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Exploring the Inner Experience of Veterans with Posttraumatic Stress Disorder

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EXPLORING THE INNER EXPERIENCE OF VETERANS WITH POSTTRAUMATIC STRESS DISORDER

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Abstract

Military veterans have returned from combat changed by exposure to trauma for as long as history has been recorded. The field of psychology contains a vast literature describing and attempting to understand Posttraumatic Stress Disorder (PTSD) and its detrimental effects on the lives of individuals with the disorder. Despite the volume of study dedicated to PTSD in the literature, in-depth accounts of the lived experience of individuals with PTSD are rare. The current study utilized Descriptive Experience Sampling (DES), a method based on apprehending high-fidelity accounts of momentary inner experience, to explore the inner experience of eight Operation Iraqi Freedom (OIF) or Operation Enduring Freedom (OEF) veterans with combat-related PTSD. Participants who eventually completed the study first completed a self-report measure of PTSD symptom severity (the PTSD Checklist – Military Version) to confirm the presence of significant PTSD symptomatology. After sampling, the results from each participant were condensed into individual idiographic descriptions of experience, and the results of the group as a whole were examined for similarities, differences, and patterns. Results revealed that participants frequently had emotion ongoing outside of felt experience, but rarely had a clearly experienced feeling. They had a high frequency of inner experience that was inchoate or unclear in some way in the moment. There was also a higher than average frequency of sensory awareness, and lower frequencies of inner speaking, inner seeing, and unsymbolized thinking in this sample than in normative samples. There was only one example of vigilance in this study, and no example of flashbacks in the way that the field of psychology defines such phenomena.

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CHAPTER 1

Introduction

More than 2.3 million American troops have deployed to combat at least once during the ongoing Operation Enduring Freedom and Operation Iraqi Freedom (OEF/OIF) wars (Department of Defense, 2011). It has been well established throughout history that combat can have a profound psychological impact on soldiers, and since these conflicts began in 2001 (OEF) and 2003 (OIF), research has focused on the unique constellation of symptoms experienced by veterans of modern war. Combat veterans are at risk for posttraumatic stress disorder (PTSD), generalized anxiety disorder (GAD), and depression (Hoge, Castro, Messer, McGurk, Cotting, & Koffman, 2004; Hoge, Auchterlonie, & Milliken, 2006), interpersonal and relationship problems (e.g., Adler, Bliese, & Castro, 2011), and substance abuse (e.g., Erbes, Westermeyer, Engdahl, & Johnsen, 2007). Soldiers returning from OEF and OIF often return with traumatic brain injury (TBI), chronic pain, limb amputations, paralysis, and other major medical concerns (Tanielian & Jaycox, 2005). It is clear that combat exposure is taking a significant psychological and physical toll on soldiers who deploy (and often re-deploy) to OEF/OIF. In fact, millions of dollars in federal funding has been allocated for research on PTSD in veterans returning from OEF/OIF, in an effort to provide more effective care during recovery (Government Accountability Office, 2011).

The historical relationship between PTSD and combat exposure is well established, though PTSD has been added to The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2000) only relatively recently. PTSD is unique among psychiatric disorders in that diagnosis is predicated upon the etiological event, the traumatic stressor, rather than a

constellation of symptoms alone. The development of combat-related PTSD is linked to a number of factors, including the severity of combat exposure, number of deployments and length of time in-between, and the cultural climate surrounding the war (Litz, n.d.; Litz & Orsillo, 2004). Veterans of the current wars are often exposed to severe combat, 43% of troops have been deployed twice or more (Department of Defense, 2011), and the war is politically divisive and controversial in the United States. These factors lead to a heightened risk of PTSD in veterans of OEF/OIF, and in fact, the prevalence rates of PTSD among service men and women in the US are approximately double the rates among civilians (Hoge, et al., 2004).

The DSM-5 (APA, 2013) set the criteria for PTSD as experiencing or witnessing a traumatic event in which an individual is exposed to: death, threatened death, actual or threatened serious injury, or actual or threatened sexual violence. After the event, the individual has intrusive memories of or re-experiences the event, engages in avoidance of stimuli associated with the event, experiences negative alterations in cognition or mood, and experiences symptoms of increased arousal and hypervigilance.

Despite the fact that the criteria for PTSD are focused on inner experience (re-experiencing the event, hypervigilance, etc.), and despite the volume of the research dedicated to OEF/OIF veterans and PTSD, there is a noticeable lack of investigation about the inner experience of veterans with PTSD. The current study investigated the daily, lived inner experience of veterans of OEF/OIF with PTSD using the Descriptive Experience Sampling method (DES; Hurlburt, 1990, 1993). DES is a qualitative method aimed at gathering faithful accounts of moments of inner experience. The goal of this study was to gain a clearer understanding of the daily, lived experience of individuals

with combat-related PTSD and to add depth to the existing understanding of PTSD in military veterans.

CHAPTER 2

Literature Review

History and Development of Diagnostic Criteria for PTSD

The symptoms of what we now call posttraumatic stress disorder have been chronicled for centuries in various formats. Writers and poets including Shakespeare, Homer, and Dickens recorded accounts of the impact of trauma on thoughts, feelings, and behavior (Friedman, Resick, Bryant, & Brewin, 2011; Shay, 1991; van der Kolk, 2007). In the mid-nineteenth century, psychiatrists and psychologists began documenting syndromes among combat veterans and civilians that characterize most of the currently accepted symptoms of PTSD. These syndromes included railroad spine (Erichsen, 1866), traumatic neurosis (Oppenheim, 1889), soldier's heart (Myers, 1870), among others, and at the time were controversial as clinicians struggled to determine whether the symptoms were physiological or psychological in nature (van der Kolk, 2007). Sigmund Freud hypothesized that hysterical reactions in adulthood were a product of early traumatic experiences (Freud & Breuer, 1895).

World War I (WWI) contributed a great deal to the developing body of research around trauma, and the concept of shell-shock, an emotion-based response to the trauma of combat exposure, emerged (Myers, 1915). Etiology was still debated, and clinical writings noted the difficulty of distinguishing shell-shock from cowardice and disease of the will (van der Kolk, 2007). There also emerged a school of thought that individuals with traumatic neuroses were malingering for secondary gain, and the trauma reaction was simply an artifact of the insurance compensation system (Bonhoeffer, 1926). Studies of combat trauma during this time were heavily influenced by the goal of preserving

national pride, and descriptions of trauma reactions tended to place the onus on preexisting emotional problems, hysteria, and malingering by the individual (van der Kolk, 2007).

Like WWI, the second World War (WWII) had a profound impact on research and theory surrounding trauma reactions. The first edition of the American Psychiatric Association's DSM (1952) included the diagnostic category "gross stress reaction," intended for categorizing individuals exposed to trauma, mainly combat and the Holocaust. This was a temporary diagnosis that would be changed to "neurotic reaction" if the symptoms persisted (Friedman, Resick, Bryant, & Brewin, 2011).

After working with veterans from WWI, and as the world moved into WWII, Abram Kardiner published a work on traumatic neuroses that particularly shaped thinking about the effects of trauma exposure for the remainder of the 20th century (Kardiner, 1941; van der Kolk, 2007). Kardiner took detailed accounts of the symptoms exhibited by his patients, noting the lasting effects of trauma exposure:

> The nucleus of the neurosis is a physioneurosis. This is present on the battlefield and during the entire process of organization; it outlives every intermediary accommodative device, and persists in the chronic forms. The traumatic syndrome is ever present and unchanged" (Kardiner, 1941; p. 95).

He also described the signature hypervigilance and exaggerated startle response in the WWI veterans with whom he worked:

> These patients cannot stand being slapped on the back abruptly; they cannot tolerate a misstep or a stumble. From a physiologic point of view there exists a

> lowering of the threshold of stimulation; and, from a psychological point of view a state of readiness for fright reactions (Kardiner, 1941; p. 95).

Kardiner also stated that his patients were fixed on the trauma, experiencing recurrent dreams about the traumatic event, chronic irritability, and angry outbursts, as well as a sense that the self was disconnected from the outside world. He wrote that the traumatized soldier's "conception of the outer world and his conception of himself have been permanently altered" (Kardiner, 1941; p. 82).

The DSM-II, published in 1968 (APA), did not take Kardiner's work into consideration, and, in fact, eliminated the gross stress reaction diagnosis of the original DSM, leaving practitioners with no diagnostic option for classifying severe responses to trauma. To address problematic reactions, the DSM-II included only "situational reaction," a diagnostic category encompassing the full spectrum of adverse events from trauma to unpleasant experiences. This was perceived to trivialize the significance and impact of exposure to trauma, and was, like gross stress reaction, considered a temporary condition (Friedman, Resick, Bryant, & Brewin, 2011).

Building on Kardiner's work, studies of concentration camp survivors after WWII firmly established that survivors of traumatic events experience changes in biological, psychological, social, and existential functioning, and exhibit a diminished capacity for coping with stress (e.g., Archibald & Tuddenham, 1965; Eitinger, 1964; Eitinger & Strøm, 1973). Progressing into the 1970's, studies of trauma began, for the first time in history, to examine the effects of trauma on women and children. Researchers examined the aftereffects of rape (Burgess & Holstrom, 1974), childhood sexual abuse (Herman, 1981), and domestic violence (Walker, 1979; Gelles & Strauss, 1979). During this time,

researchers and clinicians were also focused on the American soldiers returning from the Vietnam War, who returned home facing unique challenges as veterans of a divisive and controversial war (Scott, 2004).

Posttraumatic stress disorder was officially added to the DSM-III, published in 1980. Work on the diagnostic categories for the DSM-III had begun in 1974, and researchers and clinicians relied heavily on Kardiner's work, as well as the more recent works examining non-combat sources of trauma, in shaping the diagnostic criteria (Friedman, Resick, Bryant, & Brewin, 2011; van der Kolk, 2007). Previously described trauma reactions, including rape trauma syndrome, concentration camp syndrome, the battered woman syndrome, the Vietnam veterans syndrome, war sailor syndrome, and the abused child syndrome were subsumed under the new PTSD diagnostic term (van der Kolk, 2007). At that time, the diagnostic criteria were built upon the occurrence of a trauma outside the realm of normal experience, considered a catastrophic stressor to which any person would have a trauma response (APA, 1980). The criteria were later revised to include more common experiences that could still result in a trauma reaction (APA, 1987).

Throughout history, the PTSD diagnosis and its predecessors have been controversial within psychology, psychiatry, and politics. It has become clear, however, that the addition of the diagnosis into the psychological lexicon has filled a significant diagnostic gap.

