Braun (1984) found that almost 70% of multiple personalities also qualified for a concomitant diagnosis of borderline personality.
However, others suggest more profound differences at the cognitive and emotional processing level (Marmer & Fink, 1994).

Marmer and Fink (1994) acknowledge that both disorders share identity issues, affect disturbances, impulsivity, and problems with interpersonal relationships. However, these symptoms can be viewed as overt expressions with different covert causes. Marmer and Fink (1994) attribute this misguided emphasis on overt, observable behavior to the DSM III’s descriptive rather than explanatory criteria.

Marmer and Fink (1994) illuminate the differences between BPD and DID by focusing on structural differences between the two disorders. Essentially, BPD is “a disorder with a considerable deficiency element” (p. 755) and is simpler. MPD has the “ability to use fantasies and symbols for self-regulation” and is more complex (p. 755). They further exemplify this concept with a metaphor:

(There are) two buildings...one is only moderately differentiated, a gymnasium for example...it has locker rooms and ticket turnstiles but...most of it is one large open space...sometimes the temperature is just right, but when the room gets too hot or too cold, it affects the entire space in an undifferentiated manner. The second building is extremely differentiated—a storage archive for example: ...locked safes, vaults, filing rooms...(Marmer & Fink, 1994, p. 749)

In this metaphor, the moderately differentiated room represents BPD and the extremely differentiated room represents DID. DID patients “possess too much structure, whereas BPD patients possess too little” (p. 753).

These cognitive structural differences impact on how emotion is regulated. First, in reaction to trauma, BPD’s dissociation is a “spaced-out nonspecific mental state of consciousness” (p. 754), which contrasts with DID’s “state of consciousness heavily laden with specific fantasy and symbolization, resembling a waking dream” (p. 754). Second, BPD has only a modest capability for symbolization whereas DID has a very high capability to symbolize. Third, BPD has an “all-or-nothing” (p. 755) response to
stress whereas DID has a “series of highly nuanced responses to stress” (p. 755). Fourth, DID patients have a higher capacity to self-soothe than BPD. In DID, alterations act as self-soothers...if the trauma becomes chronic or ongoing, dissociation will persist, causing the child's capacity to symbolize to fill the empty space of the original dissociation.... (DID patients) have a huge repertoire of ways to soothe themselves...this ability to use symbolic representations to soothe oneself is prominent in MPD (Marmer & Fink, 1994, pp. 752-755).

In contrast, individuals with BPD do not have ways to soothe themselves. They tend to need another person to soothe. These cognitive differences cause affect to be managed differently in the two disorders. Marmer and Fink (1994) note that in DID, affective responses tend to be managed and subdued because the alter personalities handle the emotions. Thus, DID regulates emotion through cognitive compartmentalization whereas BPD cannot regulate emotion within the self. Instead, the environment must remain stable for the self to remain stable.

**Dissociative Fugue**

The DSM-IV states that Dissociative Fugue involves an inability to recall one’s past, unexpected travel away from home and either confusion about one’s personal identity or a complete or partial assumption of a new identity. Should confusion about one’s identity and actual alteration of one’s identity be considered the same phenomenon?

In Dissociative Fugue, instead of an isolated event being the source of anguish, it is the entire sense of self. It is as if the self-concept, instead of a traumatic event, is relegated to a lower level of awareness. Wilson (1942) notes that fugue often results as an alternative to suicide: "the patient’s determination to give up in view of his difficulties
is prevented by the emergence of a different personality" (p. 9). Fisher offers another theory focusing on self-contempt. He suggests that

In the fugue state, the individual is always doing something that is in conflict with his superego, he is not only running away from danger, but from himself as well. In the fugue the patient indulges in acts or fantasies which are in conflict with his superego and the function of the fugue is to permit the carrying out of these acts or fantasies (Fisher, 1945, p. 459).

Fugue is usually preceded by intense anxiety where one cannot escape from anticipated or imagined danger (Fisher, 1947). Personal identity has been theorized as serving as a "control element" (Kazniak, Nussbaum, Berren, & Santiago, 1988) for the rest of the person's memory. For example, once the individual with fugue remembers his or her name, often the entire memory becomes reinstated (Kazniak, Nussbaum, Berren, & Santiago, 1988).

Confusion with one's identity and actually altering identity can be associated with different underlying phenomenon. Importantly, amnesia can involve identity confusion as well (Kasznia, Nussbaum, Berren, & Santiago, 1988). Individuals under extreme distress can have amnesia for what happened as well as for who they are. Fisher (1945) differentiates ways of dissociating the self. First, no identity is created. The person experiences identity confusion instead. According to Fisher, when the person has Fugue with identity confusion, it is like he is stating, "I did not commit this crime because I am not I; I am nobody; I have no name and no past" (Fisher, 1945, p. 459). Second, the individual actually creates a new identity. The person may change their identity knowingly because they do not know who they are. Or, they may unconsciously identify themselves as another person. When the person changes their identity, it is like they are saying, "I did not commit this crime because I am not me, I am somebody else" (Fisher, 1945, p. 459).
The distinction between DID and BPD (see page 43) potentially also differentiates Fugue state processes. BPD is described as a “wide open space” and DID as compartmentalized. On the one hand, if an identity has been created, or there is a long-standing identity block, identity may be compartmentalized. On the other hand, if there is identity confusion that dissipates, this is linked to a “large open space” that becomes severely, but momentarily overwhelmed. A long-standing identity block implies a proactive response that depends on cognitive alterations and control. A short bout of identity amnesia may be a complete lack of cognitive control and a reactive response to an intense situation.

Difficulty solving the problem: Cannot utilize current theoretical approaches

Emotional over-regulation and emotional under-regulation not acknowledged

Biology-Personality

Introversion-extraversion: Unobservable essence of construct ignored

Introversion and extraversion are linked to the sensitization and repression dimensions (Bonnano & Singer, 1990). Therefore, it would make sense to discover whether these personality dimensions might differentiate responses to trauma. Jung (1959) was the first to describe the introversion and extraversion dimension. His version is fundamentally attentional. Jung’s description of extraversion is described below.

Everyone is admittedly, oriented by the data with which the outer world provides him; ...when the orientation to the object and to the objective facts is so predominant that the most frequent and essential decisions and actions are determined, not by subjective values but by objective relations, one speaks of an extraverted attitude (Jung, 1959, pp. 191-192).

Jung describes introversion as
... distinguished from the extraverted type by the fact that, unlike the latter, who is prevailingly oriented by the object and objective data, he is governed by subjective factors...introverted consciousness doubtless views the external conditions, but it selects the subjective determinants as the decisive ones (Jung, 1959, pp. 216-217).

Jung originally viewed extraversion as an external attention orientation and introversion is an internal attention orientation. Furthermore, Jung associated the hysteric personality with extraversion and the dysthmic personality with introversion.

Eysenck (1967) explained these concepts using biological theory. He differentiated introversion and extraversion according to cortical arousal levels. He suggested that introverts have higher cortex arousal than extraverts. Extraverts send more inhibitory messages to the reticular formation than introverts do, because extraverts require longer to process information. Thus, the introverts have a higher level of cortical arousal. Further "the cortex exerts a restraining role on lower structures," in that the more aroused the cortex is, the less excitable and more inhibited the person is and conversely, an "inhibition of cortical activity...releases[s] the lower centers from control", increasing excitability and lowering inhibition (Eysenck, 1967, p. 76). Thus, high cortical arousal is equated with lowered impulsivity. Behavioral control implies emotional control. However, emotional control is not a central tenet of Eysenck's conceptualization.

Interestingly, instead of emotional control coinciding with cortical arousal, often emotional arousal is connected with cortical arousal. This illustrates the tendency of associating emotion, behavior and cognition together, as discussed in the section beginning on page 15. For example, Aron and Aron (1997) suggest that introversion is not just cortical arousal, but general arousal:

Eysenck (1982, 1991) saw introversion as the result of a greater cortico-reticular arousal, although a greater arousability may be more accurate (Stelmack, 1990). The lower sensory thresholds and greater vigilance of introverts has been explained as being due to
A greater general arousal leading to lower thresholds of arousal (Aron & Aron, 1997, p. 347).

Aron and Aron (1997) hypothesize that introverts would be more reactive to their environment and more emotional. However, their results did not show this. Rather, the results convey that high sensory sensitivity is fairly independent from introversion and emotionality.

Gudjonsson, Hannesdottir & Petursson (1999) researched personality traits in crime-related amnesia. They hypothesized that introversion would be associated with amnesia because introverts take a longer time than extraverts to consolidate memories because of their high cortical arousal. This hypothesis neglects to consider that introversion is associated with sensitization, which is associated with the ability to cognitively regulate emotion. Conversely, extraversion is associated with emotional under-regulation and repression.

In fact, other studies corroborate the idea that disorders linked with extraversion are associated with amnesia. Amnesic offenders scored high on the MMPI scales of hysteria, hypochondrias and depression (Parwatikar, Holcomb & Menninger, 1985). O'Connell (1960) noted that the criminals claiming amnesia typically had a hysterical personality. Likewise, borderline, dependent and histrionic traits correlated with Dissociative amnesia in offenders (Coons & Milstein, 1992).

A second problem with the introversion and extraversion dimension is that Eysenck operationalized the terms introversion and extraversion using secondary personality traits. These traits obscure the essence of the construct. For example, the following traits are associated with extraversion but can be derived in a number of ways: sociable, lively, active, assertive, sensation-seeking, carefree, dominant and venturesome.
Anxiety: Narrow conceptualization

Understanding anxiety management is central to understanding traumatic responses. Unfortunately, biological theory applied to personality has defined anxiety in a narrow way that conflicts with other views of anxiety.

Gray expanded on Eysenck's theory in at least two main ways. First, Gray subsumed the nebulous neuroticism dimension under anxiety in introverts and impulsivity in extraverts.

[Gray's modification of Eysenck's theory got rid of N[euroticism] altogether...Here N[euroticism] is simply absorbed into two alternative dimensions: Anxiety [an introverted form of neuroticism] and Impulsivity [an extraverted form of neuroticism]. Individual differences are then accounted for by the relative weighting on these two dimensions, with no reference to N[euroticism] being necessary (Claridge, & Davis, 2001, p. 388).


... introverts [and especially neurotic introverts] form conditioned reflexes more readily than extraverts. This postulate forms a critical link in the chain of argument by which Eysenck deduces that the neurotic introvert will be especially likely to manifest symptoms of anxiety (Gray, 2000, p. 339).

These reflexes form more easily because of a "comparator" system, according to Gray's (1987) model. This model outlines individual differences in response to threat. Sensitivity to punishment cues is largely the function of a "comparator" information processing system, which is the "cognitive or computational heart" of the behavioral system Gray proposes (Gray, 2000, p. 20). Thus, introversion is related to anxiety because introverts have a well-developed cognitive system that forms conditioned fear reactions more readily.

Does anxiety necessarily involve these cognitively conditioned responses? Zinbarg
(1996) notes that all of the anxiety DSM diagnoses, except simple phobia, are characterized by general anxiety and worry. This implies that cognitive processes play a major role in anxiety disorders. Is this a complete depiction of anxiety? Other theorists depict anxiety in broader terms. Clark and Watson (1991) note that anxiety is characterized in numerous ways in the literature. In their article distinguishing anxiety from depression, they state that physiological hyperarousal is specific to anxiety. However, as mentioned, Eysenck and Gray link anxiety to the neurotic introvert, the sensitizer, who experiences less physiological arousal. They define it in terms of the conditioned responses that neurotic introverts develop. Essentially, anxiety in these terms is managed emotion, since there is low physiological arousal. The anxiety has become ingrained in consciousness through cognitive processes. What about the extravert, or the repressor, whose cognitive processes might not become so involved in their physiological arousal?

Fowles (1987) disagrees with Gray's notion of anxiety. He points out, "a common view of trait anxiety is that it refers to frequent and intense anxiety over time" (p. 422). In other words, trait anxiety is nothing more than frequent states of anxiety. This definition may classify neurotic extraverts as also having trait anxiety. He says that the neurotic extravert may become anxious frequently because they lack the conditioned fear responses that prevent introverts from becoming involved in risky situations. In this way, Fowles questions that the neurotic introvert would experience more anxiety than the extraverted introvert.

Is PTSD an anxiety disorder? Apparently, this depends on what the definition of an anxiety disorder is. One definition attributes anxiety disorders narrowly to neurotic
introversion, where anticipatory anxiety and the cognitive processing of emotion cause anxiety. This corresponds to emotional over-regulation. The other definition of anxiety is unspecific, simply defining anxiety in terms of physiological arousal. This allows for the inclusion of extraversion and emotional under-regulation in the anxiety disorders.

As previously discussed, this paper does not portray PTSD as a problem of emotional over-regulation or as a disorder of introversion. Likewise, Gray himself is doubtful that PTSD fits under neurotic introversion. Gray (2000) notes that:

Within the dimensional framework, symptoms of anxiety and related conditions are found predominantly in individuals whose personality lies in the neurotic introvert portion...the major exceptions to this rule are people with specific phobias...the role played by a predisposing personality is less obvious in post-traumatic stress disorder (Gray, 2000, p. 335).

PTSD can be conceptualized as a dissociative disorder. The DSM-IV Sourcebook (1994) explains the reasons for placing PTSD within the dissociative disorders: 1) Like the dissociative disorders, PTSD also tends to use dissociative mechanisms such as amnesia and flashbacks. 2) Intrusion of trauma reminders and emotional numbing are considered the main features of PTSD and are also considered dissociative features. 3) There is a strong connection between the dissociative disorders and stress, and between PTSD and stress.

It is conceivable that PTSD is first and foremost a dissociative disorder and state anxiety is experienced as a reaction to re-occurring, unintegrated trauma. This conceptualization of PTSD, as a disorder of continual state anxiety, falls under the broader conceptualization of anxiety that defines anxiety relating to physiological arousal. This conceptualization allows for perpetual states of anxiety that do not involve prominent cognitive distortions to be anxiety disorders too. This conceptualization of anxiety breaks down anxiety in the same way that depression is broken down in the
section beginning on page 37. In other words, differentiating trait from re-occurring state.

Can animal behavior reveal human emotional regulation processes?

As discussed above, behavior is viewed as indicative of emotion. Gray's animal behavior research links the following behavioral tendencies to anxiety: high-anxiety individuals are attuned to negative aspects of the environment (punishment sensitive) and are behaviorally inhibited. In contrast, low-anxiety individuals are reward sensitive and behaviorally approach.