Current Conceptualization of PTSD

The conceptualization of PTSD in the DSM-IV-TR (APA, 2000) includes four criteria, altered slightly from the DSM-III. All four criteria must be preset to justify the

diagnosis of PTSD. Criterion A states that an individual must be exposed to a traumatic stressor; this is an event that causes or threatens death or injury, or threatens the physical integrity of the individual or others. To fulfill this criterion, the individual must also have a response involving feelings of intense fear, helplessness, or horror. Criterion B requires that the individual re-experiences the traumatic event in any of a number of ways, including intrusive thoughts or images of the event, dreams about the event, feelings of reliving the event, flashbacks, and physiological and emotional reactivity to stimuli associated with the trauma. Criterion C requires avoidance of stimuli associated with the traumatic event and numbing of affect, including the presence of symptoms of arousal and hypervigilance not present before the event, such as insomnia, angry outbursts, difficulty concentrating, and an exaggerated startle response. Criterion D stipulates that the duration of the symptoms in Criteria B-C is at least one month. Finally, the diagnosis requires that the symptoms cause marked distress or impairment in functioning. The DSM diagnostic rubric also includes specifiers for acute (less than 3 months) and chronic (more than 3 months) presentations, as well as delayed onset (more than 6 months post-stressor).

Since the publication of the DSM-IV-TR (APA, 2000), the body of research on PTSD has grown exponentially, and the conceptualization of PTSD has changed somewhat (Friedman, Resick, Bryant, & Brewin, 2011). The current DSM-5 (APA, 2013) includes several changes to the DSM-IV-TR PTSD criteria. First, Criterion A was expanded to include individuals who have learned that a relative or close friend was exposed to a traumatic event, not just the individual who experienced the trauma him or herself. In addition, professionals repeatedly exposed to the details of traumatic events

(such as military mortuary workers and disaster response workers) will also meet criterion A. The Criterion A requirement of a response of intense fear, helplessness, or horror was removed completely on the basis that individuals often report feeling numb, or feeling nothing during or immediately following a trauma (Friedman, Resick, Bryant, & Brewin, 2011).

The second major change in the criteria was the conversion of the DSM-IV-TR's three-factor model of PTSD to a four-factor model. This model consists of the following Criteria: (B) Intrusion Symptoms, (C) Persistent Avoidance, (D) Alterations in Cognitions and Mood, and (E) Hyperarousal and Reactivity Symptoms. All 17 DSM-IV PTSD symptoms were retained in DSM-5 although, in some cases, they have been revised. For example, DSM-IV's irritability became DSM-5's aggressive behavior. Three additional symptoms were included in the existing criteria: erroneous self- or other-blame regarding the trauma; negative mood states; and reckless and maladaptive behavior. Finally, the distinction between acute and chronic PTSD was eliminated (Friedman, Resick, Bryant, & Brewin, 2011). The implementation of the new DSM-5 is underway; however, in larger systems (such as the Department of Veteran Affairs) the change to using new diagnostic criteria takes time, as assessment measures used in diagnosis are currently being revised to reflect the changes and disseminated, and electronic record systems must be updated (National Center for PTSD, 2014).

Theories of Etiology

The etiological basis of PTSD has been a topic of much research and debate. Models proposing mechanisms through which traumatic stress might lead to PTSD have developed from various psychological schools of thought and attempt to explain why

some individuals develop persistent PTSD symptoms in response to trauma whereas others do not.

Conditioning Theories. Learning-based models of PTSD theorize that symptoms of PTSD can be explained by Mowrer's two-factor theory (1960), in which a fear response is acquired through classical conditioning and avoidance through instrumental conditioning (Cahill & Foa, 2007; Keane, Zimmering, & Caddell, 1985). Keane, Zimmering, & Caddell (1985) proposed a model in which combat veterans were classically conditioned to fear previously neutral stimuli (such as locations, sights, sounds, and smells) that were present during the traumatic event. Once conditioning has taken place, individuals learn to escape distress by avoiding stimuli associated with the trauma; thus symptoms are maintained through negative reinforcement (instrumental conditioning). Through higher order conditioning and stimulus generalization, a wide variety of situations provoke anxiety. This model posits that the experiential symptoms of PTSD (flashbacks, nightmares, intrusive recollections) are a normal part of the response to trauma, but when high levels of generalization and higher order conditioning occur, these symptoms persist. Conditioning theories of PTSD also suggest that the avoidance associated with the disorder develops as a result of negative reinforcement; thinking about or confronting stimuli associated with the trauma is aversive, so individuals with PTSD avoid doing so (Cahill & Foa, 2007). Mowrer's two-factor theory (1960) has been used to explain the development of PTSD in rape victims (Becker, Skinner, Abel, Axelrod, & Chichon, 1984; Kilpatrick, Veronen, & Best, 1985) and robbery victims (Resick, 1986) in addition to combat veterans (Keane, Zimmering, & Caddell, 1985).

Though the conditioning model of PTSD is appealing due to its simplicity, it has received some criticism for the inability to explain certain symptoms specific to PTSD. It does not account for the startle response often present in PTSD (and not present in other conditioned fear responses, like phobias), and it does not offer a sufficient explanation for the nightmares experienced in PTSD (Cahill & Foa, 2007)

Schema Theories. Based on Piaget's model of cognitive development (1971), schema theories of PTSD center on core assumptions and beliefs (schemas) about the self, the world, and others that shape interpretation of experiences (Cahill & Foa, 2007). These theories share the suppositions that traumatic experiences violate existing schemas, and that schemas must be modified through-accommodation in order to process traumatic events (e.g., Horowitz, 1986; Janoff-Bulman, 1992; McCann & Pearlman, 1993). Horowitz (1986) proposed that people need to match their trauma experience with their pre-trauma schemas, and that both sources of information must be revised repeatedly until they agree, which explains the re-experiencing phenomenon evident in PTSD. In schema models, avoidance results from the discomfort of confronting the difference between pre-existing schemas and the trauma, and also serves to perpetuate the symptoms of PTSD, as processing through re-experiencing is seen as a vital part of the schema modification process (Cahill & Foa, 2007).

Criticisms of schema theories highlight the vagueness of these explanations of PTSD, citing the focus on shifts in general beliefs about the self, others, and the world after trauma, rather than explaining the numerous specific symptoms of PTSD (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Another major criticism of schema models

is that they offer no explanation for the fact that not every person exposed to trauma develops PTSD (Cahill & Foa, 2007; Kessler et al, 1995).

Emotional Processing Theory. Emotional processing theory (Foa & Kozak, 1985; Foa & Kozak, 1986) posits that individuals who develop PTSD have a maladaptive fear structure in memory. A fear structure is a network of associated fear-related stimuli, responses and meanings that are activated upon encountering a stimulus that matches a representation within the structure. In PTSD, the fear structure is activated inaccurately in response to non-dangerous stimuli. This theory states that the fear response must be modified by activating fear (usually by re-telling the circumstances of the traumatic event or exposure to a feared stimulus) while encountering non-dangerous (and thereby incompatible) information (Cahill & Foa, 2007). This theory operates on the assumption that cognitive processes related to trauma and fear may or may not be consciously accessible. Emotional processing theory also supposes that the severity of PTSD symptoms increases based on the intensity of beliefs of "self-incompetence": a person's beliefs that the world is dangerous and he is powerless to protect himself (Foa & Rothbaum, 1998).

Much emotional-processing-theory research has focused on the use of this theory as a basis for developing therapeutic treatments for PTSD. This theory proposes that individuals who survive a trauma and do not develop PTSD have adequately processed the memory of the event, whereas those who develop chronic PTSD have not (Foa & Cahill, 2001). Consequently, treatment based on this theory involves prolonged exposure therapy, in which the individual is exposed to their memories of the trauma or stimuli associated with the event in order to process their experiences and confront inaccurate

fear responding (Cahill & Foa, 2007). Critics of the emotional processing theory of PTSD take issue with the focus on fear as the main emotional response to trauma, because trauma survivors report various emotional responses, such as disgust or bereavement, for which the emotional processing theory does not account (Dalgleish & Power, 2004).

Cognitive Models. The most salient cognitive model created to explain PTSD originated from Ehlers and Clark (2000). Prior to their relatively recent model, cognitive theory largely ignored PTSD, including it with the cognitive explanation of any other anxiety disorder: anxiety is an emotional response to cognitive interpretations (Beck, Avery, & Greenberg, 1985). Originally, cognitive theory addressed PTSD only briefly, noting that those with PTSD do not discriminate between safe and unsafe signals, and symptoms are perpetuated by thoughts that one is incompetent to handle stressful events (Beck, Avery, & Greenberg, 1985). The Ehlers and Clark (2000) cognitive model suggests that PTSD symptoms persist when individuals process traumatic events in a way that leads to a sense of current threat. This happens as a result of excessively negative cognitions about the traumatic event or its aftermath and memories of the event that are fragmented or poorly organized (Ehlers & Clark, 2000). Symptoms are maintained through a series of problematic cognitive strategies such as avoidance of stimuli associated with the trauma, selective memory of information from the event that is consistent with negative appraisals, and failure to identify triggering stimuli as non-dangerous (Cahill & Foa, 2007; Ehlers & Clark, 2000).

Criticisms of the Ehlers and Clark model note that avoidance is viewed as a byproduct of the pathology of PTSD rather than a main symptom (Cahill & Foa, 2007).

Also, criticism has focused on the fact that the model's suggested addition of cognitive therapy to prolonged exposure does not result in more efficacious therapy than prolonged exposure alone (Foa, Hembree, Cahill, Rauch, Riggs, Feeny, et al., 2005).

Risk and Protective Factors in PTSD

Research on risk factors for developing PTSD has reported conflicting results that suggest there is no universal formula that explains why everyone exposed to trauma does not develop PTSD. However, some risk factors have been established in the literature. In a meta-analysis of psychosocial risk factors for PTSD, Ozer, Best, Lipsey, and Weiss (2003) found that the severity of the traumatic event was positively correlated with the likelihood of developing PTSD, as did another meta-analysis by Brewin, Andrews and Valentine (2000). The severity of trauma has been defined by numerous features, and the literature indicates that PTSD is more likely to develop when the traumatic event involves injury (e.g., Acierno, Resnick, Kilpatrick, Saunders, & Best, 1999; Green, 1990, 1993), when the event is more grotesque (e.g., Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995), and when the individual is involved in the event rather than a witness (e.g., Breslau & Davis, 1987). Severity can also be defined by higher levels of subjective distress during the trauma event (e.g., King, King, Gudanowski, & Vreven, 1995) and dissociation at the time of the trauma (e.g., Ozer et al., 2003). In fact, the evidence suggests a particularly strong relationship between peritraumatic dissociation and the development of PTSD (Ozer et al., 2003).

Research has also focused on pre-existing psychological traits that are more like to result in PTSD after exposure to trauma. Attributes that increase the risk of PTSD in trauma survivors include female gender, younger age at the event, lower socioeconomic

status, lower education, lower intelligence, and ethnic minority status (Brewin et al., 2000; King et al., 2004). Psychiatric history also appears to play a role in increasing the risk of developing PTSD (Brewin et al., 2000; Ozer et al., 2003). Prior exposure to trauma increases the risk of a dysfunctional response to a subsequent trauma (Vogt, King & King, 2007), and exposure to trauma and family instability during childhood also increases risk (King et al., 1996). Significant family psychiatric history may also increase the likelihood of developing PTSD (e.g., Breslau, Davis, Andreski, & Peterson, 1991; Vogt, King, & King, 2007).

Throughout the literature, the best supported post-trauma characteristic that increases PTSD risk is a lack of social support (e.g., Brewin et al., 2000; Egendorf, Kadushin, Laufer, Rothbart, & Sloan, 1981; Keane, Scott, Chavoya, Lamparski, & Fairbank, 1985; Ozer et al., 2003; Vogt, King, & King, 2007). The presence of additional life stressors post-trauma also appears to have a detrimental impact on response to trauma (Brewin et al, 2000; Vogt, King & King 2007).

Studies specific to combat veterans show similar patterns. One study of Vietnam veterans showed that greater exposure to combat, perceived negative reception upon homecoming, and depression and anger in the post-deployment period predicted the development and a more chronic course of PTSD (Koenen, Stellman, Stellman, & Sommer, 2003). Positive reception upon homecoming appeared to result in better post-deployment adjustment (Koenen et al., 2003), perhaps because reception at homecoming sets the stage for interpreting combat experiences, and a positive reception bolsters the belief that deployment was meaningful and worth the sacrifice. In addition, this study found that greater levels of discomfort sharing war experiences predicted the

development of PTSD, and minority status and less community involvement predicted chronicity of the course of PTSD (Koenen et al., 2003). There is evidence that trauma symptoms for some may begin prior to combat as a result of anticipatory vigilance, as soldiers are trained to expect trauma exposure during deployment (Castro & Adler, 2011). Other research suggests a higher risk for developing PTSD if veterans experience anger, alienation, and guilt after returning home from deployment (Zamorski, Britt & Adler, 2011). These factors, if present, seem to grow stronger over time. Multiple deployments have been correlated with worse mental health outcomes including PTSD (Rona et al., 2007), and a longer duration of single deployments places soldiers at greater risk for PTSD and other mental health problems (Lapierre, Schwegler, & LaBauve, 2007). Unit cohesion also affects successful transitions to civilian life: more unit cohesion and exposure to other returning veterans are correlated with better mental health outcomes (Adler, Vaitkus, & Martin, 1996). Similarly, unit leadership is correlated with transition, as leaders who help soldiers derive meaning from deployment are at lower risk for PTSD and other mental health problems (Adler, Vaitkus, & Martin, 1996). In addition, lower ranking (enlisted) soldiers are more likely to report PTSD symptoms than are higher ranking officers or noncommissioned officers, suggesting that more training and preparation for combat, as well as having a position of leadership, are protective factors among veterans (Lapierre et al., 2007). There is some evidence that intergenerational trauma may play a role in combat-related PTSD as well: of the veterans who develop PTSD, symptoms and course are more severe than in those with PTSD whose fathers did not see combat (Rosenheck & Fontana, 1998). The literature is clear

that there are PTSD risk and protective factors unique to veterans and the combat experience.

Impact of PTSD

Recent research shows that the majority of men and women who serve in the military, and even those who are exposed to combat, remain psychologically healthy throughout the course of their lives (Manguen, Suvak, & Litz, 2006). However, the military combatants who do develop PTSD represent a significant public health concern. Veterans with PTSD are heavy medical and psychological service utilizers, often have significant comorbidity, and may or may not seek and receive the treatment they need (Manguen, Suvak, & Litz, 2006). Also, according to the APA's definition (2000), veterans with PTSD have difficulties with occupational, relational, and/or intrapersonal functioning that cause clinically significant distress.

Prevalence. The estimated prevalence of PTSD in the general US population is 7% (APA, 2000). Military veterans, along with victims of rape, genocide, and captivity, have notably higher rates of PTSD than the general population (APA, 2000). Estimates of PTSD prevalence in veterans span a wide range, depending on a number of factors. In a 1984 through 1988 government funded large-scale study of Vietnam veterans, prevalence of *current* PTSD was 15% for male and 9% for female veterans, assessed 15 to 20 years after exposure to combat (Kulka et al., 1990). This study estimated the lifetime prevalence of PTSD in Vietnam veterans at 31% for male and 27% for female veterans (Kulka et al., 1990). In a study of PTSD rates in the Gulf War, Kang and colleagues (2003) estimated that 10% of veterans met criteria for the disorder. The Gulf War was characterized by minimal combat, but continuous stress and arousal related to

the threat of chemical and biological warfare (e.g., Perconte, Wilson, Pontius, & Dietrick, 1993).

In the Afghanistan and Iraq wars since September 11, 2001, prevalence rates of PTSD vary across branches of the military and deployment station. In the a large-scale study of OEF/OIF veterans, Hoge et al. (2004) found that PTSD prevalence rates were 12% for Army soldiers deployed to Afghanistan, and 18 and 20% respectively for Army and Marine soldiers returning from Iraq. The differences in prevalence estimates have to do with the nature of the trauma experienced, such as exposure to firefights, exposure to dead bodies, killing an enemy, and the death of a peer (Hoge et al., 2004). In combat veterans returning from Iraq, the likelihood of developing PTSD increased with exposure to firefights during deployment, such that the prevalence rate in soldiers not exposed to a firefight was 4.5% and the rate for those exposed to more than five firefights was 19.3% (Hoge et al., 2004).

Comorbidity. PTSD is often comorbid with other psychological disorders. Overall, 37% of OEF/OIF veterans utilizing VA services receive a mental health diagnosis, and 62% meet criteria for two or more mental health diagnoses (Seal et al, 2009). In addition to PTSD, combat veterans are at high risk for generalized anxiety disorder (GAD) and depression (Hoge, Castro, Messer, McGurk, Cotting, & Koffman, 2004; Hoge, Auchterlonie, & Milliken, 2006). Sixteen to 29% of all service members meet criteria for one of these disorders 3 to 4 months post-deployment and 12 to 20% meet criteria for PTSD at 3 to 4 months post-deployment (Hoge et al., 2004). In addition to depression and generalized anxiety, PTSD is often comorbid with interpersonal difficulties and substance abuse. An estimated 20% of married deployed soldiers

reported marital distress (Adler, Bliese, & Castro, 2011) and 33% of OEF/OIF veterans enrolled in Department of Veterans Affairs (VA) health programs met criteria for a diagnosis of alcohol abuse (Erbes, Westermeyer, Engdahl, & Johnsen, 2007). Compounding the prevalent impact of mental health problems, soldiers returning from OEF and OIF often return with traumatic brain injury (TBI), chronic pain, severe physical injuries, amputations, and other major medical concerns. According to Hoge et al (2008), 12 to 15% of returning veterans reported a history and symptoms consistent with mild TBI, and TBI is often comorbid with PTSD, depression, and substance abuse (Hoge et al, 2008). In fact, TBI and PTSD have been called the "signature wounds" of the OEF/OIF wars (Tanielian & Jaycox, 2008, p.iii), due to their prevalence among veterans returning in the last decade.

Cost. The costs associated with treatment of PTSD are a significant concern. In the general US population, the prevalence rate of PTSD is 7 to 8%, and the yearly cost of treatment is estimated at $3 billion, including the loss of productivity associated with PTSD. Research also indicates that PTSD costs more than any other anxiety disorder, as the cost of services associated with the treatment of PTSD are higher (Marshall, 2000), and individuals with PTSD utilize more services (Greenberg et al., 1999) and PTSD is often comorbid with other mental health issues such as depression and substance abuse (APA, 2000).

In veterans, the economic cost of PTSD is significantly higher than in civilian populations. This is due to higher prevalence rates, and the fact that combat-related PTSD is often comorbid with not only mental health problems, but serious physical and neurological injuries as well (Hoge et al., 2004). The current estimated cost of PTSD in

veterans of OEF/OIF is broken into several categories. The cost of compensation payments from the military is an estimated $3.4 billion per year, and the cost of medical care, productivity loss, and suicides due to PTSD is estimated at $4 to $6 billion over two years (Kilmer, Eibner, Ringel, & Pacula, 2011, Tanielian & Jaycox, 2005). These estimates do not include the cost of training healthcare providers in evidence-based treatments of PTSD, nor the cost of research on the most effective treatments for PTSD.

CHAPTER 3

Assessing and Understanding PTSD

Since the inclusion of PTSD in the DSM, research has focused on how to measure accurately this complex constellation of symptoms. Because PTSD can present quite differently across individuals and is often comorbid with depression, other anxiety disorders, and substance abuse, the issue of how properly to assess PTSD is a significant challenge. There are a number of methods typically used to go about measuring and diagnosing PTSD, including questionnaires, structured clinical interviews, and narrative accounts.

Questionnaires

PTSD, like other clinical disorders, is often assessed, at least in part, through the use of questionnaires. These are typically delivered as paper and pencil, self-report assessments. The advantages to the use of questionnaires are convenience, minimal training required for administration, and cost effectiveness.

Impact of Event Scale-Revised (IES-R). The Impact of Events Scale (IES; Horowitz, Wilner, & Alvarez, 1979) was the first self-report measure of symptoms in response to a specific traumatic stressor. The 15-item scale was designed to assess intrusive symptoms, such as nightmares and flashbacks, and avoidance symptoms, such as avoiding event-related stimuli and emotional numbing (Weiss & Marmar, 1997). The revised 22-item IES-R was produced after the publication of the DSM-IV to include symptoms of hyperarousal (IES-R; Weiss & Marmar, 1997. Thus, the IES-R more closely parallels DSM-IV criteria for PTSD. Respondents rate "how distressed or bothered" they were during the past week by each symptom, on a 5-point scale.

Questions focus on intrusion symptoms (e.g., "Any reminder brought back feelings about it"); avoidance symptoms (e.g., "I was aware that I still had a lot of feelings about it, but I didn't deal with them"); and hyperarousal symptoms (e.g., "I felt watchful and on guard"). The IES has been used with many different trauma populations and takes approximately 10 minutes to complete.

Weiss and Marmar (1997) reported good internal consistency for each of the subscales (Intrusion, Avoidance, and Hyperarousal). Test-retest reliability data from a review yielded a wide range of reliability coefficients for the subscales, and the authors suggested that the IES-R requires further testing (Sundin & Horowitz, 2002).

Mississippi Scale for Combat-Related PTSD (MPTSD). The 35-item Mississippi Scale (MPTSD; Keane, Caddell, & Taylor, 1988) is widely used to assess combat-related PTSD symptoms. Respondents rate, on a Likert scale, the severity of their symptoms "since the event," and rated symptoms are based on the DSM-III criteria and associated features of PTSD (Keane, Brief, Pratt, & Miller, 2007). Questions on the MPTSD assess symptoms including guilt (e.g. "I do not feel guilt over things I did in the military" [scored negatively]); flashbacks (e.g., "Daydreams are very real and frightening"); nightmares (e.g., "I have nightmares of experiences in the military that really happened"); emotional numbness (e.g., "It feels as if I have no feelings"); social isolation (e.g., "I enjoy the company of others"); and suicidal ideation (e.g., "Lately I have felt like killing myself"). The scale provides a symptom severity score and diagnostic information and takes 10-15 minutes to administer.