Animals might have behavioral, emotional and cognitive concordance, but do humans? Gray (2000) believes that emotions can be accurately inferred from behavior and that theories can be developed from research on animals. He states:

One of the stated aims of [the journal] Cognition and Emotion is to "bring together work on the inter-relationship of cognition and emotion." Such an aim presupposes that there are separate processes underlying cognition and emotion that are able to inter-relate...Introspectively, there seems (at least at the extremes) to be a clear distinction between the psychological processes that go on when one is engaged in paradigmatic instances of cognition (e.g. looking up a train timetable) or emotion (e.g. feeling angry when the train is late). Yet, from the perspective of current research and theory on animal behavior and brain function, it is by no means clear that the distinction between emotion and cognition is one that can or even should be made (Gray, 1990, p.269).

Gray supports his argument in several cogent ways: 1) drug effects observed in animal behavior show that anxiolytic drugs make rats less behaviorally inhibited 2) brain neurochemicals central to emotional processes are also central to cognitive and memory processes 3) since emotions are motivational, they also must be cognitive. Emotional states are "those that are elicited by reinforcing events...it follows there must be an intimate relationship between the systems that produce emotional behavior and those that mediate cognitive processes" (p.273). All of these arguments are indicative of the close
connection of emotion and cognition. However, the cognitive regulation of emotion is more complex than the behavior animals convey.

Carroll Izard (1993) outlines a hierarchical representation of emotion activation and regulation. While acknowledging that emotion and cognition are "highly interactive and have reciprocal causal relations" (p. 73) she also states that some emotional activation systems can operate without cognition. Typically, the more complex the emotion, the more cognition is involved. She also states that emotion is primarily about motivation. However, she conceptualizes cognitive processes and emotion activation and regulation on a hierarchy. Perception is a lower form of cognition and is part of the emotion system at these lower levels. Therefore, emotion and lower forms of cognition are unified. At higher levels, cognition regulates emotion.

Fundamentally, emotion is about motivation—positive and negative feelings, readiness or tendency to cog*, and cues for cognition and action. Cognition is about knowledge—learning, memory, symbol manipulation, thinking and language. Perception, when it leads to representation and memory, is clearly part of cognition. Subcognitive perception, or perception that does not result in memory, may operate primarily in the service of the emotions system (Izard, 1993, p. 79).

The emotion activation hierarchy has four levels. The first three levels are neural, sensorimotor and motivational and do not require cognition. The final category is cognitive and this involves appraisals and attributions. There is emotional regulation at each level. At the lowest level, neural emotional activation can be regulated with neurotransmitters. At the highest level, cognition regulates emotional activation. To summarize, emotion and perception are undifferentiated at lower levels and at higher levels, cognition regulates emotion (Izard, 1993, pp. 70-71).

In summary, at lower levels, perceptual/cognitive processes are one and the same. However, at higher levels, cognitive and emotional interaction is more complex.

Cognitive

Emotional numbing as emotional over-regulation ignored
Foa, Molnar and Cashman (1995) note that emotional numbing strategies are frequently employed by trauma victims. Emotional numbing typically includes three types of responses: a loss of interest in activities, detachment from others and a restricted range of affect (Feeny, Zoellner, Fitzgibbons & Foa, 2000).

Feeny et al. (2000) are specific in the cause of emotional numbing — perhaps too specific. They attribute emotional numbing to the last resort of emotional under-regulation. According to these researchers, it is "cognitive avoidance" that results from incessant hyperarousal and unsuccessful avoidance strategies (p. 489-490). Specifically, "many unidentifiable cues also prime the trauma memory...when active avoidance strategies fail to reduce distress, one way for the victim to gain relief is to ‘shut down the system.’ This shutting down is expressed in the numbing symptoms of PTSD” (Foa, Molnar, Cashman, 1995). It is distinguished from depression because it is a loss of all feeling, not just a loss of positive feeling.

This “shut-down” is an incomplete explanation for emotional numbing. On the one hand, it is conceivable that exhaustion from continual emotional under-regulation results in complete emotional and cognitive avoidance. For example, Allen (1999) describes the dissociative phenomenon whereby individuals become almost comatose.

On the other hand, there are problems with conceptualizing emotional numbing as only the outcome of an emotional over-regulation problem. Freeze reactions, according to Gray involve an “absence of behavior” (p.95). Loss of interest in activities is not the same as incapability to participate in activities. Emotional numbing may be a coping mechanism that enables behavior functioning. Can’t emotional numbing coincide with cognitive approach whereby emotions become over-regulated?
In fact, Morgan (1995) concurs that emotional numbing is not necessarily reactive; it can be proactive too.

Cognitive theories of PTSD commonly suppose that the traumatic event results in the formation of a fear network, representing various stimulus and response-related information concerning the trauma. Intrusions are generated by activation of the network, typically some external cue...A theoretical weakness of network models is that they fail to distinguish clearly between symptoms associated with involuntary, 'automatic' processing of the network, and those derived from strategic or "controlled" processing. The activation of the network, and the elicitation of intrusions may proceed entirely automatically, but it is naive to suppose that the person has no voluntary control over the course of information-processing (Morgan, 1995, p.252).

Morgan assessed the coping styles and PTSD symptoms in a group of flood victims. He found that symptom severity is associated with thought suppression, emotion-focused coping and intrusive thoughts. This agrees with van der Kolk’s notion that PTSD is an emotional under-regulation, cognitive avoidance construct. In contrast, self-conscious individuals who used ruminative coping, experienced emotional numbness and decreased arousal.

**Schema models: misplaced focus**

Foa, Molnar and Cashman (1995) explain PTSD by a schema model. The assumption in this model is that internal representations of how the world operates, influences the processing of negative events.

Although all traumatic memories are likely somewhat fragmented...we propose that the rape victim's preexisting schemas of the world and the self will influence the degree to which her memories will be disorganized and fragmented. We hypothesize that rape victims with either rigid safety schemas or rigid danger schemas will evidence more confusion and disorganized memories (Foa & Riggs, 1993, p. 281)

Thus, it does not matter if the individual has a “rigid safety schema” or a “rigid danger schema.” What kind of schema wouldn’t result in PTSD? Supposedly a flexible one instead of a rigid one. Therefore, this theory isn’t really about schemas at all: it is about rigid ways of information processing. In line with this view, Siegel (1995) places
schemas in a different light. The issue, rather than the schema itself, is the inability to narrate and integrate the trauma into memory. He states "memories of traumatic events that do not fit into prior schemas and that are not narrativized and consolidated explicitly in the cortex may be prone to repeated retrieval" (Siegel, 1995, p.96).

Experiential

Laboratory induced “trauma” not comparable to real trauma

Studying traumatic responses in the laboratory is ineffective. As Yuille and Daylen (1998) note:

How do we conceptualize, define and operationalize the stress experienced by eyewitnesses of traumatic events? Defining stress on the basis of presentation of relatively innocuous stimuli, such as white noise or filmed violence, has not been effective...Given the relatively innocuous types of stressors employed in the extant eyewitness literature, we believe that it must be emphasized that an understanding of the impact of trauma on eyewitness memory is unlikely to be found from an examination of the existing eyewitness literature (Yuille & Daylen, 1998, p.158-159).

An example of a study attempting to understand amnesia caused by psychological trauma operationalized trauma as being shown pictures of "grotesque forensic pathology photographs of facial injuries" (Christianson, 1984, p.144). This study assessed encoding, storage and retrieval factors of amnesic processes to determine whether information had been encoded and therefore was retrievable. The benefits from being able to ascertain levels of cognitive processing through experimental manipulation do not outweigh the study’s limited ecological validity.

Psychodynamic

Limited and inconsistent causal theory
Psychodynamic theory is limited in several ways. Psychodynamic theories do attempt to articulate cause, but the causes are limited or inconsistent. For example, Lower (1972) notes that psychodynamic views tend to attribute depersonalization to the splitting defense mechanism,

It is axiomatic in most psychoanalytic thinking on depersonalization that the mechanism involved is a splitting of the ego....The term "splitting", however has been used in such a variety of ways that one author's use of the term often has borne little essential relation to another's except in name, and it is questionable that our understanding of depersonalization has been advanced be recourse to this seemingly ill-defined concept (Lower, 1972, p.565).

In contrast, a useful theory developed by Marmer and Fink (1994) as discussed on page 43, describes differences between emotion under-regulation and emotion over-regulation and it's relationship to dissociation. BPD lacks internal regulatory structures to regulate emotion and DID possesses too much structure. However, it is not explanatory in terms of process. The causal mechanisms of these structural differences that the authors offer are developmental difficulties at specific stages of early life. These problems foster maladaptive defenses. While the notion of maladaptive development is useful, the possibility of innate characteristics that help to form these structural differences is ignored.
CHAPTER 2: PURPOSE #2: DETERMINING CAUSAL PERSONALITY TRAITS OF TRAUMATIC RESPONSES

Problem: Erroneous theoretical basis for proposed related traits

Claiming the Dissociative Experiences Scale (DES) as an all-inclusive representation of the dissociation construct is misleading. As mentioned earlier (see page 18), theorists such as Kihlstrom believe that, “dimensions of normal personality, such as absorption, fantasy proneness, and even hypnotizability, constitute risk factors, or diatheses, for pathological dissociation” (Kihlstrom, Glisky & Anguilo, 1994, p. 121). If the DES is representative of dissociative tendencies, why does it correlate poorly with dissociative symptoms that occur at the time of trauma? The dissociation cluster of the Acute Stress Disorder Scale, which includes depersonalization, derealization, amnesia and stupor in response to trauma, has been found to correlate poorly with the DES (Bryant, Moulds & Guthrie, 2000). The belief that the DES is representative of dissociative tendencies generates studies with results that are difficult to interpret.

The following is an example of a study that uses the DES in order to assess personality traits in individuals that experience dissociation. Grabe, Spitzer & Freyberger (1999) used the DES to assess dissociative symptoms in a psychiatric population. They wanted to assess whether dissociation is a “temperament” or a “character” trait, using Cloninger’s (1986) differentiation that temperament is genetically caused and character is environmentally caused. Temperaments include traits such as harm avoidance. The study found that only character traits such as self-directedness were related to the construct of dissociation, as measured by the DES. No temperament traits were related.
The authors interpret these results to mean that dissociative symptoms are caused by environmental factors, not genetic predispositions. This conclusion is questionable, given the questionable nature of the DES. In fact, Simeon, Guralnik, Knutelska, & Schmeidler (2002) found that Depersonalization Disorder, as diagnosed by the DSM-IV, was related to Cloninger’s temperament Harm Avoidance. This is a reliable finding because it uses actual diagnostic criteria to measure dissociation, rather than the DES. This is also a logical finding because it relates Depersonalization to harm avoidance, which is related to introversion, a sensitization defense style that involves affect over-regulation.

Problem: Inadequate theoretical basis for proposed related traits

It is believed that “a simple dose-response model of the relationship between trauma experiences and symptoms is insufficient” (Southwick, Morgan, Nicolaou, Charney, 1997, p. 1629). In other words, individual differences have an important role in determining how severely one will react. What kind of individual differences? Bowman (1999) notes that “trait emotionality” is one of the most fundamental factors in responses to trauma. This is a circular statement. The statement can be translated as follows: the most important individual quality for emotional regulation is how emotional the person is. This is theoretically uninformative. Other terms for trait emotionality include Neuroticism and Negative Affectivity. Several studies have noted the relationship between Neuroticism and dissociation or PTSD (Ruiz, Pincus & Ray, 1999; Breslau & Davis, 1992). But what does this really tell us? Neuroticism is unspecific because it is related to too many constructs.
Qualities that make up Neuroticism include anxious, depressed, guilt feelings, low self-esteem, tense, irrational, shy, moody and emotional. Neuroticism has been criticized for being descriptive and atheoretical, even though it is an important component of personality. Claridge and Davis (2001) state that:

Neuroticism relates to too many things of a deviant kind to be informative and usually fades into generality...However...neuroticism represents a major source of individual variation in emotionality and it is inconceivable that it does not enter into the expression of clinical dysfunction—either as a personality trait or as a state variable, reflecting negative affect (Claridge & Davis, 2001, p. 390).

Eysenck (1967) suggested Neuroticism had biological roots.

(Neuroticism) concerns the visceral brain and the reticular formation. Messages from the visceral brain also reach the reticular formation via collaterals and have arousing effects on the cortex...it is the loop that is concerned with emotion and in its application to personality differences, with neuroticism/emotionality (Eysenck, 1967, p. 232).

However, contrary to Eysenck’s expectations, no biological roots have been found for the construct.

Even appealing to biological accounts of personality does not rescue N from its position as an over general construct. Ever since it emerged as a major personality dimension, difficulties have been encountered in trying to conceptualize and demonstrate a biological basis for N...the causal status of N has always been ambiguous (Claridge & Davis, 2001, p. 385).

Likewise, Negative Affectivity is a vulnerability factor for a number of disorders (Clark, Watson & Mineka, 1994).

Negative affectivity or neuroticism...is a stable, heritable, and highly general trait dimension with a multiplicity of aspects ranging from mood to behavior. We conceptualize the core of this dimension to be a temperamental sensitivity to negative stimuli, thereby causing high trait scorers to experience a broad range of negative moods, including not only fear/anxiety and sadness/depression, but also such emotions as guilt, hostility, and self-dissatisfaction (Clark, Watson & Mineka, 1994, p. 104).

Unlike Neuroticism, Negative Affectivity has theory behind it. The theory is that Negative Affectivity is the tendency to be sensitive to negativity and experience negative emotional states. The absence of NA is a calm feeling. Positive Affectivity is the
tendency to be sensitive to positive stimuli and experience positive energetic emotional states. The absence of PA is a lack of energy and positive feelings.

...NA represents the extent to which a person is feeling upset, or unpleasantly engaged rather than peaceful and encompasses various aversive states including upset, angry, guilty, afraid, sad, scornful, disgusted and worried; such states as calm and relaxed best represent the lack of NA. In contrast, PA reflects the extent to which a person feels a zest for life and is most clearly defined by such expressions of energy and pleasurable engagement as active, delighted, interested, enthusiastic, and proud; the absence of PA is best captured by terms that reflect fatigue and languor (e.g. tired or sluggish)...the two mood dimensions are differentially related to two major personality traits: as mentioned earlier, state NA is associated with measures of trait NA or neuroticism, whereas state PA is correlated with measures of positive affectivity or extraversion (Clark & Watson, 1991, p. 321).

However, to theorize that someone experiences pathological responses to trauma because they are more sensitive to negative stimuli, is incomplete. To say that High Negative Affectivity means more vigilance to cues in the environment that cause negative affect and negative affect is the result, overlooks the underlying cause of the result of the Negative Affect. It is circular reasoning. There must be more to this construct. What factors cause the vigilance? What causes the negative emotion?

Perhaps looking at the opposite end, at protective factors, is illuminating. Solomon, Ginzburg, Neria & Ohry (1995) researched the connection between sensation-seeking and traumatic responses. Sensation-seeking has been considered a protective factor against stress (Jorgensen and Johnson, 1990). Zuckerman (1978) characterizes sensation-seekers as individuals who seek thrill and adventure, are disinhibited and susceptible to boredom susceptibility. They require more stimulation to experience optimal arousal than low sensation-seekers. Solomon et al. researched coping responses in high and low sensation-seekers in prisoners of war compared to combat veterans. Therefore, they looked at long-term captivity to assess if high sensation-seekers coped better. The results showed that for the captives, high sensation-seekers had less PTSD symptoms, less
psychiatric symptomatology and less intense intrusive and avoidance tendencies. They found that high sensation-seekers were more likely to use problem focused coping, rather than emotion-focused. Solomon et al. note that it may be that creativity causes greater problem-solving capability.

What are the components of sensation-seeking? Solomon et al. note that sensation-seeking is associated with extraversion, psychopathy, creativity, non-conformity, independence and impulsivity, among other things. With such a broad array of contributions to sensation-seeking, it is difficult to determine the causal mechanisms behind this "trait." Do they regulate their emotion because they develop creative strategies, because they enjoy any kind of emotional stimulation, because they tackle all events with direction and goals in mind, because they never felt that intensely about the event to begin with?

Another personality style that is hypothesized to be a protective factor against PTSD and dissociation is psychopathy. Anecdotal evidence from World War II demonstrate that the psychopathic personality does not break down during war, in comparison to other personalities (Grinker & Spiegel, 1945). To the contrary, the psychopathic personality flourishes in the war environment, even becoming heroic.

Porter, Birt, Yuille & Herve (2001) hypothesize that because psychopaths have affective deficits, they would likely recall trauma clearly and would likely not experience
dissociative reactions (Porter, Birt, Yuille, & Herve, 2001). Christianson et al (1996) found that nonpsychopaths recall the central details better than the peripheral details in an emotional slide whereas the psychopaths do not show this effect. Why is this? In terms of emotional regulation, it would be easiest to assert that psychopaths have no emotion in which to regulate. This also fits, albeit vaguely, with the neuroticism theory: high emotions pose a risk for pathological responses to trauma and absent emotions protect. However, this is an incomplete and unsound assumption. Steuerwald and Kosson (2000) note that many professionals and non-professionals make the erroneous assumption that psychopaths lack emotion. They note that just because psychopaths do not feel shame and guilt, this does not mean that they lack all emotion.

...shame and guilt are complex emotional states whose development is strongly influenced by interpersonal factors and moral development...given that psychopath’s chronic interpersonal difficulties may include their earliest relationships, and given that compromised moral development may reflect factors other than emotional capacity, it may be inappropriate to conclude that the psychopath is emotionless just because he seems unable to experience these complex emotional states (Steuerwald & Kosson, 2000, p. 114).

They discuss psychopathy in relation to the four basic emotions: fear/anxiety, anger, sadness, happiness and conclude that psychopathy is related to diminished reactivity to emotional stimuli and deficiency in identifying emotions, but psychopaths do not lack emotion. Thus, it makes sense to conclude that a traumatic event will be experienced as less aversive. However, lack of emotion, as an explanation is insufficient. What could be a reason behind more or less emotional reactivity? What else is there about psychopathy and neuroticism?

One of the most central features of psychopathy is their lack of empathy. Lack of empathy is explicitly part of only one other disorder: Schizoid Personality Disorder (Wolff, 1991). Grinker & Spiegel (1945) describe the schizoid’s behavior as also not
distressed by the trauma experiences of war but instead are primarily bothered by interpersonal issues.

In contrast, turning to the dissociative group, emotional empathic tendencies are present. Nuller (1982) found in a group of depersonalizers:

Before the onset of the illness these patients were hyperemotional, anxious, touchy, sensitive and quick to take offence. ...They felt keenly aware not only about their own, but also other people's troubles (Nuller, 1982 p. 454).

Likewise, high empathy and Borderline Personality Disorder (BPD), a disorder that encompasses dissociative mechanisms in its diagnosis, are associated. For example, Linehan (1993) believes that individuals with BPD are more sensitive to emotional stimuli.

In terms of trauma, Oliver (1997) states that it is not memories per se that make an experience traumatic, it is the subjective meaning of event that is critical.

After working with Vietnam veterans and adult survivors of child abuse for more than 20 years, I have become convinced that PTSD and dissociative disorders arise in response to confusion, shame, isolation and possibly survivor guilt rather than trauma, pain, and abuse. In one case, a Vietnam veteran related his PTSD to an incident in which he thought he would be point man on a patrol. However, because of events outside of his control, this assignment was given to another member of his unit, who was then killed during the patrol. The subject felt that he was a coward because he had not insisted on retaining the point assignment, but he was too ashamed to share his feelings with other members of his unit....similarly, survivors of child abuse have told me again and again that they could have dealt with the actual abuse but could not deal with the sense of shame and guilt, the confusing physical sensations that result from sexual abuse, and the confusing multiple binds in which they were placed....Finally, if my views are correct, memory of a traumatic incident is immaterial to the development of PTSD, dissociative identity disorder or dissociative identity disorder not otherwise specified, since these conditions are the result of feelings, not memories. (Oliver, 1997, 1628)

It appears that empathy plays a central role in terms of traits important to traumatic responses. However, even if empathy is an important underlying dimension for pathological responses to trauma, it is certainly not the cause. Wakefield, (1997) criticizes Eysenck's claim that his three personality dimensions (Neuroticism,
Psychoticism and Introversion-Extraversion) cause disorders. Eysenck compares these dimensions to the three primary colours that make up all colours. Wakefield (1997) strongly opposes this viewpoint, stating instead that dimensions such as his cannot constitute disorders. For example, green is yellow and blue, however high neuroticism and high introversion is not necessarily a disorder, it is only a predisposition to a disorder. Predispositions require environmental influences to activate the tendency. In this sense, according to Wakefield, disorder does not have some essential features that define it. Instead, disorder is a “cause-effect” concept whereby there is an underlying cause and some other effect that brings about the condition.

**Importance of environmental factors**

The importance of environmental conditions to the development of any kind of pathological response is essential. Childhood trauma, for example, is highly related to trauma-related disorders. Van der Kolk and Fisler (1995) describe this connection:

> People who have learned to cope with trauma by dissociating are vulnerable to continue to do so in response to minor stresses. The severity of ongoing dissociative processes (often measured by the DES) has been correlated with a large variety of psychopathological conditions that are thought to be associated with histories of trauma and neglect (van der Kolk & Fisler, 1995, p. 357).

Developmental studies demonstrate the critical association between childhood maltreatment and dissociative tendencies later on in life. For example, Coe, Dalenberg, Aransky and Reto (1995) utilize Liotti’s (1992), hypothesis in their study, describing the relationship between early attachment problems with parents and later dissociative symptomatology:

...insecure childhood attachments, particularly the newly elaborated disorganized, disoriented attachment style, are antecedents of adult dissociative psychopathology. According to these researchers, children cared for by a primary attachment figure who regularly displays frightened and/or frightening behavior are a) more likely to be classified as having a disorganized/disoriented attachment style b) more likely to display dissociative symptoms as infants and children, and thus c) expected to show a higher
level of dissociative symptoms in later life (Coe, Dalenberg, Aransky, Reto, 1995, p. 142).

The results of the study show that insecure attachment is associated with higher levels of dissociation and to exposure of violence in childhood. Breslau (1992) found that in young adults, separation from one's parents in childhood significantly increases the chances for developing PTSD.

Several studies have found that childhood physical, emotional and sexual abuse are linked to dissociative disorders. Simeon, Guralnik, Schneider, Sirof & Knutelska (2001) linked childhood trauma to Depersonalization Disorder. Boon and Draijer (1990) found that the rate of Dissociative Disorders assessed by the Structured Clinical Interview for Dissociative Disorders (SCID) was higher among those who had experienced childhood trauma. Brodsky, Cloitre & Dulit (1995) used the DES to measure dissociation and found that high DES scores were correlated with a more extensive childhood abuse. Individuals with Borderline Personality Disorder had higher levels of dissociation, self-mutilation and childhood abuse. Specifically pertaining to Dissociative Identity Disorder, Young (1988) describes how dissociation and fantasy processes in childhood and childhood trauma form Dissociative Identity Disorder:

Trauma in children may initially produce an instantaneous dissociative state of withdrawal, but not an alter personality. Repeated entry into states of withdrawal provides a dissociated substrate in which a fantasized system can become organized into a more permanent structure. The personality system evolves slowly as it is organized into these dissociated substrates and is separated by amnesic boundaries. This is akin to the hypothesis of state dependent learning that has been proposed by others. These boundaries provide the separation needed for the increasing structuralization of fantasy that progresses from childhood varieties of MPD to the clinical picture seen in adulthood with its forgotten fantasies. These evolving states of dissociation become increasingly structuralized by the assimilation of either fantasy elaborations, identifications with real or imagined people in the child's life, or more likely, a combination of both. The fantasies begin as a conscious attempt at mastery and gradually become internalized into fixed mental structures that function increasingly independently (Young, 1988, p.15).
I propose that environmental circumstances, such as childhood trauma, and empathic capacity interact to create risk for pathological responses to trauma. This idea will be returned to in the section beginning on page 88.
CHAPTER 3: THE TRAUMA AND PERSONALITY CIRCUMPLEX MODEL

This circumplex model depicts the interaction between two personality traits: an Information Processing trait called Reflective Processing and Emotional Perception. The vertical line represents Emotional Perception and the horizontal line represents Reflective Processing. One end is a high amount of the trait and the other end is a low amount of the trait. There are four main quadrants. Listed in each quadrant are the associated trauma responses and personality disorders. Being high or low on these traits does not itself cause a disorder, it is only a predisposition to a disorder. How Emotional Perception is managed or mismanagement, depending on life experience and the mode of Information Processing, determines traumatic responses to trauma.

The third trait, Affect Intensity, is not causal and therefore does not appear on the circumplex model.
Figure 2: The Trauma and Personality Circumplex Model

Quadrant #1

Extremely Strong Reflective Processing

*During Trauma:* Direct cognitive thwarting of emotion
- Depersonalization-emotional numbing enables behavioral activation:
  - *After Trauma:* PTSD with primarily emotional numbing and emotional re-experiencing symptoms. Event is cognitively integrated into memory prematurely

Strong Reflective Processing

*During Trauma:* Indirect cognitive processes to lower emotion. Emotion cannot be directly controlled.
- Cognitive alterations create the impression that event is not happening to the self: (e.g. Observing Depersonalization, withdrawal, fantasy)
- Fugue with Identity Alteration
- Dissociative Identity Disorder
  - *After Trauma:* Dissociative Amnesia for compartmentalized memories (recoverable)
  - Internalized Depression (trait-like, gloomy, worrying, brooding)

Avoidant, Pseudo-Schizoid

Information Processing: Strong Reflective Processing

Quadrant #2

Weak Reflective Processing

*During Trauma:* Perceptual avoidance
- Stupor as coping - environmental blocking
- Derealization as coping - environmental dulling
  - *After Trauma:* Non-chronic PTSD: trauma is altered & integrated
  - Externalized Depression (irritability, cyclical, state-like, agitation)

Extremely Weak Reflective Processing

*During Trauma:* Implicit cognition & explicit perception
- Derealization as Intensification
  - Partial Blocking—Chronic PTSD
  - Complete blocking—Dissociative Amnesia or Dissociative Fugue with Identity Confusion. Event repressed and memory is recoverable
  - Externalized Depression (irritability, cyclical, state-like, agitation)

*During Trauma:* Implicit cognition & implicit perception
- Stupor as behavioral freeze reaction, with emotional numbing
  - Dissociated Behavior: (e.g. intense rage state)
  - *After Trauma:* No encoding; amnesia not recoverable
  - Externalized Depression (irritability, cyclical, state-like, agitation)

Borderline, Pseudo-Psychopathy, Alexithymia

Information Processing: Strong Perceptual; Weak Reflective

Quadrant #3

Extremely Strong/Strong Reflective Processing

*During Trauma:* Either attention changes little, remaining narrow and internal or withdrawal and fantasy
  - *After Trauma:* Some detail

Schizoid & Paranoid

Information Processing: Strong Reflective Processing

Quadrant #4

Weak/Extremely Weak Reflective Processing

*During Trauma:* Attention changes little, remaining wide and external
  - *After Trauma:* Core & Peripheral Details remembered

Psychopathy

Low Emotional Perception
Causal trait determining type of pathological response

Information Processing: Reflective vs. Perceptual

Johnson and Hirst's (1991) model of memory, called the Multiple-Entry Modular Memory System (MEM), describes two different ways of handling incoming information: a Perceptual System and a Reflective System. The Perceptual System activities involve perceiving the environment with minimal mediation. It is sensory and reactive. The Reflective System on the other hand involves self-generated activities that act as a mediation between the senses and the environment (Bonnano & Singer, 1993).

The Perceptual System has been theoretically linked to PTSD. Siegel (1995) theorizes that the nature of trauma prevents the development of explicit memory, only allowing an implicit memory representation of what occurred. Implicit memory is defined as “an unintentional, nonconscious form of retention that can be contrasted with explicit memory, which involves conscious recollection of previous experiences” (Schacter, 1993, p. 387). Specifically, the perceptual and emotional intensity leads to a different attention style that leaves the memory not processed completely (Siegel, 1995). The inability to reflectively process trauma is a common concept. For example, van der Kolk, Burbridge and Suzuki (1997) postulate that the flood of perceptions without higher level processing may keep the sensations from being integrated into narrative form (van der Kolk, Burbridge, Suzuki, 1997).

I propose that the core issue that makes memories traumatic is the failure of the CNS to synthesize the sensations related to the traumatic memory into an integrated semantic memory; sensory elements of the experience are registered separately and are often retrieved independently of the context in which the experience occurred. This fragmentation or disorganization of memory interferes with the evaluation, classification, and contextualization of the experience (van der Kolk, Burbridge & Suzuki, 1997, p. 106).
Similarly, Siegel (1995) proposes that a flood of perceptions that were encoded without reflection might come back as a flashback and be experienced as a real and current event because they have been unprocessed (Siegel, 1995).

Bonnano and Singer (1993) suggest that these Information Processing styles are traits. They state that Perceptual Processors pay more attention to external cues and tend to be field dependent. This has obvious links with extraversion. Reflective Processors have an internal focus and tend to be field independent. This is similar to introversion. This model is hierarchical in the sense that the Reflective System acts as supervisor and executor of the Perceptual System. This also concurs with the extraversion and introversion idea that cortical arousal in introverts restrains the lower centers in the brain (Eysenck, 1967).

This theory modifies the ideas of (MEM) in several ways. First, like Bonnano and Singer (1993), this theory conceptualizes the Information Processing styles as traits. Second, this theory suggests that Reflective Processing allows for greater separation of cognitive, emotional and perceptual processes, permitting greater coping capability, as discussed on page 7. In contrast, Perceptual Processing does not involve filtering and altering. Third, Perceptual Processing is a lack of Reflective Processing. The differences between these two styles are discussed below.