The MPTSD is considered psychometrically sound, with high internal consistency, test-retest reliability, sensitivity, and specificity (Keane et al., 2007). It is

consistent across veterans with and without substance use disorders, suggesting that it measures PTSD symptoms and not the effects of substance use, which is important given the high comorbidity of PTSD with substance use disorders (McFall, Smith, Mackay & Tarver, 1990). The scale has good convergent validity with other PTSD scales, and is considered a useful self-report tool for assessment of combat-related PTSD (Keane et al., 2007; McFall, et al., 1990)

PTSD Checklist (PCL). The PTSD Checklist (PCL; Weathers, Litz, Herman, Huska, & Keane, 1993) is a 17-item scale designed to measure either symptom severity in PTSD or indicate diagnostic status, depending on the scoring procedure used. The original PCL was based on DSM-III criteria but was updated to assess the 17 PTSD criteria in the DSM-IV. There are three versions of the scale: civilian (PCL-C), event-specific (PCL-S), and military (PCL-M), which focus on any lifetime stressful event, one specific stressful event, and military-specific stressful events, respectively (Keane et al., 2007). Respondents rate, on a 5-point scale, how much each problem has bothered them during the past month. The PCL items ask respondents to rate symptoms such as flashbacks (e.g., "Repeated, disturbing memories, thoughts or images of a stressful military experience"); nightmares (e.g., "Repeated disturbing dreams of a stressful military experience"); hypervigilance (e.g., "Feeling jumpy or easily startled"); avoidance (e.g., "Avoiding thinking about or talking about a stressful military experience or avoiding having feelings related to it"); etc. (Norris & Hamblen, 2003).

The PCL has been used widely in research and clinical settings and takes 5 to 10 minutes to administer. The measure was originally validated on a sample of Vietnam and Gulf War veterans and was found psychometrically sound (Weathers, et al., 1993). The

updated PCL-M shows high internal consistency (Norris & Hamblen, 2003; Keen, Kutter, Niles, and Krinsley, 2004), and a high degree of correlation with clinician-administered measures of PTSD (Norris & Hamblen, 2003).

Structured Clinical Interviews

Structured clinical interviews combine a clinical interview with a set of specific questions that lead the interviewer to a diagnosis. Structured clinical interviews are often used as diagnostic tools in research but are less often used in clinical settings as they are more time-consuming than questionnaires and require specialized training to master their administration (Keane, Brief, Pratt, & Miller, 2007). Structured clinical interviews do, however, appear to improve diagnostic accuracy for PTSD (Litz & Weathers, 1994).

Structured Clinical Interview for DSM-IV (SCID-IV). The SCID-IV (First, Spitzer, Williams, & Gibbon, 2000) assesses a broad range of Axis I and II disorders based on their symptoms listed in the DSM-IV. The clinical interviewer follows a series of specific prompts and follow-up questions, rating symptom confidence on a 3-point scale according to the interviewer's evaluation of the examinee's answers. The assessment of PTSD symptoms is based on the individual's self-identified worst trauma experience. The administration of the entire SCID-IV is time consuming, but the SCID-IV is arranged in modules so the interviewer can limit questions to PTSD and disorders that are often comorbid (Keane et al., 2007). The SCID-PTSD module is considered psychometrically sound, with interrater reliability of .66 to .68 in a study by Keane and colleagues (1998). The original version of the SCID PTSD module (SCID for DSM-III-R; Spitzer, Williams, Gibbon, First, 1990) showed high convergent validity with other measures of PTSD (McFall, Smith, Roszell, Tarver, & Malas, 1990).

The SCID does have some limitations. The scoring algorithm allows for only a dichotomous rating (present or absent), and is thereby insensitive to dimensional information (Keane, Weathers, & Foa, 2000) and information about frequency and severity of symptoms (Keane et al., 2007). The SCID is also limited in its assessment only of an individual's perceived "worst event," which may leave out information about other traumatic events (Cusack, Falsetti, & de Arellano, 2002).

Clinician Administered PTSD Scale (CAPS). The CAPS (Blake, et al., 1990) is the most widely used structured clinical interview for diagnosing and assessing the severity of PTSD (Keane et al., 2007). The CAPS is designed with specific prompts focused on each of the 17 criteria in the DSM-IV-TR (APA, 2000), as well prompts focused on associated guilt and dissociation. Each prompt asks the respondent to describe the frequency and intensity of symptoms. For example, the clinician prompts and follow up questions for Criterion B (flashbacks) are as follows:

"Frequency

Have you ever had unwanted memories of (EVENT)? What were they like? What did you remember?

IF NOT CLEAR: Did they ever occur while you were awake, or only in dreams?

[EXCLUDE IF MEMORIES OCCURRED ONLY DURING DREAMS]

How often have you had these memories in the past month (week)?

0 Never

1 Once or twice

2 Once or twice a week

3 Several times a week

4 Daily or almost every day

Intensity

How much distress or discomfort did these memories cause you? Were you able to put them out of your mind and think about something else? How hard did you have to try? How much did they interfere with your life?

0 None

1 Mild, minimal distress or disruption of activities

2 Moderate, distress clearly present but still manageable, some disruption of activities

3 Severe, considerable distress, difficulty dismissing memories, marked disruption of activities

4 Extreme, incapacitating distress, cannot dismiss memories, unable to continue activities" (Blake et al., 1990).

Prompts and follow up questions are similar in style for each symptom in the DSM-IV-TR PTSD criteria. The whole interview takes 1 hour, but can be shorter if only the prompts for the 17 DSM symptoms are used. For each criterion, the interviewer can rate the frequency and severity of symptoms and add them together to arrive at a severity score for each symptom (Keane et al., 2007).

The CAPS has good reliability and validity. Interrater reliability estimates range from .91 for measures of symptom frequency, .91 for intensity, and .92 for severity (Weathers, Ruscio, and Keane, 1999). The CAPS total severity score also correlates well with other measures of PTSD and has been used successfully in a broad range of trauma-

exposed populations, including combat veterans and survivors of rape, crime, car accidents, incest, torture, and the Holocaust (Weathers, Ruscio, & Keane, 1999).

PTSD Symptom Scale Interview (PSS-I). The PSS-I (Foa, Riggs, Dancu, & Rothbaum, 1993) is designed to assess the severity of symptoms in individuals with a known trauma history. It contains 17 questions that correspond to each of the DSM PTSD criteria and asks respondents how often and how intensely they experienced symptoms over the past two weeks (e.g., "Have you had recurrent or intrusive distressing thoughts or recollections about [the event]?"). Responses are rated by a health professional as a combined frequency/severity score from zero (not at all) to 3 (5 or more times per week/very much). The PSS-I has high interrater reliability (.91; Foa, et al., 1993) and correlates well with other measures of PTSD (Keane et al., 2007).

One major criticism of the PSS-I is that the prompts ask about symptoms over the past two weeks, but the DSM criteria for PTSD require one month duration for diagnosis (Keane, 2007). The PSS-I was normed on survivors of rape and sexual assault, and appears to be a good measure of PTSD in that population (Foa, et al., 1993).

Structured Interview for PTSD (SIP). The SIP (Davidson, Smith, & Kudler, 1989) a structured interview designed to diagnose PTSD and assess severity. It has prompts asking about each of the 17 DSM criteria, as well as items focused on survivor guilt and behavior guilt, all rated on a Likert scale. The SIP has initial prompts and specific follow-up questions, and takes 10 to 30 minutes to administer, depending on symptom severity.

In a sample of military combatants, Davidson and colleagues (1989) reported high interrater reliability (.97–.99) on total SIP scores and perfect agreement on the presence

or absence of PTSD across raters. In their study, the SIP correlated significantly with other measures of PTSD (Davidson et al., 1989).

Anxiety Disorders Interview Schedule-Revised (ADIS-R). The ADIS (Di Nardo, O'Brien, Barlow, Waddell, & Blanchard, 1983) was originally designed to aid in differential diagnosis among anxiety disorders in the DSM-III, and was revised to accommodate DSM-IV criteria in 1994. The ADIS-R (DiNardo, Brown, & Barlow, 1994) includes both categorical and dimensional assessment of symptoms and provides information about subclinical symptoms of each disorder along with diagnostic information. Psychometric studies of the ADIS-PTSD module are mixed, with reports of high sensitivity and specificity (Blanchard, Gerardi, Kolb, & Barlow, 1986) but reports of interrater reliability that are fair but not high (.55; DiNardo, Moras, Barlow, Rapee, & Brown, 1993). Further reliability and validity studies are warranted if the ADIS-PTSD module continues to be used diagnostically.

Narrative Accounts

Scholars and writers from many areas of study have attempted to understand the experience of PTSD by gathering personal narratives from trauma survivors. These accounts are not scientifically measured; rather, they are subjective reports of an individual's interpretations of and reflections upon his or her experience. Personal accounts, while not offering the relatively more organized data of questionnaires and clinical interviews, often provide a depth of detail difficult to ascertain through questionnaire methods. For example, Schroder and Dawe (2007) compiled the personal stories of five Vietnam veterans diagnosed with PTSD into a book entitled *Soldier's Heart*. Across these accounts, the DSM-IV-TR criteria for PTSD are described vividly in

the context of lived experiences. One woman, a U.S. Air Force nurse who served in Vietnam, described her combat-related nightmares:

> My nightmares consisted of a variety of intense feelings and images, but the scenes were not distinct or well-framed. Submerged in a sea of mud, green and brown, red and black all smeared together, I smelled blood, gore, dirt, and leftover scotch and beer. I was trapped inside that place like inside a balloon. I'd search and search but find no way to move forward—no light on any horizon—no way out. Then, I'd wake up exhausted, soaking wet, and crying. Night after night, always the same. (Sundling, 2007, pp. 28).

A U.S. Navy veteran who had deployed to Vietnam described his symptom of detachment from others after returning home:

> As I traveled America's heartland, my own country seemed strangely foreign to me. I knew I couldn't go home again, but the thought of returning to navy life, even for a few months, repelled me. I believed I fit in somewhere, that I'd find peace of mind if I searched long enough, but just then, I couldn't imagine where. (Sekol, 2007, pp. 99)

A veteran member of the U.S. Army Airborne Ranger Infantry in Vietnam gave an example of the disorienting experience of a flashback:

> If I drove past a park or glimpsed a billboard that depicted greenery, I was immediately whisked back to Vietnam. In a way, the flashbacks were worse than the night terrors. When a nightmare ended, at least I woke up in a bed. During the day, I could not account for the missing time I spent flashing back. Frequently, I'd 'come to' after a flashback in my car or in a restaurant and not

have a clue how I got there, what I did, or whom I encountered while away. (Lee, 2007, pp. 139)

Combatants often note experiencing clusters of symptoms in personal accounts, describing the overlap of flashbacks, hypervigilance, and associated emotions, such as guilt (e.g., Paulson & Krippner, 2007; Schroder & Dawe, 2007). For example, Marlin Jackson, a U.S. Marine who was 17 when he deployed to Vietnam recalled:

> I jumped at the slightest noise in the barracks, and then lay for hours reliving shootouts.
>
> I went over in my mind how I could have done things differently and saved a life instead of taking it. (Jackson, 2007, pp. 56).

Narrative accounts of trauma experiences are not limited to symptoms listed in the DSM, of course. Many accounts include descriptions of the development of substance abuse disorders, suicidal ideation, and relationship difficulties after a traumatic event (e.g., Paulson & Krippner, 2007; Schroder & Dawe, 2007; Shay, 1994). These accounts often describe the sense of foreboding that leaves trauma survivors increasingly hypervigilant, the difficulty explaining their war and posttrauma experiences that leaves survivors isolated, and the desperation that drives many to self-destruct. In his book *Achilles in Vietnam*, Shay (1994) explained the devastating effects of combat exposure and the development of PTSD on the entire lives of the Vietnam veterans he had seen for therapy. He described "the ruins of character" left by combat-related PTSD, especially the enduring personality changes, including mistrust of the world, social withdrawal, feelings of hopelessness, and chronic feelings of being "on the edge" (Shay, 1994,

pp.169). Personal narratives can be a powerful medium for understanding and exploring the experiences of individuals with PTSD.

Methodological Issues in the Assessment of PTSD

Traditional methods of assessing and understanding PTSD, such as questionnaires and clinical interviews, present a number of problems in apprehending accurate information about experience. Difficulties inherent in these methods include the fallibility of memory, the possibility of self-presentation bias, and the impact of questionnaire characteristics on responding.

Memory. Questionnaires and structured interviews tend to rely on retrospective, global assessments of experience, that is, on an individual's beliefs about him or herself in general. Logically then, a construct is measured accurately by self-report only to the extent that the individual is able accurately to tell about the events or characteristics of interest. When participants make judgments about the nature and frequency of their cognitions, accuracy becomes an issue (Hurlburt, Heavey, & Seibert, 2006). In fact, several studies suggest that a major disadvantage of using retrospective reports in obtaining information about experience is reliance on potentially inaccurate recall of past events (e.g., Ebner-Priemer et al., 2006; Solhan, Trull, Jahng, & Wood, 2009; van den Brink, Bandell-Hoekstra, & Huijer Abu-Saad, 2001). Research suggests that as time passes between an event and the recollection of that event, ability to recall detail declines (Ericsson & Simon, 1980; Kahneman & Tversky, 1982). Research indicates that autobiographical memory is particularly vulnerable to decreases in accuracy over time; specific details fade so that memories of events in one's own life become increasingly general (Conway & Pleydell-Pearce, 2000; Williams, 2006). According to current

memory paradigms, as contextual details of a memory are lost, the memory shifts from episodic (details specific to an event) to semantic (general and conceptual), which leaves the memory susceptible to retrospective biases, such as the tendency to recall and report experiences consistent with one's own beliefs (Robinson & Clore, 2002).

Another problem with self-reports arises with the influence of mood on memory (Ellis & Moore, 1999). Research indicates that individuals tend to have better memory for information that is congruent with their moods at the time of retrieval (Blaney, 1986). If a respondent is distressed while filling out a questionnaire or responding to questions about a traumatic event, he or she may be more likely to recall more negative information, and to endorse negative affect as more frequent and severe.

The limitations of memory also pose a problem when individuals are asked to recall specific instances of a particular phenomenon (Larsen & Conway, 1997). For example, a questionnaire might ask a respondent to recall the approximate number of times over a specific period that he or she felt detached from others. Research indicates that when asked frequency questions, people do not recall individual instances and count them; rather, they recall one specific instance and estimate based on that (Bradburn, Rips, & Shevell, 1987; Sudman & Schwarz, 1989). In addition to the likely inaccuracy of such estimations, this type of recall and extrapolation is problematic for research aimed at understanding the details of experience. For example, when asked about the frequency of detachment, participants may not recall every instance (or even most instances) of detachment (or other inner experience). Without having been asked previously to pay special attention to each moment of feeling detached, a person is likely not to notice each particular instance. Furthermore, if an individual is asked to pay special attention to detachment, the detachment will be altered by the act of focusing on it.

The memory distortions associated with trauma are well documented, and trauma has at times been referred to as a disorder of memory (e.g., Brewin, 2007). In addition to the frequently reported fragmented and vague recollections of the traumatic event itself, individuals with PTSD exhibit deficits in memory for non-trauma related events as well (Buckley, Blanchard, & Neill, 2000). In particular, research indicates that individuals with PTSD exhibit impaired verbal declarative memory and overgeneralized autobiographical memory (Buckley, Blanchard, & Neill, 2000; Golier & Yehuda, 2002; Schonfeld & Ehlers, 2006). These findings suggest that individuals with PTSD have difficulty retrieving and verbalizing specific autobiographical events (related to trauma and not), and instead tend to offer abstract or general memory content (e.g., they summarize and combine several different events; McNally, Litz, Prassass, Shin & Weathers, 1994; Buckley, Blanchard, & Neill, 2000). Explanations of these deficits have suggested that the emotional numbing present in PTSD is governed by the same protective strategy that makes recall for specific events less clear (Buckley, Blanchard, & Neill, 2000). Given that research suggests memories become more general over time in healthy individuals, the added distortions in recall related to PTSD further complicate the use of self-report measures that retrospectively ask about specific events or experiences in assessing the disorder.

Question Characteristics. The phrasing of self-report measure questions can influence a respondent's answers (Schwarz, 2008). Norenzayan and Schwarz (2006) examined how changing one word on a questionnaire impacted participant responses. In one group, the 20-open-ended-question measure was printed on letterhead reading "Institute of Political Research," while in a second group, the same questionnaire was

printed on "Institute of Psychological Research" letterhead. Significantly more responses focused on socially meaningful aspects of the self (such as political party affiliation and ethnicity) when participants believed the questionnaire originated in the Institute of Political Research than when they believed the questionnaire originated in the Institute of Psychological Research. These results suggest a notable impact of wording on response patterns, which presents a problem when the assessment and understanding of experienced phenomena such as PTSD symptomatology relies on information gathered through questionnaires (Ferrando & Anguiano-Carrasco, 2010).

There are a variety of other methodological difficulties that are potentially problematic when using questionnaires. At the most basic level, researchers use questionnaires with the assumption that respondents are literate, have unimpaired language comprehension, and are in a psychological state of mind to respond accurately to questions (Kessler, Wittchen, Abelson, & Zhao, 2000). Respondents may have difficulty understanding questions due to individual language impairments or due to ambiguous phrasing that requires interpretation. This can be the case with rating scales, and particularly when the rating scale changes within one questionnaire. For example, some questions on the MPTSD are rated from 1 (*never*) to 5 (*very much so*), others from 1 (*not at all true*) to 5 (*extremely true*) and still others from 1 (*never*) to 5 (*very frequently*). The PCL-M asks respondents to indicate the extent to which they are bothered by the symptoms listed, without establishing the extent to which respondents experience the symptoms listed. Though subtle, if misinterpreted, this distinction could have a serious impact on responding, and would likely go unnoticed by investigators.

Other problems with the nature of questionnaires include respondents potentially neglecting to read instructions fully or not paying attention to time-specific references.

Procedural Issues. In addition to the problems of retrospective recall and questionnaire characteristics inherent in self-report measures, procedural issues such as demand characteristics, reactivity, and ecological validity can arise in the use of these measures to gather descriptions of experience. Demand characteristics include any part of the experimental situation that gives the participant ideas about what the researcher expects, or elicits unnatural behaviors from the participant. Demand characteristics can include hypothesis guessing, anxiety about being assessed, and other unintentional side effects. Social desirability bias occurs when participants respond to a question in what they believe is a socially acceptable manner (Fisher, 1993). Studies show the power of this bias to decrease, exaggerate, or moderate statistical relationships (Zerbe & Paulhus, 1987); increase measurement error (Cote & Buckley, 1988); and influence variable means (Peterson & Kerin, 1981). Thus social desirability is a concern in using self-reports to assess experience, and may be a particular problem in structured clinical interviews, as they lack the relative anonymity of questionnaires. Research has been clear about the guilt and shame experienced by individuals with PTSD, and their difficulty discussing their experiences with others (Hoge et al., 2004), factors which seem likely to play a restrictive role in clinical interviews in particular. This may be especially limiting within the veteran population, as military culture discourages emotional expression (Hoge et al., 2004) and active military members may fear for their jobs if they disclose information about a perceived weakness (Hoge et al., 2004). Questions aimed at assessing behaviors potentially associated with shame (e.g., questions about tearfulness,

substance use, or fearfulness) are especially susceptible to self-presentation bias (Schaeffer, 2000), a risk compounded by the fact that these behaviors may be viewed as especially embarrassing or shameful in a mostly male veteran population due to social stigma.

The issue of ecological validity presents another disadvantage to using questionnaires and structured interviews. Ecological validity refers to an experiment's degree of approximating the real world (Brewer, 2000). According to Hurlburt (1997), the traditional experiment will not be ecologically valid because it attempts to create one condition that is identical across all participants. For ideal ecological validity, participants should be evaluated in their everyday environments with as little interference from the experimenter as possible. Behavior and responses observed in a controlled experimental environment may not translate entirely accurately to a participant's daily, lived experience.

In summary, traditional methods of gathering data about PTSD are necessary and useful; however, they are vulnerable to a number of problems, including memory decay, influence of the questions themselves, and self-presentation bias. These factors are especially salient in the combat veteran and PTSD populations, given the guilt and shame often associated with the disorder, the known memory deficits among those with PTSD, and the stigma surrounding the sharing of experience and emotion in military culture. Retrospective accounts cannot fully capture the moment-to-moment experience of a combat veteran with PTSD, and precise information about how and when symptoms of PTSD are experienced is nearly impossible to obtain through these methods. Furthermore, the current conceptualization of PTSD is based on a perceived

phenomenological understanding of the disorder, though there is very little phenomenological information about the experience of individuals with PTSD. Without systematic exploration of the experience of PTSD, there cannot be a clear understanding of the phenomenology of PTSD.

Narrative accounts of PTSD may provide more depth of understanding than questionnaires and interviews, but they are not systematic, and also rely on retrospective recall. These accounts are also problematic as they may take on a mythological, hyperbolic quality when individuals have an amplified perception of the traumatic event or experiences since then. In his book *War and the Soul*, Tick (2005) discusses the transcendent quality acquired by mundane events that surround a trauma, and the "mythic arena of war" in particular that causes storytellers to recount their traumatic experiences in "fantastic" terms (Tick, 2005, pp. 28). This may be due in part to audience expectations, emotional biases, repeated retellings of the incident, and self-talk that can shape the memory over time and lead to distorted recollections of the experience (Paulson & Krippner, 2007). While these accounts are useful in understanding some of the feelings and interpretations associated with a traumatic event, they do not inform us about the inner experience of the individual in a systematic, phenomenological sense.

While much of the literature about PTSD is based on a perceived understanding of its phenomenology, many reviews and studies focus on the DSM-IV criteria, not information about the lived experience of PTSD (e.g., McFarlane, 2010). Even reviews specifically focused on exploring phenomenology assume understanding of the experience of PTSD based on retrospective self-reports of the frequency of DSM-IV symptoms (e.g., Friedman, 2009). Frueh, Elhai, and Kaloupek (2004) note the problem

of relying on retrospective recall to gather information about the frequency of symptoms, as well as the limitations of our current understanding of PTSD:

> Most importantly, our understanding of the phenomenological characteristics of PTSD, as with virtually all psychiatric disorders, must be considered tentative; our current acceptance of PTSD prevalence rates must be considered preliminary; and our reliance on PTSD assessment instruments must be tempered with cautious skepticism and awareness that these measures are inherently developmental in nature (Frueh, Elhai, & Kaloupek, 2004; pp. 66-67).