Perceptual Processing

Unfiltered perceptions and cognitive processes that do not alter

Unfiltered and unaltered perceptions result in a wide and indiscriminant attention span, processed at a superficial level. Unaltered perceptions mean that perceptions are not moderated or assimilated. The environment is perceived with minimal mediation. It
is sensory and reactive (Bonnano & Singer, 1993). In Perceptual Processing, "...external events are consciously experienced in isolation or divorced from their subjective interpretation...[there is] an absence of self-consciousness (Bonnano & Singer, 1993, p. 156).

Consequently, perceptions alter the self-concept in Perceptual Processing. The environment impacts on the self, changing the self; the environment remains unmodified. For instance, an individual may absorb the feelings of another person as their own. The Field Independency-Dependency construct is linked with this Information Processing trait (Bonnano and Singer, 1993). Witkin (1965) suggests that Field Dependence is associated with a weaker identity. Separate Identity is defined in the following way:

...they have an awareness of needs, feelings, attributes which they recognize as their own and which they identify as distinct from those of others. Sense of separate identity implies experience of the self as segregated. It also implies experience of the self as structured; internal frames of reference have been formed and are available as guides for definition of the self. The less developed sense of separate identity of persons with a global cognitive style manifests itself in reliance on external sources for definition of their attitudes, judgments, sentiments, and of their views of themselves (Witkin, 1965, p. 320-321).

**Dissolution of higher-order cognitive processes**

I propose that Perceptual Processing is a lack of Reflective Processing resulting in weak higher-order cognitive processes. Several theorists have formulated the concept that dissociation is due to a dissolution, or deconstruction, of the higher levels of consciousness. In the 1800’s, John Hughlings Jackson theorized that consciousness was in the form of a hierarchy. He believed that the higher centers in the nervous system re-represent the centers below in a hierarchical fashion (Jackson, 1958).

Jackson conceptualized that the higher centers govern voluntary behavior; lower centers govern automatic behavior. The highest centers are more complex and interconnected. The higher the center is, the more independent it becomes from the
centers below it and the more easily it detaches from the lower centers (p. 117). Jackson believed that in a hierarchical structure, the newest and most complex level is affected first by psychopathology:

Dissolution...is the process of undevelopment; it is a "taking to pieces" in the order of the least organized, from the most complex and most voluntary, towards the most organized, most simple, and most automatic (Jackson, 1958, p.46)

Jackson describes the function of the highest centers as a control center:

...we say that there is a gradual "adding on" of the more and more special, a continual adding on of new organizations. But this "adding on" is at the same time a "keeping down". The higher nervous arrangements evolved out of the lower, keep down those lower, just as a government evolved out of a nation, controls as well as directs that nation. If this be the process of evolution, then the reverse process of dissolution is not only "a taking off" of the higher, but is at the very same time a "letting go" of the lower. If the governing body of this country were destroyed suddenly, we should have two causes for lamentation: 1) the loss of services of eminent men 2) the anarchy of now uncontrolled people (Jackson, 1958, p.58).

Jackson conceives the conception of 'self' as the highest level, the ultimate re-representation of all the centers below.

Meares, Stevenson and Gordon (1999) apply Jackson's ideas to Dissociation, Borderline Personality Disorder, and affect regulation (Meares, Stevenson & Gordon, 1999). Jackson believed that the most recently and highly evolved system is the first to undergo dissolution because these functions are more fragile. Meares states that the prefrontal cortex is the most fragile and the first to break down. He links prefrontal functions to attention deficits because "without the capacity to 'screen out' or 'turn off' redundant stimuli, the individual will be unable adequately to focus on meaningful stimuli" (Meares, Stevenson & Gordon, 1999, p.835). Meares also links dissolution of higher order processes to affect dysregulation.

This idea of dissolution of higher cognitive levels is paralleled in hypnosis theory. The theory is called Dissociated Control (Woody & Bowers, 1994), as briefly introduced
in the section on Dissociated Control (see page 40). The theory assumes that hypnosis occurs because of a "dissociation of cognitive and behavioral subsystems from executive control" (Kirsch & Lynn, p. 103). Hypnosis is thought to free the lower-levels of consciousness from higher-level control, thereby "resulting in a state of consciousness that is functionally similar to that of patients with frontal lobe disorders" (Kirsch & Lynn, p. 103). This is because "the essence of dissociated control is the bypassing of high-level executive control, and the frontal cortex is strongly believed to be the site of such executive control" (Woody & Bowers, 1994, p.70). Because these lower levels are no longer under the control of higher-order processes, they can be activated by hypnosis. This theory assumes that the person really has lost control during hypnosis.

Reflective Processing

Filtered perceptions and cognitive processes that alter

Conversely, Reflective Processors filter and alter their perceptions. As a result, attention span is narrow. Bonnano and Singer (1993) attribute this to being more absorbed in thought: "the self is cognitively experienced in relative isolation or divorced from the external environment. Individuals actively engaged in Reflective Processing often fail to notice or to label what is going on around them" (Bonnano & Singer, 1993, p. 155). The advantages of Reflective Processing are clear: perceptions can be filtered and altered, allowing negativity to be moderated.

Strong boundaries between emotion, perception and cognition permit a more direct management of emotion. However, Reflective Processing has its disadvantages. There are three major problems with Reflective Processing, discussed below.
First, Reflective Processing has the power to over-regulate emotions, completely cutting them off. Cognition regulates emotion (Izard, 1993), and strong cognitive processes may be maladaptive and thwart emotion completely.

Second, although narrowed attention is generally beneficial because it filters out negative information, this is not necessarily always the case. Previously intense emotional reactions may cause individuals to narrow their attention to specifically negative cues, in order to anticipate danger, punishment, or other negative situations. To some extent, this idea corresponds to Gray's (1987) model of individual differences in response to threat, as discussed in the section on anxiety, beginning on page 50. Sensitivity to punishment cues is largely the function of a "comparator" information processing system, which is the "cognitive or computational heart" of this system (Gray, 2000, p. 20). This paper elaborates on this idea by postulating that Reflective Processors have a greater "comparator" system than Perceptual Processors. Therefore, Reflective Processing causes anticipatory, proactive fear responses that involve reflection and contemplation. Conversely, Perceptual Processing lacks this "comparator system," resulting in impulsive behavior. Fear is less anticipatory and is instead experienced in a reactionary, "in the moment" manner.

Third, the cognitive processes attempting to thwart emotion may become excessively altered. In other words, cognition itself may become pathological if regulating emotion becomes difficult. Examples of this include resorting to fantasies, detaching from the self, extreme compartmentalization and paranoia. In these cases, I propose that emotion cannot be cut-off.
Reconstruction of higher-order cognitive processes

Where do these ideas fit with the idea of dissolution of consciousness? I propose that they do not fit. Attempting to fit over-regulated emotion into a dissolution theory is inconsistent. As described above, Meares usefully applies the dissolution concept to emotional under-regulation problems such as attention deficits and affect regulation problems. However, the theory cannot explain all dissociative processes. Meares problematically applies the dissolution theory to depersonalization, stating that,

Jackson’s hypothesis predicts that a higher-order activity such as “self” will be lost under noxious circumstances. This will result in at least some level of Depersonalization. This can be understood in terms of the core of personal feeling, which might be called “me-ness” which permeates the stream of consciousness (Meares, Stevenson & Gordon. 1999, p. 836).

Jackson’s theory is about dysregulation process caused by dissolution of the higher cognitive levels. Conversely, Depersonalization is a dissociative phenomenon where the individual feels “detached” from the self (American Psychiatric Association, 2000). Steinberg (1995) also notes that individuals with Depersonalization frequently feel “dead” or “emotionally numb” (Steinberg, 1995, p. 93). Is feeling detached and emotionally numb an under-regulation process? Second, Jackson’s theory is about a dissolution process not a creation process. If Jackson’s dissolution theory is supposed to apply to all types of dissociation, how can it explain the creation of personalities in Dissociative Identity Disorder? Dissolution is about deconstruction and dysregulation, not re-construction and over-regulation.

Thus, instead of a dissolution process, Reflective Processing can be understood as a reconstructive process. One of the hypnosis theories briefly introduced in the section on Dissociated Control (see page 40), is applicable to a reconstructive process.
Neodissociation theory (Hilgard, 1992) assumes that dissociation involves a division of consciousness. There is a “division of the monitoring function of consciousness into two or more parts, separated by an amnesic-like barrier” (Kirsch & Lynn, p. 103). The idea here is that “the unity of consciousness is illusory” (Hilgard, 1992, p. 16). Hilgard’s hierarchy has an executive ego, which is the central control structure, but there are numerous cognitive control structures, each of which is autonomous to some degree. According to Hilgard (1992), one mistakenly believes that they have lost control, because different streams of consciousness are activated, neglecting other streams.

When the cognitive system that executes the response to a hypnotic suggestion is dissociated from conscious awareness, S will experience that response as automatic and nonvolitional...however that experience is illusory (Kihlstrom, 1992, p. 308).

This theory corresponds to Reflective Processing and the compartments that are created. The connection of Neodissociation theory to DID is obvious and in fact has already been made by Beahrs (1983). Excessively intricate cognitive processing results in an executive control system that creates compartments to segregate intense emotion.

Different effects on consciousness by intense negative emotion

What happens to consciousness under severe stress depends on whether one is a Reflective Processor and has strong higher-order cognitive processing, or whether one is a Perceptual Processor with weak higher-order cognitive processing. Figure 3 below depicts the hierarchy of consciousness and how Reflective Processing and Perceptual Processing are differentially affected. Only Levels A and B are potentially affected in Reflective Processing. Importantly, instead of undergoing dissolution, these levels are reconstructed. If Level B is affected, this is the most severe response for Reflective Processors. If one is a Perceptual Processor, Levels C, D and E are potentially affected.
Likewise, if Level E is affected, this is the most severe response for Perceptual Processors.

Figure 3: Dissociation and the Hierarchy of Consciousness

Level A: Very Strong Reflective Processes

If Level A remains intact this means that reflective processes are Very Strong and that there are strong boundaries between emotion, cognition and perception. Cognition directly regulates emotion at this level. In terms of dissociation, this thwarting can be so extreme that emotion is completely cut off. Depersonalization with emotional numbing falls under this category. This involves cognitive knowledge that the event is occurring, but without emotional connection. For example, "suddenly everything was empty within me, as though I didn't exist, a void" (Noyes, 1977, p. 378). The downside of directly
managing emotion is feeling emotionally deadened or mechanical. As Nuller (1982) states:

Thoughts flow by without leaving a trace and there is no feeling of completeness since they are impersonal and are not accompanied by emotions. There is no significant disturbance in memory, but there is no sense of recognition. Former emotions, images and thoughts are dim, as if obliterated, and, therefore it seems that the memory is void (Nuller, 1982, p. 453).

Individuals do not feel that they are doing their own thinking, imaging or remembering (Taylor, 1982). Motivation and behavior are impacted similarly:

One feels that they are no longer in control of their movements and behavior ‘they become...aware of performing motor activities which are apparently automatic and mechanical like those of robots and puppets. This symptom might be labeled automatization (Taylor, 1982, p.304).

After the trauma, those who have experienced Depersonalization, re-experience the dissociated emotions as part of the healing process. The emotions that were cut-off gradually become connected with the trauma as described by Blank (1994) in the section on Depersonalization and Derealization (page 24). These intermittent surges of emotion, or emotional flashbacks, are part of the healing process that integrates emotions into the memory.

Level B: Strong Reflective Processes

If Level B is affected by psychological trauma, this is the most severe type of dissociative response for Reflective Processors. At this level, cognition cannot directly lower emotion so indirect cognitive mechanisms are used to avoid or alter what is happening. Observing Depersonalization lowers emotion by allowing the person to feel that the event is not really happening to them. The following are extreme examples of Observing Depersonalization:
We were killing the Viet Cong with Bayonets so that the other Viet Cong in the area couldn't hear our gunshots. As I was knifing people I had the experience of separating from myself. I was floating above myself, looking down upon myself, and feeling sorry for the guy who was doing such a terrible thing (Bremner, Steinberg, Southwick, Johnson, Charney, 1993, p. 1013).

Accident victims reported...
I seemed to be looking at the whole scene from outside my body
I felt partially removed mentally from my body and from my friend sitting next to me
I stood about 50 ft off and saw myself from the side... I looked small.

Derealization secondary to Depersonalization may occur in this type of response.

Individuals may withdraw and fantasize as a way to cognitively avoid what is occurring.

As mentioned on page 32, fantasy is resorted to by most people under long-term stress.

This theory hypothesizes that fantasy is used to cope with uncontrollable emotions.

If emotion becomes very difficult to manage, more extreme forms of detachment may occur. Compartments are cognitively created to segregate emotion as described by Neodissociation theory (see page 77). Associated disorders are DID and Dissociative Fugue with Identity Alteration. Intense emotion is compartmentalized into segments of identity and memory. As Beahrs (1983) describes,

...a healthy person readily delegates responsibility to his component parts, yet retains control over the process...pathological dissociation was defined by Hilgard (1977) as when our usual roles lose continuity with one another. Roles and ego states are still roles and ego states, but they may experience themselves as if separate 'cohesive selfhoods.'...two or more such part-selves are now kept apart by an 'amnesic' barrier which prevents the information exchange necessary for this continuity (Beahrs, 1983, p. 105).

The examples below depict Dissociative Identity Disorder.

There's just a blank there. You just have no recollection of existing at all. I can sometimes all of a sudden be in the middle of doing something, and the last memory I have was in the middle of doing something else totally unrelated and I could be in a different car, a different location, I could be any place that would happen (Steinberg, 1995, p. 71).

Because I can't really remember things and (the personalities) are telling me what the memory is, or telling me what my memory is, well I end up feeling, for example, I could
end up thinking, “Well, yes, I’m a multiple, yes I was abused,” then I’ll get a “No, I’m not a multiple, no I’m not abused,” so what’s the truth? The truth is both of them? I don’t know. I end up with I don’t know, I don’t know (Steinberg, 1995, p. 85).

Clinically, we can regularly discover evidence of residual dissociated fantasy. Kathy, for example, had a child alter personality named Anne. Kathy was amnesic for Anne’s dissociated behavior. Hypnosis revealed Anne had been an imaginary playmate created when Kathy hid in the closet to avoid her abusing father. Following integration, Kathy was suddenly flooded with memories of the make-believe world and fantasized relationship, which had disappeared when the dissociation began (Young, 1988, p. 14).

The following are examples of Dissociative Fugue with Identity Alteration:

(Does not include actual identity alteration but does include fantasy elements)

21-year-old soldier...[with a] series of fugue states ended up in Canada.... It is worthy of note that in the first two fugues a striking thing occurred: simultaneously with the expression of fear, the patient began to elaborate plans for continuing his war with the Nazis...the self-deception was so skillful that he believed he was running toward the Canadian border to join the army when the whole time he was actually running away. It was this thought that dominated and possessed him all through his wanderings. His plan became increasingly bizarre, for eventually he believed that he was headed for a small town in Iowa where he was to be picked up by some Australian fliers and taken to Canada. Interesting too is the fact that he took his time, ran around with girls much more than he was in the habit of doing and generally indulged himself (Fisher, 1945, p. 443).

44-year old petty officer in the U.S. Coast Guard...complained that he was being chased by three men, that he saw them wherever he went. He believed they wanted to kill him and he heard them call him obscene names. He did not know his name but thought it might be “Sammy”. He believed that he was in the navy. He did not know what he looked like and could not state the colour of his hair or eyes; indeed, he mistakenly believed that his hair was not gray. He believed that he was 37 years old and that it was 1937. His hallucinations, both visual and auditory, concerned only the three men who were his supposed pursuers. He could not perform simple calculations. He did not know whether he was married or single or anything about his family...In spite of his hallucinations and disorientation he did not give the impression of an ordinary paranoid psychosis. He was greatly perplexed by the loss of his memory and personal identity and made strenuous efforts to remember...his memory gradually returned...it was then found...that he had previously had a number of fugue states each of which was represented by a gap in his memory. Under hypnosis these fugues were partially reconstructed. Although the first one had occurred some eighteen years before and had lasted about six weeks, during which he had traveled from New Hampshire to Texas, the memories of his experiences returned to him in a series of kaleidoscope pictures and were as vivid as though of very recent origin. During the three major fugues preceding the one which resulted in his hospitalization he had traveled under the name of a favorite uncle. The psychological meaning of this change in identity was not worked out but it was discovered that the patient identified himself with this uncle who was a failure in life. He felt that they were both the black sheep of the family (Fisher, 1945 p. 452).
Post-trauma, an "internalized" depression may result, as discussed on page 37. Whereas the Very Strong Reflective Processing can cut off emotion, therefore appearing without feeling, the Strong Reflective Processing cannot cut off negative emotion and may develop "internalized" depression. The Strong Reflective Processing alters and filters events to a negative interpretation, creates a negative cognitive framework that becomes a pervasive way of thinking and lowers emotional arousal and energy.

Level C: Weak Reflective Processing

Level C does not involve any kind of cognitive regulation of emotion. Instead, there is perceptual blocking to prevent further dissolution. Perceptual Avoidance strategies are used. At the moderate end is Derealization where the environment and thoughts are dulled. This corresponds to Noyes' "Mental Clouding" factor. "Mental Clouding" is experienced because of cognitive blocking. Below are examples of Derealization:

He describes the sensations during the episodes as being in a dream, detached from reality, as though half his mind is asleep (Davison, 1964, 508).

During the attacks she felt unreal, "like in a dream" and the outside world appeared flat-"lacking the third dimension, like looking at a picture" her own voice seemed far away and she felt other people could not grasp what she said. (Davison, 1964, p. 506).

The world looks perfectly still, like a post-card. It is standing still; there is no point in it. A bus moves along without purpose, it does not feel real—everything in vision is dead (Mayer-Gross, 1935, p. 111).

A stupor reaction is more extreme because it is complete environmental blocking. Stupor is defined as an extreme form of perceptual or cognitive numbing that is not part of a more extreme behavioral freeze reaction. Instead, it is a proactive coping response that dulls the surroundings.
Post-trauma, non-chronic PTSD may develop. It is non-chronic because this level of reflective processing is still is able to alter and integrate negative experience. Externalized depression may occur, as discussed on page 37. This type of depression is less cognitive and more emotional and impulsive.

**Level D: Very Weak Reflective Processing**

Level D does not involve cognitive regulation, perceptual blocking, or any kind of defense. Very weak Reflective Processing translates into weak divisions between emotion, cognition and perception. Intense emotions over-power cognition, resulting in negligible coping capability. The cognitive experience of the event is superficial, but emotionally and perceptually, the event is intense and pure. This corresponds to Noyes' "Alertness" factor (see page 14) and Derealization-Intensity, where the event is experienced in an intensified manner.

Post-trauma, the cognitively unprocessed event can be submerged as a whole. There may be either pure, intense, ongoing re-experiencing (in the form Chronic PTSD) or no re-experiencing (Dissociative Amnesia). Izard (1993) describes Dissociative Amnesia as a memory that has been "relegated to lower levels of awareness" (Izard, 1993). Higher cognitive processes are not involved in the initial experience and therefore the experience easily remains an implicit memory rather than explicit. Implicit memory is defined as "an unintentional, nonconscious form of retention that can be contrasted with explicit memory, which involves conscious recollection of previous experiences" (Schacter, 1993, p. 387). Therefore, Dissociative Amnesia can be understood as unprocessed memories relegated to lower levels of awareness. The following is an example of Dissociative Amnesia:
CM...was raped while she was jogging...[and] developed total amnesia for the assault and her previous life. When she was found, she could not explain what had happened to her or identify herself. Later, when CM was escorted through the area of the assault, she felt very uncomfortable at specific places and she only recalled two things—bricks and path—but was not able to explain why these details crossed her mind. When she passed some crumbled bricks on a small path, she expressed an unbearable anxiety and claimed that she associated the unpleasant feelings with the pieces of bricks on the track she was walking on. She strongly felt that something must have happened to her at this place. From the confession by the rapist a few days earlier, the policemen knew that this was the place where she had been attacked and from which she was forced out onto the small meadow where the rape occurred. CM's amnesia lasted for 16 weeks, until she went running for the first time after the assault. At this time [there was] the same internal context (motor activity, heightened body temperature, hyperventilation, increased cardiac activity)...[and] external cues that strongly reminded her of the place of the attack (a country environment with brush, a gravel track with pieces of bricks, and a pile of bricks) (Christianson, 1992, p. 325).

It the self-concept is repressed, and not just an event, Dissociative Fugue with Identity Confusion results. This is exemplified below.

A 27-year-old white male was brought to emergency room of a general hospital after he was found lying in the middle of a busy intersection. Upon admission, he stated, "I wanted to get run over. I want to die." He recounted that he had been in this city for less than a week. He did not know where he was from, his name, or any recent or remote information about his past....He reported having no memory for events prior to his being found by the police...[and] could not answer any questions relating to his identity or personal history. During the first [hypnosis] session, it came out that "he had been eating in a coffee shop, having just arrived in town, looking for work. Two men approached him and initiated a conversation...[and] asked him if he was looking for work. When he responded affirmatively, they said they knew of work and could help him....[the] two men suggested that the three of them go to their pickup truck to smoke some marijuana. ...[he] reported that the marijuana was stronger than he was used to and he felt "unable to move". At this point, the two men threatened him with a gun and forced anal intercourse upon him. Sometime later, they drove him to the downtown area and pushed him out of the truck, apparently at the location where the police had found him. Despite being able to describe his rape in graphic detail, and even being able to identify some of the letters on the license plate of the truck, MR continued to be unable to identify himself. Again, he stated that he felt he was "dirt" and "filth". [After the] next hypnosis session, [he was] finally able to remember his name and other details of his personal identity. Considerable guilt and shame emerged with the alleviated amnesia. During the initial hypnosis session, he was able to recall various past memories, as well as his first name and nickname. He was unable, however, to link the memories together, view them from the context of his identity, or recognize recalled "scenes" as being within his own past experience. Rather, the memories were like photographs of events. In addition, the memories were all pleasant. As MR later told us, he had many memories that were of this nature. They were all valid memories, as confirmed by MR after his amnesia resolved. MR's case further illustrates how personally relevant information, such as knowledge of one's name, occupation, or family members, can serve as a "control element" (Kazniak, 1988, p. 102).
Alternatively, Chronic PTSD can develop. As discussed in the PTSD section (see page 33), Chronic PTSD is characterized by continual re-experiencing of the event in unaltered form. Van der Kolk and Fisler (1995) describe that individuals without PTSD alter the event, but those with chronic PTSD have unmodified memories. Furthermore, Chronic PTSD involves intermittent forgetting and remembering. There is intense re-experiencing in pure form, followed by suppression of the event. The severe lack of altering ability causes great difficulty in integrating the trauma. In addition, externalized depression may occur, as discussed on page 37.

**Level E: Very Weak Reflective Processing: Severe Response**

Level E is the most severe dissolution for the Perceptual Processor. Level D involves subconscious cognition. At Level E, perception is not conscious either. There is “subcognitive perception” in the words of Izard (1993, p. 79). This can also be referred to as implicit perception. Implicit perception is a concept developed by Kihlstrom, Barnhardt & Tataryn (1992). Perception is experienced on some level, but not at a conscious level.

Explicit perception refers to the person's conscious perception of some object or event in the current stimulus environment. By contrast, implicit perception is demonstrated by any change in experience, thought, or action that is attributable to some event in the current stimulus field, even in the absence of conscious perception of that event. Implicit perception tasks do not necessarily refer to objects or events in current stimulus environment and do not require the subject to perceive any object qua object, at all (Kihlstrom, Barnhardt & Tataryn, 1992, p.22).

The difference between implicit memory and implicit perception is that implicit memory involves the conscious perception of the event, whereas in implicit perception, the perception is not conscious. The distinction between subliminal perception and implicit perception is that, in contrast to subliminal perception, the stimuli in implicit perception
are “presented at intensities and for durations clearly sufficient for conscious perception; yet they are not consciously perceived” (p.25).

This theory suggests that with severe cognitive dissolution of higher order processes, memory of an event is unrecoverable. This coincides with Kopelman’s (1987) faulty encoding that occurs in psychotic, intoxicated or intense emotional states. This idea contrasts with the theory that intense rage states are stage dependent, as discussed on page 40. In addition, I propose that this type of dissociation corresponds to the Dissociated Control theory of hypnosis, discussed in the section beginning on page 73.

The most severe form would be a behavioral freeze reaction, such as that occurring in a comatose stuporous state involving emotional numbing and implicit perception.

...K.L. was a twenty-three year old white coastguardsman, who was found one day in an apparently unconscious condition in the shower room of his barracks. He was taken to a hospital where he remained stuporous for two days. When first seen by the author about a month later, he had an amnesic gap covering this two-day period. He remembered only that on a certain Monday he was in the mess hall; shortly thereafter he must have made a telephone call, since he vaguely remembered walking out of a phone booth but had no idea whom he could have called. While he was in the mess hall he suddenly dropped the food tray he was holding; the next thing he knew he came to in the hospital two days later (Fisher, 1945, p. 453).

Intense emotions may also result in a dissociated behavioral reaction that does not involve higher-level cognition. An example of this would be an intense rage state where intense emotion controls cognition and perception. In this situation, perception may also be implicit.

The appellant...described sitting in the truck with his head down, listening to his wife, and thinking that he and his boys did not deserve to be treated this way and “it’s just kind of fading away.” From there, he said, he remembered only a “whooshing” sensation washing over him, from his feet to his head. According to his account, when subsequently his eyes focused, he was staring straight ahead and felt something in his hand. He looked down and saw his wife slumped over on the seat. He was holding the hunting knife that he kept stored in the truck. His wife was dead, having been stabbed 47
times. The appellant says that, he had no memory of stabbing his wife (R. v. Stone, 1998).

This type of dissociated behavior is an intense rage state, as discussed in the section on Dissociated Behavior (see page 40). In this type of dissociated control, I propose that higher-order consciousness is deconstructed, rather than re-constructed, leading to Faulty Encoding, irrecoverable amnesia and possibly a lack of willful control over one's behavior.

As with the Weak Reflective Processing and Very Weak Reflective Processing, externalized depression may occur, as discussed on page 37.

Causal trait determining if pathological responses to trauma occur

**What is Emotional Perception?**

Emotional Perception, in this framework, is a trait defined as a visceral perception to the emotions of others. This coincides with what has been called “Emotional Empathy.” Empathy has typically been separated into two types, cognitive and emotional (Davis, 1983). The cognitive type refers to the ability to imaginatively understand and predict a person’s thoughts, feelings and actions. Emotional Empathy, on the other hand, does not involve a cognitive apprehension; rather, it is characterized by a visceral, vicarious emotional response (Mehrabian & Epstein, 1972). The term “empathy”, however, is loaded and therefore the term Emotional Perception is used in this theory instead. This paper hypothesizes that Emotional Perception is apprehended in the manner Jung (1959) called “intuition.”

Intuition... is that psychological function which transmits perceptions in an unconscious way. Everything, whether outer or inner objects or their associations, can be the object of this perception. Intuition has this peculiar quality; it is neither sensation, nor feeling, nor intellectual conclusion, although it may appear in any of these forms. Through intuition, any one content is presented as a complete whole, without our being able to explain or
discover in what way this content has been arrived at. Intuition is a kind of instinctive apprehension, irrespective of the nature of its contents (Jung, 1959, p. 262-264).

It is an obvious statement that we understand the emotions of others through facial expressions and body language. However, I propose that Emotional Perception involves the perception of another person's emotional energy, for lack of a better term. It does not involve thought about what another person's face looks like or the way their body moves. It is automatic, thoughtless, instinctive and involuntary. Importantly, I propose that Emotional Perception capability must involve close proximity to the person whose emotions are being perceived, but does not have to actually involve direct visual attention to the person.

Emotional Perception is a part of emotional recognition in general. The higher one's Emotional Perception, the better one's emotional recognition. But Emotional Recognition can exist without Emotional Perception to some degree. Therefore, someone with low Emotional Perception can become more capable through learning facial expressions and body language but can never become truly in tune with another person's emotions because this "emotional energy" is not apprehended. It must also be stated that having high Emotional Perception enhances emotional detection in facial expressions and body language. This is because Emotional Perception is a first-hand perception of another's emotions and habitually linking an emotional perception with a particular facial expression or body movement means usually correctly interpreting these expressions. Thus, I propose that those high in Emotional Perception are superior in recognizing the emotions of others through strictly behavioral indications, such as facial expressions and body language.
There are several important qualities of Emotional Perception. First, individuals vary in their capacity to perceive the emotions of others. Second, its functioning is determined both by genetics and the environment. Third, Emotional Perception shapes how emotions in general are dealt with because Emotional Perception influences distress level and a way of coping with this distress forms. Fourth, Emotional Perception determines the kind of emotions experienced. Each of these points are discussed in more detail below.

First, I propose that there are great variations in this ability. Empathy is generally assumed to be a universal quality in most people, except for Psychopaths who appear to lack empathy. Empathy excess is typically not depicted or acknowledged. It is reasonable to assume that people have naturally different empathic capacities and that these different capacities can have different effects. Likewise, Noy (1984) suggests that there are individual differences in the basic ability to grasp the motives, intentions and feelings of others. He states further, that this ability is not limited to human beings but can also be found in varying degrees in other intelligent animals, such as dogs.