It is clear that the phenomenology of PTSD is not fully understood, and cannot be fully understood relying only on retrospective recall. An introspective, phenomenological approach that minimizes reliance on retrospection is required to clarify our understanding of the day-to-day experience of the symptoms discussed so frequently in the literature.

Inner Experience

In efforts to resolve some of the problems associated with traditional assessment methods, researchers have developed methods aimed at accessing experience without retrospective recall. These methods include electronically cued checklists, such as Experience Sampling Method (ESM; Csikszentmihalyi, Larson, & Prescott, 1977) and Ecological Momentary Assessment (EMA; Shiffman & Stone, 1998); Think Aloud (Ericsson & Simon, 1984) and Articulated Thoughts in Simulated Situations (ATSS; Davison, Robins, & Johnson, 1983); thought listing (e.g. Cacioppo & Petty, 1981); and diary methods. These methods attempt to decrease reliance on retrospection and increase ecological validity; however, many of these methods use pre-determined questionnaires

to inquire about experience. Still, dependence on retrospective recall of traditional methods is diminished.

Researchers have used these alternative methods to study anxiety disorders. For example, Hong (2010) examined the relationship between neuroticism and anxiety sensitivity using ESM, and Thewissen and colleagues (2011) investigated the emotional correlates of paranoia. EMA has been used to study, among other topics, social anxiety and marijuana use (Buckner, Crosby, Wonderlich, & Schmidt, 2012), emotional reactivity and anxiety in youth (Tan et al., 2012), and the relationship between social anxiety and anger (Kashdan & Collins, 2010). ATSS has been used to examine heterosexual anxiety in men (Bates, Jackson, & Lawrence, 1996) and fear of flying (Möller, Nortje, & Helders, 1998). Some studies have used thought listing to investigate social anxiety (Heinrichs & Hofmann, 2005) and test anxiety (Blankstein, Flett, Boase, & Toner, 1990), and others have used diary methods to examine generalized anxiety disorder (Starr & Davila, 2012) and the relationship between social anxiety and alcohol abuse (O'Grady, Cullum, Armeli, & Tennan, 2011).

There are not many studies specifically focused on PTSD using experience sampling type methods, but there are some. Diary methods have been used to study sleep patterns in individuals with PTSD. In a study using sleep diaries, in which participants recorded the times they slept and woke, Wallace and colleagues (2011) found that OEF/OIF veterans with PTSD and mild TBI reported poorer sleep than did veterans with PTSD and no TBI. In a study of trauma survivors, Mellman and colleagues (2001) examined dream diaries and found that participants who reported distressing trauma dreams exhibited more severe PTSD symptoms. David, DeFaria, and Mellman (2006)

examined the efficacy of risperidone in treating chronic insomnia in veterans with PTSD diagnoses, and used sleep diaries to measure outcomes. Their results suggested that treatment with risperidone could improve sleeping patterns in veterans with PTSD. Swanson, Favorite, Horin, and Arnedt (2009) investigated the efficacy of a combined cognitive-behavioral and exposure therapy treatment in treating veterans with PTSD who experienced insomnia and nightmares. Participants kept sleep and dream diaries, in addition to answering questionnaires about sleep quality.

One study used ESM to examine symptoms of PTSD and exposure to violence in relation to time spent in risky and protective environments in African American youth living in urban settings (Richards et al., 2004). Risky environments included situations without adult supervision, such as unstructured, unmonitored time with peers, and protective environments included time with families and time in structured activities. In this study, participants carried watches and questionnaire booklets for one week, and answered a pre-programmed set of questions about their location, whom they were with, what they were doing, and what they were feeling and thinking each time the watch signaled, approximately every two hours throughout the day. The results indicated that youths who spent more time in risky environments were more likely to be exposed to violence and had higher rates of distress measured by a PTSD symptom scale.

Lardinois, Lataster, Mengelers, van Os, and Myin-Germeys (2011) used ESM to study the effects of childhood trauma on stress reactivity in adults with psychosis. Participants first filled out a self-report questionnaire on childhood traumatic events. Then, each participant carried a watch and booklet for six days, and responded to a signal by recording their location, activity, company, mood and thoughts, along with rating the

severity of their psychotic symptoms on a Likert-type scale. Participants rated the degree to which they felt five negative affect words (down, guilty, insecure, lonely, and anxious). Participants rated the degree to which their current activity was pleasant or unpleasant. In addition, participants reported the most significant thing that had happened since the last signal and rated the pleasantness or unpleasantness of that event. The study found that individuals with more incidents of childhood trauma reported higher instances of negative affect and higher stress reactivity to unpleasant events.

Pfaltz, Michael, Grossman, Margraf, and Wilhelm (2010) investigated the bodily symptoms of anxiety in individuals with PTSD and panic disorder (PD) using EMA. Participants in this study used a Palm Tungsten E handheld computer to respond to a pre-programmed set of questionnaires rating symptoms of PTSD, PD, depression, sleep, and bodily symptoms of anxiety every three hours for eight consecutive days. Their findings suggest that physical anxiety symptoms in PTSD and PD are unstable across time, and individuals with PTSD report more fluctuations in physical symptoms than did individuals with PD.

One study examined cigarette smoking patterns in veterans with PTSD (Beckham et al., 2008). Participants in this study were asked to respond to a series of questions about stress and symptoms of PTSD prior to each cigarette they smoked, as well as randomly, at the sound of a signal from a Palm Tungsten E device. The results of the study indicated that veterans with PTSD were more likely to smoke in response to negative affect and PTSD symptoms.

Another study used diaries to examine the relationship between social anxiety, well-being, and character strength in combat veterans with PTSD (Kashdan, Julian,

Merritt, & Uswatte, 2006). In this study, researchers compared scores on questionnaires related to social anxiety, well-being, and character strength to daily reports on how frequently the participants experienced six positive affect variables (e.g., happy, proud, interested) and six negative affect variables (e.g., angry, anxious, frustrated). Participants rated the affect variables at the end of each day for 14 days. The authors did not find a significant correlation between a PTSD diagnosis and these variables, though they did note that participants with PTSD diagnoses reported lower levels of well-being than did controls (Kashdan et al., 2006).

As far as we can determine, there is little research that carefully investigates the inner experience among veterans with PTSD diagnoses. One method of examining inner experience that seems well suited to studying veterans with PTSD is the Descriptive Experience Sampling method (DES; Hurlburt, 1990, 1993).

DES is an idiographic, exploratory variant of inner experience sampling methods that is intended to gather faithful descriptions of an individual's inner experience at a given points in time (Hurlburt & Heavey, 2006). DES describes inner experience as whatever is present in conscious awareness at any moment (Hurlburt & Heavey, 2002, 2006). DES gathers descriptions of an individual's inner experience at randomly selected moments in time, and characterizes a series of these "beeped experiences" to understand the salient characteristics of the individual's experience as they emerge (Hurlburt, 2011a). DES is aimed at gathering "pristine" accounts of inner experience, that is, accounts of experience that happen naturally, in an everyday environment, unchanged by the act of observation (Hurlburt, 2011a).

In DES, participants carry a beeper in their everyday environments. The beeper emits a beep through an earphone at random times, and participants are asked to respond immediately to that beep by writing down notes about whatever was in their experience at "the last uninterrupted moment before the beep sounded"; DES also refers to that as the "moment of the beep." The participant then resets the beeper and continues on with his or her everyday activities. This process is repeated several (usually six) times on a sampling day. As soon as possible, and within 24 hours, after six (or so) beeps are collected, an "expositional" interview takes place. During this interview, the participant and experimenters discuss each beeped moment in an effort to develop as clear, detailed, and precise an understanding of the moment as possible. Investigators ask various forms of the question "What was in your experience at the moment of this beep?" to help participants discuss experience. In focusing on pristine experience, DES distinguishes clearly between the last uninterrupted moment before the beep sounds ("the moment of the beep"), what comes into awareness as a result of the beep, what was happening in the environment, and what was being experienced before the moment of the beep (Hurlburt & Heavey, 2006; Hurlburt, 2011a). DES focuses as much as possible on unaltered experience at the moment of the beep. Exactness about the moment of the beep reduces the possibility for contamination due to retrospection, interpretation, or explanation on the part of the participant, as anything not directly experienced in the moment is eliminated from consideration. Background information and context can be vital to faithful apprehension of experience at some moments, but this information is never the true focus of DES (Hurlburt, 2011b) These highly specific parameters of what constitutes the moment also assist in ensuring that the interviewer and interviewee are

focused on and talking about the same instant, and thereby, the same inner experience. Though DES focuses on a very specific moment, that moment can be part of an ongoing experience (Hurlburt, 2011b). In these cases, the focus is still on the experience at the moment of the beep, but understanding the ongoing experience may play a role in fully apprehending the moment of interest (Hurlburt, 2011b). Participants are allowed to decline to discuss any beep for any reason they wish, with no further questions about it.

Participants collect beeps and are interviewed on several different days, in order to "iteratively" build the skills necessary to apprehend and communicate inner experience (Hurlburt, 2009; Hurlburt, 2011a). DES is necessarily an iterative process because introspection is a learned skill (Hurlburt, Koch, & Heavey, 2002) that is not easy but often possible with training (Hurlburt & Heavey, 2003). Attending to and reporting on the moment of the beep is a process that benefits from practice over several attempts. DES does not place any specific demands on what type of experience the participant should focus on, and is, in this way "open-beginninged." Samples are taken from whatever naturally happens to be ongoing in an individual's daily activities. Because the topic of DES interviews depend on a person's unique experiences, neither participant nor interviewer has a clear idea of what types of questions will be asked before discussing the first sampling day's beeps. The participant learns, over the course of several sampling days, what the experimenter is interested in knowing about his or her experience. This multiple-day process allows participants to obtain samples of experience at different points in time, as well as obtaining samples of various moments in the same day. At times, participants take longer to gain a working understanding of what is being asked of

them, but the majority of participants become proficient at apprehending and reporting their experience over the course of about three days (Hurlburt & Heavey, 2006).

"Bracketing presuppositions" is a vitally important aspect of the DES interview. Presuppositions are preconceived ways of apprehending something and can cause us to ignore evidence that could change our minds (Hurlburt, 2011a). Presuppositions exist and are maintained without evaluation and interfere with the ability to experience the world as it is (Hurlburt & Heavey, 2006). Presuppositions "exist as part of the unexamined fabric of our understanding of the world" (Hurlburt & Raymond, 2011, pp. 297) and can be dangerous when attempting to apprehend experience, as we are usually unaware of their existence and they can prevent us from believing an experience possible (Hurlburt & Raymond, 2011). In fact, presuppositions have been described as "delusions," because they make us believe we already know about experience, and that our knowledge is incontrovertible (Hurlburt, 2011a). Presuppositions can occur as an unexpected, visceral reaction against what a participant is saying about his experience (e.g., Hurlburt & Raymond, 2011). Such a reaction, if unrestrained, could prevent the interviewer from approaching a participant's experience with an open mind, ready for any possibility.