Second, Noy (1984) states that although there is likely an inherited component to this capacity, it is affected by early experience, beginning in infancy.

The infant, with his genetically given sensitivity, responds to the mother, and the empathic mother responds appropriately to the infant's needs and so the initial pattern of communication becomes established...if basic trust does not develop, or if an unempathic mother responds unpredictively, the motivation to continue and train the primary sensitivity may never develop (Noy, 1984, p. 175).

It is one of the first emotion-inciting perceptions that humans experiences. I propose that individuals are born with a certain capacity for Emotional Perception and this capacity is influenced by environmental experiences.
Third, how Emotional Perception is dealt with determines how other emotions are dealt with. High levels of this trait determine how trauma and other negative situations are managed. Eisenberg, Fabes, Murphy, Karbon, Maszk, Smith, O’Boyle and Suh (1994) have suggested that empathy increases personal distress. Constantly perceiving both the minor and immense negative emotions of others is an obvious stress that increases the impact and meaning of situations involving personal interactions. A way of managing these perceptions develops. The way Emotional Perception is managed shapes the way emotions are managed more generally. Moreover, if maladaptive coping for Emotional Empathy becomes pervasive, a personality disorder may develop. Mismanagement of Emotional Perception is purposely left unspecified in this theory because there are various possibilities. The two most obvious influences are childhood maltreatment and excessively high levels of the trait. Childhood maltreatment means that early in life ways of contending with the negative emotions of others develops, resulting in more set ways of coping. It is notable that abused children have deficits in recognizing emotion (Camras, Grow & Ribordy, 1983). Camras, Grow and Ribordy (1983) compared 17 abused children to 17 non-abused children on an emotional expression judgment task using photographs. The abused children had more difficulty differentiating emotion, regardless of the type of emotion. This can be interpreted as a defensive response.

Fourth, this trait gives emotions their depth because it anchors emotions to deeper meaning. Low Emotional Perception results in obliviousness to the emotions of others. This results in shallow affect. Emotions quickly dissipate and generally do not have the
power to infiltrate deeper levels of consciousness. However, emotions in individuals with low Emotional Empathy can be just as intense or labile as someone with high levels. Rather, the type of emotion experienced differs. For example, emotions such as guilt may not be experienced intensely in individuals with low Emotional Perception because this emotion requires perceiving or anticipating the emotional reactions of another person. Conversely, anger, for example, may be experienced intensely by both low and high Emotional Perception.

The Processing of Emotional Perception

Emotional Perception is the most basic component of empathy. If it is mismanaged, the ability to properly empathize is compromised. This theory builds upon Noy’s (1984) first two stages of the empathy process. These are:

1) a special sensitivity to understand other persons accurately
2) a particular perceptual mode
(Noy, 1984, p. 172)

The process of Emotional Perception is as follows. The Emotional Perception is perceived. This perception incites emotion in the individual. The perception is processed either perceptually or reflectively. If Emotional Perception is processed perceptually, the perception remains on an intuitive level whereby one understands without being able to pinpoint reasons. Noy (1984) refers to this as a “from without” perspective. The perceptions remain unprocessed and therefore on the intuitive, instinctual level.

Unprocessed by the perceptual mode, the information obtained by sensitivity remains on the level of feelings and intuition—making the use of this sensitivity to understand others specially difficult for those patients who have a general problem in trusting their feelings and utilizing them (Noy, 1984, p.196).

Simply having a “from without” or Perceptual Processing mode is a hindrance to processing Emotional Perception effectively. I propose that a lack of Reflective
Processing can result in a changing self in response to the environment, keeping environmental perceptions unaltered. This results in blurred boundaries between the self and others and therefore the emotions perceived in others may actually be attributed to the self. This self-other confusion may occur in varying degrees.

If the perceptions are processed reflectively, this means that processing is greater, allowing for more in-depth understanding of the emotions behind the observed behavioral response. The perception is on an explicit level rather than an implicit level.

The process is shown in the diagram below:

Figure 4: The Process of Emotional Perception
Non-causal trait that exacerbates normal tendencies: Affect Intensity

It is hypothesized that Affect Intensity exacerbates responses to trauma. It is a quantitative trait rather than a qualitative trait. In other words, it does not cause phenomenon to occur, it just increases natural tendencies, whatever those natural tendencies are.

Affect Intensity is considered a stable personality characteristic that differentiates people according to how intensely they feel their emotions, given the same level of emotional stimulation (Larsen & Diener, 1987). Affect intensity refers to the strength of one’s feelings, and is not synonymous with the tendency to focus on one’s feelings.

This paper hypothesizes that Affect Intensity is a trait that is not related to either Emotional Perception or Reflective Processing — but affect manifests itself differently depending on these traits. There are five main issues that require clarification: covert emotions, emotional lability, shallow affect, the tendency to focus on feelings and the tendency to experience certain emotions and not others.

First, Affect Intensity, as I operationalize the term, may be covert, as in the Perceptual Processor who cannot regulate emotion effectively, or overt as in the Reflective Processor. Affect Intensity is operationalized in the literature as relating to a lack of emotional or behavior control (Flett, Blankstein, Bator, & Pliner, 1989). Affect Intensity correlates positively with Borderline Personality (Perceptual Processor) and negatively with compulsive-conforming personality (Reflective Processor) (Flett & Hewitt, 1995). The concealment of affect through thought process is not acknowledged in the Affect Intensity construct (Larsen & Diener, 1987), but should be in the present
theoretical framework. For example, intense affect may be manifested in terms of obsessions and compulsions rather than overt emotion.

Second, Larsen and Diener (1987) note that emotional lability and affect intensity are not the same thing. Affect Intensity refers to the strength of emotions, not how often these emotions occur, or how quickly they change. This is important because, for example, a Perceptual Processor, who is more susceptible to their environment, may have erratically changing feelings, depending on what is happening around them. This contrasts with the internally focused person who can temper and filter their experiences.

Third, shallow affect requires differentiation from intense affect. This theory defines intense affect as being different than deeply felt emotion. An intense emotion may disappear quickly if there is little significance or meaning to it — but this should not take away from the fact that the emotion was intense to begin with. In summary, an intense emotion can be labile, shallow or deep.

Fourth, Affect Intensity, is independent of Emotional Perception. In other words, it refers to the intensity of the emotions that the individual feels, regardless of the type of emotion. Larsen and Diener’s (1987) Affect Intensity Measure assesses a different construct (Simonsson-Sarnecki, Lundh & Torestad, 2000). The scale chooses specific emotions that not everyone would feel. For example, a psychopath may predominantly feel the emotions of anger, happiness, excitement and frustration (Steuerwald & Kosson, 2000) and when he/she feels them, they are intensely felt. However, the psychopath may not experience guilt, fear or anxiety. A study using the Affect Intensity measure found that there was a significant correlation between affect intensity and emotional sensitivity.
It appears that this scale is measuring the interaction between Affect Intensify and sensitivity.

Fifth, Affect intensity refers to the strength of one’s feelings, and is not synonymous with the tendency to focus on one’s feelings. Individuals who tend to think a lot about how they are feeling may simply conceive their feelings are strong, mistaking their investment in their emotions for intensity.

Figure 5: Affect Intensity Related to Other Emotion Constructs
Integrating Emotional Perception, Information Processing and Affect Intensity

Emotional Perception, Information Processing and Affect Intensity highlight the differentiation of cortical arousal, emotional arousal and physiological arousal as discussed throughout this paper. High cortical arousal means greater Reflective Processing. Greater Reflective Processing (and high cortical arousal) mean that emotional arousal becomes covert rather than overt and physiological arousal is lowered. Low cortical arousal means less Reflective Processing. Less Reflective processing means that emotional arousal is overt and physiological arousal is higher. High emotional arousal is independent of Emotional Perception and Reflective Processing. However, the quality of emotional arousal is dependent on both of these traits. High emotional arousal and high Emotional Perception means the emotion has greater psychological impact. This is an important point because I propose that it is not emotional arousal per se that is the crucial factor in determining traumatic responses, it is the interpretation of the trauma. Interpretation of the trauma is dependent on the extent of the person's Emotional Perception and how they manage it. On its own, emotional arousal, or Affect Intensity, is only quantitative, not qualitative.

The section below lists the possible ways of managing and mismanaging Emotional Perception. Emotional Perception is linked with personality disorders and pathological traumatic responses. Figure 5 below summarizes mismanaged Emotional Perception and Figure 6 summarizes managed Emotional Perception.
<table>
<thead>
<tr>
<th>Information Processing</th>
<th>Emotional Perception</th>
<th>Implications for Emotional Perception</th>
<th>Implications for Trauma</th>
<th>Associated Personality Disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Strong Reflective</td>
<td>Low</td>
<td>Fear of unanticipated reactions of others. Fear prevented by cutting off emotion</td>
<td>Normal attention: narrow and internal</td>
<td>Schizoid</td>
</tr>
<tr>
<td>Strong Reflective</td>
<td>Low</td>
<td>Fear of unanticipated reactions of others. Attempt to control fear through cognitive distortions, withdrawal &amp; fantasy</td>
<td>1) Normal narrow and internal attention maintained, or 2) withdrawal and fantasy</td>
<td>Paranoid</td>
</tr>
<tr>
<td>Very Strong Reflective</td>
<td>High</td>
<td>Fear of negative evaluations by others is prevented by direct cognitive management of emotions: emotions cut off</td>
<td>Direct Cognitive Processes to Manage Emotion Depersonalization—“this is happening to me but I don’t feel anything” Emotional numbing (enabling function) Posttrauma: PTSD with emotional numbing &amp; emotional re-experiencing</td>
<td>Pseudo-Schizoid</td>
</tr>
<tr>
<td>Strong Reflective</td>
<td>High</td>
<td>Fear of negative evaluations by others. Emotions cannot be directly managed: fantasy, compartmentalization, detachment; withdrawal</td>
<td>Minor Indirect Cognitive Processes to Manage Emotion Fantasy, Depersonalization—“this isn’t happening to me” Major Indirect Cognitive Processes to Manage Emotion DID, Dissociative Fugue with Identity Alteration Posttrauma: internalized depression</td>
<td>Avoidant</td>
</tr>
<tr>
<td>Weak Reflective</td>
<td>High</td>
<td>Emotional Perception is blocked, preventing the impact of others’ emotions on self</td>
<td>Derealization- environmental dulling Stupor – coping by blocking perceptions Posttrauma: Non-Chronic PTSD, externalized depression</td>
<td>Pseudo-Psychopathy</td>
</tr>
<tr>
<td>Weak Reflective (Perceptual)</td>
<td>High</td>
<td>Emotional Perception is unprocessed Emotional Perception incites emotion in self, but emotion not understood</td>
<td>Derealization- environmental dulling Stupor – coping by blocking perceptions Posttrauma: Non-Chronic PTSD, externalized depression</td>
<td>Alexithymia</td>
</tr>
<tr>
<td>Very Weak Reflective (Perceptual)</td>
<td>High</td>
<td>Emotions control cognition and Perception. Feelings of self and others become very intertwined</td>
<td>Minor Emotional Overpowering: Event taken in intensely but cognitively superficially, followed by suppression that is either intermittent (Chronic PTSD) or enduring (Amnesia) Major Emotional Overpowering: Higher order cognition dissolved. Emotional numbing and stupor, dissociated behavior Posttrauma: Chronic PTSD, externalized depression</td>
<td>Borderline</td>
</tr>
</tbody>
</table>
### Figure 7: Integrating Managed Emotional Perception and Information Processing

<table>
<thead>
<tr>
<th>Information Processing</th>
<th>Emotional Perception</th>
<th>Implications for Emotional Perception</th>
<th>Implications for Trauma</th>
<th>Associated Personality Disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflective</td>
<td>High</td>
<td>Adaptive coping with emotional and cognitive involvement</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Emotional Perception accurate and understood with detachment and emotion</td>
<td>No Avoidance. Gradual and complete emotional and cognitive integration of the trauma. Greater insight but also greater risk for depression.</td>
<td>N/A but risk for internalized depression</td>
</tr>
<tr>
<td>Perceptual</td>
<td>High</td>
<td>Emotional Perception is accurate and understood in its most pure form; it remains unaltered by cognitive processes.</td>
<td>No Avoidance. Complete emotional integration of the trauma but cognitive integration takes longer. Greater insight but also greater risk for externalized depression</td>
<td>N/A but risk for externalized depression</td>
</tr>
<tr>
<td>Perceptual</td>
<td>Low</td>
<td>Do not analyze the behavior of others. Do not develop fear responses</td>
<td>Normal attention: wide and external</td>
<td>Psychopathy</td>
</tr>
<tr>
<td>Reflective</td>
<td>Low</td>
<td>Analyze and misperceive the emotions of others by relying on behavioral indications. Potential for fear, but not activated because of favourable environmental circumstances.</td>
<td>Normal attention: narrow and internal</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Types of Emotional Perception/Information Processing

Managed Emotional Perception

Managed Low Emotional Perception and Reflective Processing

Figure 8: Managed Emotional Perception, incorrect interpretations

Incorrect interpretation of others' emotions

Reflective Processors who are low in Emotional Perception have difficulty understanding others but their reflective tendency causes them to analyze others anyway.

Noy (1984) describes this tendency:
What happens when, in spite of a low sensitivity, a typical “from within” perceptual mode develops? This combination rarely contributes to a good understanding of others. Individuals characterized by this combination may appear to possess a good empathic capacity, for they typically tend to analyze and interpret others’ motives and intentions from within. Closer acquaintance with them, however, usually reveals that their findings are erroneous (Noy, 1984, p. 184).

Likewise, Shapiro (1965) describes the obsessive-compulsive personality style as being unaware of emotional undertones:

...he will often miss those aspects of a situation that give it its flavor or its impact. Thus, these people often seem quite insensitive to the ‘tone’ of social situations...the obsessive compulsive’s experience can be compared...to the experience of a pilot who flies at night or in a fog with accurate and well-functioning instruments. He can fly his plane, he can fly as if he is seeing clearly, but nothing in his situation is experienced directly; only indicators are experienced, things that signify other things ” (Shapiro, 1965, pp. 28-50).

If a person remains unaffected by their incorrect interpretation of others’ behavior, low empathy and Reflective Processing are not detrimental (to themselves).