The term "bracketing presuppositions" refers to the setting aside of those "toxic" preconceived assumptions in order to approach phenomena with openness to any possibility (Hurlburt, 2011a; Hurlburt & Schwitzgebel, 2007; Hurlburt & Schwitzgebel, 2011b). In DES, bracketing presuppositions is crucial for apprehending the inner experience of a unique person who is no doubt different from the interviewer and previous interviewees. The participant must also learn to bracket presuppositions, with

help from the interviewer, so that expectations and assumptions about what is in experience do not obstruct the apprehension of experience as it truly is. For example, Hurlburt (2011a) describes a first interview in which a participant states that "…I said it and it must have been what I was thinking" (pp. 170). This statement exposes a presupposition on the participant's part about the sequence that thoughts and words "must" go in. Presuppositions must be set aside if faithful apprehension of experience is to be achieved. Though it is impossible to conduct a DES interview completely without presuppositions, it is nevertheless imperative that both parties make their best effort to bracket presuppositions to allow for as pristine an understanding of each moment as possible (Hurlburt, 2011a; Hurlburt & Schwitzgebel, 2011b). Bracketing presuppositions and using open-beginninged probes are intended to "let phenomena emerge gradually, organically" (Hurlburt, 2011a, pp. 398), which is at the heart of the DES method.

At the end of data collection, the investigator has four or five sampling days of beeped experiences to examine thoroughly for salient experiential similarities across the samples. Examining these characteristics of the experience at each beep can allow for the creation of an idiographic description of an individual's experience.

DES is an idiographic method in that it focuses on a single individual at a time and an exploratory method in that it does not specify the types of experience or activities of interest. This method allows for in-depth exploration of one person's inner experience across time, resulting in rich idiographic descriptions that provide the bases for hypotheses that can later be tested empirically and/or clinically. The question of validity in DES lies in whether DES actually apprehends a faithful account of experience, and whether that experience can be validated with the participant (Hurlburt & Heavey, 2006).

DES is an ecologically valid method that collects data from everyday life, rather than a laboratory. Because the experience apprehended in DES studies is sampled from an individual's daily life, the experience is likely characteristic of that person's everyday experience and generalizable to the real world. In fact, it is an essential aspect of DES that descriptions generated are representative of the reality of an individual's experience in his or her natural environments—pristine experience (Hurlburt, 1997; Hurlburt, 2011a; Hurlburt & Heavey, 2006).

In DES, the interviewer plays an important role, and the interview process is a skilled performance art (Hurlburt, 2011a). First, the interviewer must help the participant pinpoint the exact moment of the beep. Without accomplishing this first step, interviewing can be hindered, as the interviewer and the subject may not be talking about the same moment or about experience at all (Hurlburt & Heavey, 2006). Interviewers must also be able to identify when participants are engaged in responding and when they appear to be unsure of what they are saying, as this could indicate that the interview has not yet focused on the moment of the beep or is not aimed at the subject's experience. This uncertainty in responding is known as "subjunctification" in DES: any vocalization or behavior that indicates that the subject has strayed from describing his or her experience at the moment of the beep (Hurlburt, 2011a). The interviewer is also responsible for maintain a "level playing field" with questions; never leading the participant in one direction without considering and asking about the opposite, or any other direction (Hurlburt, 2011a). DES attempts to minimize the error involved in the complex interviewing task by having several interviewers present to interpret the participant's responses and ask questions of the participant and one another, as well as

video recording each interview so that discussion among interviewers of a particular moment or statement is facilitated (Hurlburt & Schwitzgebel, 2011a).

Hurlburt and Heavey (2002) demonstrated that DES can be a reliable method in a study of 10 participants who were interviewed about the same beeped moments by two independent interviewers. In this study, the samplewise (interobserver) and participantwise reliability was measured for five common elements found in inner experience (inner speech, feelings, unsymbolized thinking, sensory awareness, and images; Hurlburt & Heavey 1999; 2006). The samplewise reliability ranged from .52 to .92, and the participantwise reliability ranged from .91 to .98. The observer agreement fell between 83% and 97%.

DES addresses many of the concerns that arise in using traditional methods of studying PTSD. The issue of memory decay is minimized, as participants immediately take notes about what was in their experience at the beep. The focus is on a specific moment, so the threat of memory generalization that can present a problem in PTSD in particular, is abated. Reactivity is lessened by the open-ended and idiographic nature of the question in DES, which encourages the participant to give a straightforward description of his or her particular experience at a given moment without censorship. Reactivity is also reduced through the iterative process, as participants build rapport with the investigators, and the task becomes increasingly familiar. Demand characteristics are likely reduced as a result of interviewer training in bracketing presuppositions, and asking open-beginninged and open-ended questions that clearly allow for any possible response from the participant.

DES is designed to apprehend faithful accounts of experience and reduce the problems associated with other methods of assessing experience, including experience sampling methods. DES is aimed at apprehending ecologically valid experience in a way that other experience sampling methods are not. DES does not limit what participants should report about, nor does DES use questionnaires with predetermined questions. In this way, DES avoids assumptions about how and what experience may happen, in contrast to other methods (diary, experience sampling with questionnaires) which limit the information gathered, and may miss important aspects of experience because participants do not realize they are of interest. For example, Kashdan and colleagues (2006) asked participants to rate their experience of 12 positive and negative affect variables at the end of the day. This method relies on retrospective recall (though the window between experience and reporting is smaller than in some studies, it is still retrospection), and assumes that participants all experience, for example "interested," in the same way. The method also assumes that participants will accurately identify moments in which they experience interest, and will be able to accurately recall the number of times they experienced interest during a given day. This method would not reveal, for instance, whether one participant experienced "interest" as a thought, another as a physical sensation, and another as an image. Experience sampling studies that use questionnaires make the same assumptions as diary method studies: that participants will be able to accurately identify and report about specific experiences, and that participants even have particular types of experience at all. These methods ignore the fact that participants may have experiences not already known to the investigator, and convey to the participant that experiences other than those listed on a questionnaire are not of

interest. DES circumvents these problems by gathering data immediately after it is experienced, leaving interview questions open, encouraging interviewers to bracket presuppositions, utilizing several interviewers to counteract the influence of presuppositions, and by focusing relentlessly on a specific, narrow period of experience. Thus, DES is uniquely suited to examining the experience of veterans with PTSD, and has the potential to uncover information about experience that other methods do not.

There has been one DES study of veterans with PTSD prior to the present study. Raymond (2011) conducted a dissertation in the UNLV Experience Sampling Lab in which she recruited veterans through flyers posted around campus and the community. Veterans were screened for PTSD cutoff scores using the PTSD Checklist-Military version (PCL-M; Weathers et al., 1994), and those who qualified were invited to participate in a DES study. Participants wore beepers and obtained six samples per day for between five and eight nonconsecutive days, and were interviewed after each sampling day about their experience at the moment of each beep. The interviewers included Raymond along with Drs. Hurlburt and Heavey. They sampled with seven veterans, and found that the group reported fewer instances of inner seeing, feeling, and unsymbolized thinking (awareness of a concept without the presence of words or pictures), and significantly fewer instances of inner speech than the stratified normative sample from Hurlburt & Heavey (2008). This group also exhibited three unusual types of experience not seen in typical sampling studies; vigilance, concentrating doing, and flashbacks.

Raymond (2011) found that five of seven participants reported experiences of vigilance, which the investigators defined as heightened awareness and watchfulness of

the environment. On a questionnaire, six of the participants rated the extent to which they were vigilant as either "quite a bit" or "extremely," and while most did report some experiences of vigilance, those moments accounted for only 10% of the reported experiences. These findings suggest that the occurrences of vigilance are a small portion of experience, though the subjective perception of vigilance is much more prominent.

The study also found instances of "concentrated doing" in five of their group of veterans. The researchers described concentrated doing as the other side of the same coin as vigilance, in that vigilance involves a careful alertness of the external environment as a whole and concentrated doing involves "intentional, careful, alert focus on one particular aspect of one particular task" (Raymond, 2011, pp. 197). Though this observed phenomenon may be related to vigilance, it is not characterized in the extant literature about PTSD, and suggests that PTSD symptomatology presents in various ways that may not yet have been accounted for, or that may have been poorly distinguished as yet.

Three of the seven participants in the study reported moments in which they were experiencing a flashback, accounting for 3% of the total beeps. These moments ranged from intense reexperiencing of a distressing combat experience to more benign memories, such as training camp experiences. Interestingly, all seven participants in the study indicated that flashbacks were "a little bit," "moderately," or "extremely" problematic for them over the past month, and yet these types of experience accounted for a small portion of the total. This finding suggests that there is more phenomenological information to gather concerning the experience and impact of

flashbacks for veterans, as well as the possible presence of non-distressing flashbacks as a previously unexplored marker of PTSD.

The participants in the Raymond (2011) study also exhibited fewer instances than normal of three commonly experienced phenomena. Inner speaking occurred with a frequency of 5%, unsymbolized thinking with a frequency of 15%, and inner seeing with a frequency of 17%. These types of experience were commonly seen in a normative sample at much higher rates (Heavey & Hurlburt, 2008). In contrast, the participants in this study exhibited relatively higher frequencies of sensory awareness (31% on average) compared to the normative sample (22%; Heavey & Hurlburt, 2008). Sensory awareness is a heightened awareness of a sensory aspect (or aspects) of experience, such as tactile, olfactory, or gustatory sensations. In addition to these findings, the veterans in the Raymond (2011) study reported significantly lower than usual frequencies of feeling (emotion) experiences, and also consistently reported problematic or atypical experiences of emotion. These findings required further study to further elucidate a unique pattern of experience in veterans with PTSD, and the study made a clear case for further exploration of the phenomenology of PTSD in veterans using DES, as there was potentially a wealth of information about the experience of this disorder that other methods simply have not accessed.

The Current Study

The current study used DES to investigate the inner experience of OEF/OIF veterans with PTSD. The diagnostic symptoms associated with PTSD are largely experiential, yet there are few studies that explore the phenomenology of PTSD. The one existing DES study of this population (Raymond, 2011) had a considerable limitation in

its small sample size, and the present study added to the overall DES with PTSD sample size, providing more information that increases the generalizability of these results to others with PTSD. In addition, the present study was conducted by a different investigator, who brought a different set of ideas, skills, experiences, presuppositions, and interpersonal style to the interviews. This difference, too, increases the generalizability of the combined results of the two DES PTSD studies. In addition to replicating a previous DES study, with some inherent differences, the present study contributed a valuable phenomenological piece to the current and future understanding of PTSD. Increased understanding of inner experience in veterans with PTSD may help to inform the direction of research and treatment moving forward.

The study involved two phases: screening and sampling. During the screening phase, volunteers from within the Las Vegas community, including the UNLV community, were recruited via on-campus and community-wide advertisements. Respondents were given a PTSD screening measure. Eight participants who reported significant symptoms of combat-related PTSD were asked to participate in the sampling phase of the study. During the second phase, participants completed three to six days of sampling.

The data were examined as follows: the investigator reviewed the sampled experiences for each participant and described any salient characteristics or patterns of inner experience. The investigator then created an idiographic description of experience for each participant, which detailed the characteristics and content of that participant's samples. Finally, the investigator examined the differences or commonalities in the nature of the inner experience of the participants and the extent to which identified

similarities and differences corresponded with other characteristics of the individuals, such as severity of PTSD symptoms, depressive symptoms or anxiety symptoms.