Low Emotional Perception results in shallow emotions. Therefore, trauma has less impact. The typical “narrowed” focus of Reflective Processing is retained during a traumatic experience. There is no associated personality disorder.
Managed Low Emotional Perception and Perceptual Processing

Figure 9: Managed Emotional Perception, little interpretation

Lack of interpretation of others' emotions: Psychopathic Deficits

Perceptual Processing with low Emotional Perception results in ignorance to the emotions of others. Low Emotional Perception in the Perceptual Processor is unequivocally an anti-distress factor. The Perceptual Processing results in "rawness" to the environment. However, removal of the emotional tone in the environment results in a stimulating rather than overwhelming experience. The self does not become de-
stabilized. Whereas some individuals may be bothered by an unstable sense of self, psychopaths do not appear to be:

Far from being deficient in role-playing skills, psychopaths are consummate actors. In the presence of others, psychopaths are always on-stage, always creating an image, projecting the personality they choose to present (Wells, 1988 p.853).

Perceptual Processing does not result in the same fear or suspiciousness of others as Reflective Processing (as discussed on page 75).

Emotion is experienced as shallow. This shallowness of emotion is maintained during trauma, resulting in lower impact. Attention span remains wide and externally focused.

This paper hypothesizes that psychopathy is the most extreme example of a lack of Emotional Perception and Perceptual Processing. Lack of empathy is one of the main characteristics of psychopathy; psychopaths appear to have an affective deficit (see Cleckley, 1976; Hare, 1991). The psychopath knows the ‘words’ of emotion but not the ‘music’ (Johns & Quay, 1962). Psychopathy is also thought to be associated with low fear and anxiety (Cleckley, 1976, Hare, 1972).
Managed High Emotional Perception and Reflective Processing

Insight: articulated interpretations of Emotional Perception

Someone who has High Emotional Perception and Reflective Processing has the potential to manage their high emotional perception most effectively. Ideally, perceptions are accurately perceived and processed in a detached but emotional way.
High Emotional Perception may be beneficial if it leads to an interpretation of events that results in greater understanding. For example, Viktor Frankel (1959) observed from his own traumatic experiences in the Holocaust, that:

Sensitive people who were used to a rich intellectual life may have suffered much pain (they were often of a delicate constitution), but the damage to their inner selves was less. They were able to retreat from their terrible surroundings to a life of inner riches and spiritual freedom. Only in this way can one explain the apparent paradox that some prisoners of a less hardy make-up often seemed to survive camp life better than did those of a robust nature (Frankl, 1959, p. 47).

But Grinker & Spiegel (1945) note that in war veterans, those with the highest levels of insight often had the highest amounts of depression:

In the free anxiety states, insight varies considerably. Some men are well aware of their own fear and its origin. In general, good insight is likely to be accompanied by larger amounts of depression. Those with poor insight tend to develop psychosomatic or conversion symptoms (Grinker & Spiegel, 1945, p. 84).

Supporting Grinker and Spiegel’s (1945) view, research shows that depressed individuals are in fact more realistic than non-depressed individuals in their judgments about themselves and the world (e.g. Taylor & Brown, 1988). High Emotional Perception and Reflective Processing contributes to increased insight and profundity. But this awareness may also lead to depression.
Managed High Emotional Perception and Perceptual Processing

Figure 11: Managed Emotional Perception, unarticulated interpretations

Unaltered, unarticulated pure perceptions of others

The Emotional Perception of individuals with Perceptual Processing remains on an intuitive level. It is unfiltered, unaltered and unprocessed because of the lack of Reflective capability. Because of the lack of cognitive input into the perception, it remains accurate and pure. Noy (1984) describes the perceptions:

...she showed little capacity for utilizing these images in a rational assessment of others’ motives or intentions...during the first months of analysis, I had the feeling that she
almost ignored my presence...but with time, I began to realize that my initial impression was wrong. More and more I was confronted with instances in which she displayed an amazingly keen sensitivity toward me...It amazed me how correct she was at reading my feelings. I almost began to believe in telepathy, because I could not discern the communicational cues by which she arrived at her impressions...I began to realize that her seeming blindness to others’ motives and intentions was not as total as I had first considered (Noy, 1984, pp. 181-182).

Shapiro (1965) expands on the absence of integrative thought processes of the hysteric personality (a personality associated with Perceptual Processing).

How does a half-conscious, half-formed impulse or feeling sensation normally become integrated into an articulated, fully conscious emotion? Some kind of integrative process must be involved through which that half-formed feeling becomes associatively connected to and organized with existing attitudes, feelings, interests and the like...now let us imagine that the hysteric is characterized by a general immediacy of subjective experience, including not only cognitive experience, but also affective experience. The absence of complex cognitive integration—the quick, impressionistic cognition, in other words—will have a parallel in the immediacy and peremptoriness of affect. This affect, easily triggered or excited, abruptly emerges as the final cognitive product. (The hysteric’s cognition) is too quick, and (has) insufficient organization, refinement and integration of mental contents (Shapiro, 1965, p. 130).

Both examples above illustrate acute Emotional Perception that does not become cognitively integrated or formulated.
Mismanaged Emotional Perception

Mismanaged Low Emotional Perception & Very Strong Reflective Processing

Figure 12: Mismanaged Emotional Perception, Schizoid Deficits

Schizoid

As mentioned earlier, Reflective Processing involves a narrowed, vigilant focus (see page 75). A lack of empathy can result in unanticipated reactions from others. Negative ramifications from being oblivious to the emotions of others may result in an anticipatory fear of people. The Very Strong Reflective Processor manages this fear by cutting off emotion. Individuals with Schizoid Personality Disorder are said to
...rarely experience strong emotions such as anger and joy. They often display a constricted affect, and appear cold and aloof. However, in those very unusual circumstances in which these individuals become at least temporarily comfortable in revealing themselves, they may acknowledge having painful feelings, particularly related to social interactions (American Psychiatric Association, 2000, p. 695).

I propose that at the most extreme, Schizoid Personality Disorder represents Low Emotional Perception and Reflective Processing. Schizoid individuals are described as having impaired empathy, emotional detachment (Wolff, 1991), emotional coldness (American Psychiatric Association, 2000), a lack of self-consciousness, lack of vulnerability and low anxiety (Widiger, 1998). Widiger (1998) also notes that Schizoid individuals are introverted. They also tend to isolate themselves (American Psychiatric Association, 2000). These characteristics correspond to Low Emotional Perception and Reflective Processing.

The schizoid individual would likely have a less adverse reaction to a traumatic event. Grinker & Spiegel (1945) describe the schizoid's behavior during war:

Schizoid individuals who are motivated for flying largely on account of a desire to get away from interpersonal contacts, create problems because they are unable to achieve close teamwork. They clash with other personalities and have peculiar quixotic judgment in flying, often refusing to follow operational routines. Such personalities are frequently aggressive in combat and are difficult to control and maintain formation (Grinker & Spiegel, 1945, p.12).

Rather than emotional breakdown, schizoid individuals are primarily disturbed by the required associating with other people and protocol following. During trauma, a complete lack of emotion may occur. The normal attention is maintained, which is a narrow, internal focus.
Mismanaged Low Emotional Perception & Strong Reflective Processing

Figure 13: Mismanaged Emotional Perception, Paranoid Deficits

Paranoid

As previously discussed, Low Emotional Perception results in unforeseen emotional reactions from others and Reflective Processing creates anticipatory fear. Whereas the Very Strong Reflective Processor withdraws from others and cuts off emotion to cope, the Strong Reflective Processor attempts to use indirect cognitive strategies to monitor
negative situations. These cognitive mechanisms can become maladaptive. In attempts to protect the self, this individual misinterprets others, resulting in paranoia.

Paranoid Personality Disorder is characterized by the assumption that “other people will exploit, harm or deceive them, even if no evidence exists to support this expectation” (American Psychiatric Association, 2000, p. 690). These individuals are low in Emotional Empathy. Negative experience with others fosters fear. This fear is managed by being vigilant to possible negative cues in the environment. These cues are cognitive distortions that are not based in reality. As Shapiro notes,

It is useful... to regard the paranoid person's construction of a subjective world as having two aspects: on the one hand, a biased seizing of 'significant' clues from their context and, on the other hand, a loss of appreciation of that context, which is just what normally gives the small clue item its actual significance. ...A subjective world comes into being that is a peculiar blend of the autistic and the factual. The paranoid person's picture of the world is interpretatively autistic, but it is usually accurate in factual details. (Shapiro, 1965, p. 66).

During trauma, I hypothesize that Paranoid individuals would have either an internal, narrow focus or withdraw through fantasy.
Mismanaged High Emotional Perception & Very Strong Reflective Processing

Figure 14: Mismanaged Emotional Perception, Pseudo-Schizoid Deficits

Pseudo-Schizoid

The combination of Very Strong Reflective Processing and High Emotional Perception creates fear of negative evaluation by others. This is managed by cognition directly thwarting emotion.

Likewise, the associated traumatic responses involve cognitive processes to proactively thwart emotion, such as Depersonalization with emotional numbing. This direct management of emotion occurs at Level A, as discussed on page 79.
Using emotional numbing as a coping mechanism pervasively, results in the appearance of Schizoid Personality. As mentioned on page 108, Schizoid Personality Disorder appears emotionless, as does the Pseudo-Schizoid. They differ on the reason for this defensive action. Schizoid’s withdrawal and emotional thwarting stems from a fear for what they cannot understand. The Pseudo-Schizoid attempts to prevent perceiving reactions they understand too well. They have Emotional Perception ability but the associated emotion is cut off to avoid the associated pain of these perceptions.
Avoidant

Like the Pseudo-Schizoid individual, this individual has high Emotional Perception, but Strong instead of Very Strong Reflective Processes. The emotion cannot be cut-off as in Pseudo-Schizoid, and therefore, indirect cognitive strategies are used. Likewise, during trauma, indirect cognitive mechanisms are utilized. These involve detachment, withdrawal and fantasy. This corresponds to an ineffective Level A (emotion cannot be
directly thwarted), resulting in indirect cognitive processes to manage emotion at Level B, as discussed on page 80.

The associated personality disorder is Avoidant. Reflective Processing orients the individual to be fearful. The avoidant person is "hypersensitive" to negative evaluation, according to the DSM-IV-TR diagnostic criteria (American Psychiatric Association, 2000). Avoidant Personality Disorder is similar to Paranoid Personality disorder because both cannot cut off the emotional impact of their Emotional Perceptions, or lack thereof. However, the Paranoid individual is vigilant to reactions that are not understood and cannot be anticipated. Avoidant uses cognition to avoid anticipated reactions.
Figure 16: Mismanaged Emotional Perception, Borderline Deficits

Key for Backgrounds
Solid = stage never existed
Lines = stage exists, but mismanaged
White = “normal” stage
Dots = result

Borderline

As discussed earlier, Perceptual Processing results in blurred boundaries between the self and others. Emotions perceived in others may actually be attributed to the self. A negative environment can make this overwhelming. In individuals with Very Weak Reflective Processing, the ability to block perceptions is lacking. Therefore, the entanglement between self and other becomes greater.
Coping is minimal because emotions control perceptions and cognition. There is a dissolution of higher-order cognitive functions. The event may be completely taken in and subsequently blocked or emotion completely controls perceptions. This corresponds to dissolution down to Levels D and E as discussed on pages 84 and 86.

The associated personality disorder is Borderline Personality Disorder, a disorder associated with sensitivity and characterized by identity problems. Individuals with BPD have been found to have high empathy levels. Frank, Hallie and Hoffman (1986) found that the borderline group was significantly more sensitive to nonverbal communication than the control group. In fact, the BPD group perceived equally well both positive and negative stimuli, demonstrating that they do not predominantly identify negativity. The authors note the ability of Borderline individuals to “tune in quite accurately to the internal world of others [which] may explain in part…these patients’ difficulty in dealing with interpersonal relationships” (Frank, Hallie & Hoffman, 1986, p.387). BPD is also characterized by identity problems. Wilkinson-Ryan and Westen, (2000) found that BPD individuals become absorbed in roles, define themselves in terms of these roles, have a subjective sense of incoherence, have inconsistent thoughts and behavior and do not commit to jobs or values. However, the key issue is their subjective distress about these identity problems. In addition, The DSM-IV acknowledges that individuals with Borderline Personality Disorder are “very sensitive to environmental circumstances” (p, 706).
Mismanaged High Emotional Perception & Weak Reflective Processing

Figure 17: Mismanaged Emotional Perception: Alexithymia Deficits

Alexithymia

As discussed on page 83, Weak Reflective Processing does not have the capacity to cognitively thwart emotion, but does have the capacity to block perceptions that incite emotion. In other words, this defensive action occurs at the root, at the Basic Sensitivity level, by numbing the Emotional Perception. I propose that there are two levels of severity of blocking Emotional Perception. One can block the processing of the perception. Or, one can block the perception itself. This section describes the blocking
of the processing of the perception. The next section describes blocking Emotional Perception.

With regard to traumatic responses, this group perceptually blocks to prevent further dissolution past Level C, as discussed on page 83. Perceptual blocking strategies include derealization and stupor.

I propose that blocking the processing of the Emotional Perception results in alexithymia, which is the inability to describe and identify feelings. Recall that Perceptual Processing results in an intuitive sense of emotions, but an inability to pinpoint the reasoning behind any assumptions made about emotion. Reflective Processing takes emotional recognition and intuition to an analytical level whereby emotions are distinguished in an in depth way. If no processing takes place, Emotional Perception leads to an inability to describe, pinpoint, and understand emotion. This is the definition of Alexithymia. Researchers have divided the Alexithymia concept into two: an emotional component and a cognitive component (Loas, Otmani, Lecercle, Jouvent, 2000). The emotional part is the inability to describe and identify emotion. The cognitive component is a lack of fantasy and externally oriented thinking. Interestingly, the cognitive component can be explained by Weak Reflective Processing. The emotional component can be explained by mismanaged unprocessed Emotional Perception.

Alexithymia is related to criminal behavior, just as psychopathy is (Kroner & Forth, 1995; Louth, Hare & Linden, 1998). But it is not psychopathy. Psychopathy and alexithymia have been found to be clearly different constructs in terms of emotion. Kroner and Forth (1995) assessed alexithymia and psychopathy in a group of offenders.
They found that the affective and interpersonal components of psychopathy were negatively correlated with alexithymia. The authors state that alexithymia and psychopathy are different. Psychopaths have lower emotion levels and therefore cannot even detect emotion whereas alexithymics experience emotion but cannot describe their emotion.

Zlotnick, Mattia and Zimmerman (2001) relate PTSD, BPD and alexithymia to problems in emotional regulation. In their study of 500 individuals, BPD and PTSD were the only Axis I psychiatric disorders to contribute uniquely to levels of alexithymia. Kroner and Forth (1995) found that alexithymia is not related to denial or defensiveness. It is also not emotional numbing or lowered emotional responsiveness to the environment (Ramirez, et al, 2001). These findings indicate that alexithymia is related to affect regulation problems. Moreover, I propose that alexithymia is a processing deficit, and therefore a more fundamental deficit than simply emotional denial.
Very Mismanaged High Emotional Perception & Weak Reflective Processing

Figure 18: Mismanaged Emotional Perception, Pseudo-Psychopathic Deficits

Pseudo-Psychopathy

Cutting off the perception at the source prevents the incitement of emotions from affecting the self. I propose that this is Pseudo-Psychopathy, characterized by Perceptual Processing and the appearance of a lack of Emotional Perception. Like with Alexithymia, this Perceptual blocking prevents the dissolution process that occurs with weak reflective processing. However, the blocking occurs at the most basic level,
completely preventing Emotional Perception. In terms of responses to trauma, this group, like Alexithymia, involves perceptual blocking, or dissolution down to Level C, as discussed on page 83. This includes derealization and stupor reactions.

Cutting off the basic sensitivity prevents becoming affected by it. Dutton (1998) notes that among men who batter their wives, previous childhood abuse is common. He describes that:

For some reason, [batterers] lose the ability to imagine another's fear or pain or the dreadful circumstances that might follow abuse. Some, whom we call psychopaths, have permanently lost this human function. Others lose their ability to empathize in a cyclical or intermittent way (Dutton, 1998, p. 55).

Likewise, Porter (1996) discusses individuals who once had the capacity to empathize but lost this ability due to trauma. He identifies these individuals as “secondary psychopaths.” He states that in a

[secondary psychopath] there is a capacity for empathic responding but it is "turned off" with repeated disillusionment of the child through physical or sexual abuse or other mistreatment. This should be considered a dissociative disorder, with the child's emotion being dissociated from or unconnected with cognition and behavior over time. Eventually, as an efficacious distress reduction strategy, affect becomes inactivated or even abrogated. The strategy of "not feeling" becomes reinforced, with reduced psychological distress or trauma associated with abusive incidents (Porter, 1996, p.184).

I propose that these “pseudo-psychopaths” are actually individuals with more Borderline Personality Disorder tendencies but they have learned to block their Emotional Perception.
CHAPTER 4: METHODOLOGY

Researching the model has four steps. First, hypothesized associated characteristics are correlated with the traits Emotional Perception and Reflective Processing. Second, a more finely differentiated traumatic response scale will be developed and validated. Third, an integrated Emotional Perception/Information Processing scale will be developed and validated. Four, the Emotional Perception/Information Processing scale will be related to the traumatic response scale.

Information Processing will be assessed through event-related potentials. Event-related potentials assess electrical activity of cognitive processing in the brain. Perceptual Processing is operationalized as excessive superficial, indiscriminate processing early in information processing and inadequate depth of processing at later stages. Specifically, at early stages inadequate sensory filtering can be expected and will be assessed by, for example, larger N1 amplitudes to non-target stimuli (Gordon, Kraiuhin, Kelly, Meares & Howson, 1986). Later cognitive processing will be assessed by low P300 amplitude. The P300 response is a late-occurring response in cognitive processing. Carlson, Katsanis, Iacono and Mertz (1999) found that low P300 amplitude is associated with externalizing psychopathology such as conduct disorder. This is consistent with the idea that Perceptual Processing is associated with impulsivity. McFarlane, Weber and Clark (1993) found that individuals with PTSD had low P300 amplitudes and difficulty discriminating stimuli, compared to a control group without PTSD. Conversely, Reflective Processing is operationalized as the opposite of Perceptual Processing. More extensive cognitive processing and attention over-focusing is hypothesized to occur at later information processing stages. These tendencies will be
ascertained by, for example, greater P300 amplitudes (Towey, et al., 1994; Towey et al., 1990). Introversion, a trait that is hypothesized to correlate with Reflective Processing, is associated with high P300 amplitude (Ortiz & Maojo, 1993).

Emotional Perception will be assessed through a facial expression emotion recognition task developed by Martin, Berry, Dobranski and Horne (1996). The authors revised Ekman’s (1976) Pictures of Facial Affect task by limiting the amount of time the subject has to view the pictures and by requiring the subject to only state whether the emotion is negative or positive. The authors suggest that these procedural changes identify those individuals with superior Emotional Perception ability, necessitating a reliance on immediate affective perceptions rather than cognitive knowledge about facial expressions. Indeed, the more capable subjects scored higher on the Feeling scale on the Myer-Briggs test than the Thinking scale. In addition, this ability is not related to general perceptual speed, but is specific to emotional perception. Obviously, this measure will not directly assess attunement to the “emotional energy” of another person. Instead, as discussed on page 88, this measure attempts to select the most superior Emotion Recognition individuals, with the assumption that these individuals are also high in Emotional Perception.

Affect Intensity measurement must include covert and overt emotions as well as emotions not specific to emotional perception ability. Therefore, this study will assess the intensity of annoyance, rather than fear or disgust. The subjects will experience an ongoing mildly annoying situation. Physiological responses will be measured. Afterwards, attentional focus of the subjects will be ascertained. It is hypothesized that the Perceptual Processors who are high in affect intensity will have higher physiological
responses (overt emotion). The Reflective Processors who are high in affect intensity will use more cognitive avoidance tactics during the event (covert emotion).

Cognitive, emotional, perceptual and interpersonal characteristics are associated with Emotional Perception and Information Processing to better conceptualize these traits. First, the cognitive scales are described. The Creative Experiences Questionnaire (Merckelbach, Muris, Schmidt, Rassin & Horselenberg, 1998) is a measure of fantasy proneness. It is hypothesized that Reflective Processors will score higher. The Paranoia Scale (Fenigstein & Vanable, 1992) will be associated with Reflective Processing. Two Perceptual Scales will be used. Perceptual Processors are proposed to score higher on the Vividness of Visual Imagery Questionnaire (Marks, 1973). Sensory Processing Sensitivity Scale (Aron & Aron, 1997) is hypothesized to be related to High Emotional Perception and Perceptual Processing. This scale describes more intense reactions to environmental stimulation. Three emotional scales will be used. The Toronto Alexithymia Questionnaire (Bagby, Parker & Taylor, 1994) measures the inability to identify and describe emotion. It is hypothesized that Perceptual Processors who have mismanaged their Emotional Perception will score high on this scale. The Emotional Control Questionnaire (Roger & Najarian, 1989) assesses the inhibition of emotion. It is hypothesized that Reflective Processors will be more able to thwart their emotion. In contrast, The Affective Lability Scale (Harvey, Greenberg & Serper, 1989) will be associated with Perceptual Processing. Last, individuals high in Emotional Perception will score high on the Interpersonal Dependency Inventory (Hirschfeld et al., 1977), and the nature of this dependency will depend on Information Processing.
Next, a traumatic responses scale will be created that differentiates traumatic responses more finely in terms of emotional regulation. Specifically, Depersonalization and Derealization are proposed as fundamentally different from one another, as are Dissociative Identity Disorder and Borderline Personality disorder. In addition, emotional numbing, stupor, posttraumatic stress disorder and Dissociative Amnesia are erroneously viewed as uniform and will divided with regard to emotional regulation.

Listed below are the traumatic response distinctions that will be included in the scale.

1) Clearly differentiated during-trauma responses from responses that occur immediately after. This is important to test the proposed idea that Chronic PTSD and Dissociative Amnesia stem from a complete perceptual absorption of the event.

2) Event intensification.

3) Different kinds of emotional numbing.

4) Different kinds of stupor.

5) Different kinds of amnesia.

6) Different kinds of depression.

7) Vague metaphors, such as “blanked out”, “felt like in a dream,” and “in some way felt that I was not part of what was going on” require clarification.

8) More specific questions about emotional numbing, Depersonalization and detachment.

9) More specific questions about cognitive alterations such as withdrawal and fantasy.

10) Differentiating Derealization into a) a coping mechanism b) secondary to Depersonalization c) part of event intensification.

11) Post-trauma symptoms and emotional numbing responses need to be differentiated in terms of: a) an immediate response to a flashback/incapacitating situation b) a way to emotionally deny the trauma but cognitively be aware of it.

12) Post-symptoms and re-experiencing require clarification. How does the re-experiencing of the trauma occur? Are the flashbacks primarily perceptual flashbacks followed by forgetting or emotional flashbacks followed by emotional denial?

The traumatic responses scale will describe mild to severe types of responses for each group. Both during trauma and after trauma responses will be included. Analyses will ensure that the hypothesized groups do in fact represent different factors.

Next, an integrated Emotional Perception/Information Processing Scale will be constructed. Emotional Perception is subject to the same information processing styles that other perceptions are. For example, if someone is a perceptual processor, the perceptions remain on an instinctive, intuitive, undetached, unprocessed level. The integrated scale will be comprised of the types of managed and mismanaged Emotional
Perception. This scale will measure three types of information: the level of emotional perception, the management or mismanagement of emotional perception and the particular mode of information processing. The scale will list scenarios that correspond to the types of emotional perception/information processing (see section beginning on page 94). There will be two parts to each scenario. The first part will describe how the emotions of others are perceived. The second part will describe how emotions of others impact on the self. The participants will choose the scenario that best describes them. Each scenario will portray both positive and negative aspects of each type of Emotional Perception. Finally, the Emotional Perception/Information Processing Scale will be correlated to the Traumatic Responses scale. I propose that the types of traumatic responses will correspond to the types of Emotional Perception.

Traumatic responses and Emotional Perception type may not correspond as expected for several reasons. For example, life experiences, training in trauma management and age may all influence how one copes. A Perceptual Processor who has been working with traumatic situations may learn to develop a detached response. The inclusion of mild distressing responses to extreme distressing responses may solve this issue. It may be that factors such as life experience improve coping for severe trauma, but natural tendencies still remain for mildly distressing situations.

After the three scales have been developed and validated, the correlations between them will be assessed. It is hypothesized that the Emotional Perception type will be strongly associated with the traumatic response type. Affect intensity will exacerbate normal traumatic responding tendencies.
CONCLUSION

This theoretical paper differentiates traumatic responses according to underlying personality traits. There are three proposed personality traits. The framework places the two main underlying traits, Information Processing and Emotional Perception, on a circumplex diagram. It is hypothesized that Emotional Perception increases the likelihood of a pathological traumatic response, an Information Processing style determines the type of response that occurs and Affect Intensity exacerbates the tendency.

Current theories are inadequate for several reasons. The main problem is that the long-standing emphasis on researching observable phenomenon prevents understanding unobservable regulation of emotion. Further, the assumption that behavior is an indication of cognition and emotion is incorrect. It is often assumed that, for example, cognitive arousal means emotional arousal and that behavioral avoidance also means emotional avoidance and cognitive avoidance. I counter this assumption in order to differentiate types of emotional regulation processes.

There are two results of this problem. First, traumatic response constructs are built on superficial foundations. In other words, if the outcome is the same, it is assumed that the process was the same. For example, all types of dissociation are believed to stem from the same underlying process because the outcome of a separated facet of consciousness is the same for all types. Second, personality traits are understood in terms of observable phenomenon. In my opinion, this results in secondary traits that are not fundamental to the essence of the trait. Thus, new traits are utilized.
Reflective Processing is the Information Processing trait that determines the kind of traumatic response. It controls emotion by filtering and altering perceptions. Emotional Perception is operationalized as a visceral, non-cognitive perception to the emotions of others. For those individuals who have low Emotional Perception, emotions are shallow and dissipating, without deep impact. For those individuals who have high Emotional Perception, a mode of coping with this potentially stressful perceptual capability develops. The interaction between Emotional Perception, environmental circumstances and Information Processing shapes how negative emotions from the environment are coped with and influences Personality Disorder formation. If maladaptive coping tendencies are used pervasively, personality disorders may develop.

Generally, High Emotional Perception is a risk factor for pathological responses to trauma. If someone has High Emotional Perception, there are five main ways that it can be mismanaged. First, Very Weak Reflective Processing results in complete cognitive inability to manage emotion — there is minimal coping. The trauma is perceived but not explicitly cognitively processed. This results easy suppression of the event and therefore Chronic PTSD or Dissociative Amnesia (repressive type). Second, Very Weak Reflective Processing can also result in an extreme degeneration of cognitive functions and the event is not taken in cognitively or perceptually. This would be either a stupor reaction (behavioral shut-down) or dissociated behavior such as an intense rage state. The Emotional Perception for both of these first two types results in the merging of the emotions of others and the self, because higher-level cognitive mechanisms that separate and filter perceptions are ineffective. The associated Personality Disorder is Borderline. Third, Weak Reflective Processing also results in the failure of cognition to
manage emotion, but it is less severe. Instead, there is perceptual blocking, such as Derealization to prevent further dissolution of higher-cortical functions. Emotional Perception can also be coped with through perceptual blocking. Either the processing of the Emotional Perception is blocked or the perception itself is blocked. Pervasive coping in this manner results in, respectively, Alexithymia or Pseudo-Psychopathy. Fourth, cognitive processes in Strong Reflective Processing are more capable of managing emotion. However, emotion cannot be directly dealt with, and therefore indirect cognitive avoidance strategies are used, such as withdrawal and fantasy. The associated Personality Disorder is Avoidant. Fifth, cognition directly thwarts emotion in Extremely Strong Reflective Processing. Traumatic events are processed without emotion, such as depersonalized states. For this type of individual, Emotional Perception remains but the emotion is drained from it. Pseudo-Schizoid is the associated personality disorder.

High Emotional Perception is not simply a risk factor for pathological responses. It also may lead to insight if the Emotional Perception is not avoided in any way. As mentioned above, insight may coincide with depression, but depression does not necessarily have to become a re-occurring or pervasive disorder.

Low Emotional Perception may also lead to pathological responses in Reflective Processors, if the resulting inadequate understanding of others leads to anticipatory fear. Reflective Processing is associated with a narrow focus and fear responses. This negative emotion can be directly thwarted, as in Very Strong Reflective Processors. If this becomes pervasive way of managing emotion, Schizoid Personality Disorder results. Or, this negative emotion can be indirectly dealt with, as in Strong Reflective Processors, by attempting to monitor the environment. Paranoid Personality Disorder is associated with
this indirect way of managing negative emotion. These maladaptive ways of coping with Emotional Perception may carry over into responses to general traumatic events. In contrast, Low Emotional Perception and Perceptual Processing is associated with a wide external focus and no anticipatory fear responses. The associated personality disorder is psychopathy. There are few negative ramifications of these traits for this type of individual, only ramifications for those associating with him or her.

If traumatic responses differ on the proposed dimensions, this would have important implications. Understanding when and for whom traumatic reactions occur is necessary. In the forensic context, this theory has several important implications. It can potentially improve credibility assessment of victims and offenders claiming dissociative states. It may also illuminate how and if higher-order cognition has been compromised in dissociated behavior. Theoretically, discerning underlying causes provides a stronger framework to build upon. Clinically, this theory has implications for dealing effectively with traumatized individuals. Specifically, if underlying causes are known, treatment will be improved. Understanding the causal mechanisms behind traumatic responses must no longer be ignored.