CHAPTER 4

Method

This study proceeded in two phases: a screening phase and a sampling phase. The screening phase was used to recruit and select participants, and during the sampling phase, inner experience was explored.

Screening Phase

Participants. Participants were recruited using flyers distributed in public places around the Las Vegas community, such as libraries and college campuses, as well as electronic flyers distributed online. Thirty-three participants who responded to the advertisements completed the Posttraumatic Stress Disorder Checklist, Military Version (PCL-M; Weathers, Litz, Huska & Keane, 1994), and out of those screened, twelve qualified, and eight of those who qualified elected to participate in the sampling phase.

Measures. The PTSD Checklist – Military Version for the DSM-IV (PCL-M; Weathers et al., 1994) is among the most widely used measures of PTSD. The PCL-M was developed by the National Center for PTSD specifically for use with military populations. This 17-item self-report measure assesses the 17 diagnostic criteria outlined in the DSM-IV (Norris & Hamblen, 2003). Respondents are asked to rate the extent to which they have been bothered by each symptom (e.g., avoidance, flashbacks, hypervigilance, etc.) in the past month on a 5-point scale from 1 (*not at all*) to 5 (*extremely*). Higher scores on the PCL-M indicate greater severity of symptoms. Examples of items from the scale include "Feeling very upset when something reminded you of a stressful military experience," Loss of interest in activities that you used to enjoy," and "Trouble remembering important parts of a stressful memory experience."

The PCL-M can be scored two different ways to obtain a dimensional measure of symptom severity or a dichotomous indicator of diagnostic status (Keane, Brief, Pratt, & Miller, 2007). For diagnostic purposes, scores of 44 and higher in the general population and 50 and higher in the military population indicate a diagnosis of PTSD (Weathers et al., 1994). This measure has been used extensively in clinical and research settings, and takes 5 to 10 minutes to administer (Keane et al., 2007). The PCL-M was originally validated in a sample of Gulf War and Vietnam War veterans and was found psychometrically sound (Keane et al., 2007). The PCL-M has high internal consistency for the total scale (.97) and for each subscale (.92-.93; Keane, 2007; Norris & Hamblen, 2003). Test-retest reliability for the PCL-M over a 2-3 day period is high (.96; Keane, et al., 2007). In addition, the measure correlates highly with clinician-administered measures of PTSD (Norris & Hamblen, 2003).

A demographic questionnaire was used to collect participant information, including name, address, phone number, age, sex, race/ethnicity, marital status and level of education. This questionnaire also inquired about dates of deployment to Iraq or Afghanistan and whether or not the respondent was exposed to active combat while deployed.

Procedure. The investigator posted UNLV IRB-approved flyers with study information in approved areas on the UNLV campus, various branches of the Las Vegas Public Library, and on the College of Southern Nevada campus. Electronic flyers were distributed to the UNLV community via UNLV Today and Rebel News email systems. The Las Vegas Department of Veteran Affairs was contacted and provided with study information which they agreed to disseminate to their constituents, and the investigator

presented at a meeting of the UNLV Student Veteran Organization, which also disseminated the study information to its members. Interested participants completed informed consent, followed by the PCL-M, and demographic form in the Experience Sampling Lab at UNLV. Participants who completed the screening phase were provided a list of community resources for counseling services to use if they desired. The screening measure was collected and scored while the participant waited (a process that took approximately two minutes), and those participants with scores of 50 or above on the PCL-M were invited to participate in the sampling phase of the study. Participants who did not qualify based on the PCL-M were debriefed and thanked for their time.

Sampling Phase

Participants. Twelve participants qualified for the sampling phase of the study based on the PCL-M cutoff score of 50 or above. One individual declined to participate due to an unpleasant reaction to the sound of the beeper, one individual dropped out prior to the first interview without explanation, and two participants declined to continue the study after the first sampling day, both citing discomfort at the task of paying attention to and reporting on their inner experience. Eight participants who qualified for the sampling phase completed the study. Demographic information for the participants is presented in Table 1. The mean age of participants in this study was 36.5 years. Each participant received $10 for each interview in which they participated, with the exception of "Henry," who declined compensation.

Table 1
Demographic Characteristics of Sample (N = 8)

	Participants	
Characteristic	n	%
Sex		
Female	1	13
Male	7	87
War*		
Iraq (OIF)	8	100
Afghanistan (OEF)	3	38
Number of Deployments		
One	3	38
Two	2	25
Three	1	13
Four	1	13
Ethnicity		
African American	1	13
Asian American	1	13
Caucasian	3	37
Hispanic/Latino	3	37

*The totals for the War demographic equal more than 100% due to the fact that three study participants were deployed in both the OEF and OIF wars.

Measures. The Beck Depression Inventory-Second Edition (BDI-II; Beck, Steer, & Brown, 1996) is the most widely used measure of depression severity. It is a 21-item self-report measure intended for individuals over the age of 13. The BDI-II takes approximately 10 minutes to complete, and used the DSM-IV diagnostic criteria to assess depressive symptoms over the past two weeks. Symptom severity is measured on a 4-point scale on which higher ratings indicate more severe symptoms. Scores ranging from 0 to 13 indicate little to no depression; scores in the 14 to 19 range indicate mild depression, scored in the 20-28 range indicate moderate depression, and scores between 29 and 63 indicate severe depression. Psychometrically, the BDI-II has been shown to

have excellent test-retest reliability over an interval of seven days (.93; Beck et al., 1996) and high internal consistency (.93; Dozois, Dobson, & Ahnberg, 1998).

The Beck Anxiety Inventory (BAI; Beck & Steer, 1993) is a measure of anxiety widely used in both clinical and research settings. The BAI is a 21-item self-report measure for use with individuals over 17 years old, and takes approximately 10 minutes to administer. The BAI is designed to assess anxiety symptoms over the past week, and asks respondents to rate symptoms on a 4-point scale. The BAI assesses anxiety-related physical symptoms, such as shakiness, and affective anxiety-related symptoms, such as feeling terrified. Total scores on the BAI range from 0 to 63. Scores in the 0 to 7 range indicate minimal anxiety, scores from 8 to 15 indicate mild anxiety, scores ranging from 16 to 25 indicate moderate anxiety, and scores from 26 and above indicate severe anxiety. The BAI has excellent psychometric properties including .92 internal consistency and .75 test-retest reliability over a seven day interval (Steer & Beck, 1997).

Apparatus. In order to sample random moments of inner experience, this study lent participants a pocket-sized beeping device developed by Hurlburt. The beeper generates a 700-Hz tone at random intervals. Beeps occur randomly with a mean duration between signals of 30 minutes and a range of 0 to 60 minutes. The beep is delivered by an earphone to signal the participant immediately and without disturbing the environment. The volume of the beep is adjustable. Participants stop the sound and reset the beeper by pressing a button on the top of the beeper. Participants in this study were provided with a beeper, an earpiece, and a pocket-sized notebook with which to record notes about their experience.

Procedure. Participants from the screening phase who qualified for the study were invited to participate in the sampling phase. Those who agreed to participate in the sampling had an introductory session, during which informed consent for the sampling phase was obtained, confidentiality was explained, the BDI-II and BAI were completed, and participants were informed of their right to discontinue the study at any time without penalty.

The investigator then explained the DES method and procedure to the participant. The use of the beeper device was explained, and a notebook and earphone were provided. The participant was instructed to take notes about their experience as soon after the beep sounds as possible, and encouraged to be open and honest about his or her experience. Participants were informed of their status as co-investigators in DES. Participants were informed that they retained the right to decline to discuss any moment of experience for any reason, which does not have to be disclosed to the investigator. The participant's right to privacy and ownership of the beeped moments was made explicitly clear.

Participants were asked to collect 6 samples of inner experience over approximately a three hour period of time of their choosing. The moment of the beep was explained to participants as the last fraction of a second before their inner experience was interrupted by the beep. Participants did not receive instructions about content to focus on or write down, in order to obtain as unbiased a sample as possible. Participants were informed that the investigator did not need to see their notebooks, to keep participants focused on experience, and not the writing of experience.

An hour long expositional interview was scheduled at the initial meeting, and the participant was instructed to sample no more than 24 hours prior to that meeting. During

the interviews, the investigator discussed each moment in great detail with the goal of apprehending a faithful account of the participant's experience at each of the sampled moments. For the most part, these interviews took place in the Experience Sampling Lab at UNLV and were videotaped or audiotaped with participant consent. Due to a change in geographical location during data collection, the investigator conducted interviews via Skype after the first two participants, with Dr. Hurlburt present in the lab at UNLV with the participant. One participant was located on the East Coast, so all interviews with that individual were conducted via Group Skype, with the investigator, the participant, and Dr. Hurlburt all video calling from their respective computers. The investigator conducted all interviews with the participation of Dr. Hurlburt, and each sampled moment was discussed until the investigators and participant believed the point of diminishing return was reached, in terms of gaining further understanding of experience at the moment in question. The investigators took notes of each discussion, and following the interviews, the lead investigator wrote a summary of each individual moment of experience. The summaries were discussed among the two investigators and each moment was examined for salient characteristics, relying on reviews of videotape or audiotape if uncertainty or disagreement arose. The process of collecting beeps and meeting within 24-hours was repeated between three and six times for each participant.

After the sampling process was completed, each participant had the opportunity to ask questions or give feedback about the process if they chose to do so in a post-final interview debriefing.

Table 2 presents the data regarding the number of expositional interviews and samples collected for each of the eight study participants. The names of all participants in the study have been changed to protect confidentiality.

Table 2

Number of Expositional Interviews & Samples Collected

Participant	Interviews	Samples
Alan	4	16 (20)
Bradley	4	14 (17)
Chris	4	18 (22)
David	5	22 (26)
Emily	6	30 (36)
Franklin	5	19 (22)
Gabe	6	29 (35)
Henry	3	8 (12)

Note: Numbers indicate total samples collected after discarding training samples from Day 1. Numbers in parentheses indicate the total number of samples collected with the inclusion of training samples from Day 1.

After each participant completed the process and the investigators discussed the salient characteristics of each moment and participant overall, the lead investigator developed a description of each participant's inner experience, noting salient characteristics. The investigator then compared participants looking for similarities and differences in the nature of their experience. The investigator compared each participant's qualitative results to his or her results on the PCL-M to determine whether any correlations exist between endorsements on the PCL-M and inner experience. Sample characteristics with regard to depression and anxiety symptoms were examined in conjunction with PCL-M scores and qualitative results for each participant to determine the presence of any patterns among those results.

CHAPTER 5

Results

Sample Characteristics

The eight participants who completed the second phase of the study were assessed for co-occurring depression and anxiety using the Beck Depression Inventory, Second Edition (BDI-II; Beck, Steer, & Brown, 1996) and the Beck Anxiety Inventory (BAI; Beck & Steer, 1993). Table 3 presents the data from those measures, along with the PCL-M scores for each participant.

Table 3
Assessment Results for PCL-M, BDI-II, and BAI (raw scores)

Participant	PCL-M	BDI-II	BAI
Alan	77	50	31
Bradley	75	32	25
Chris	70	35	44
David	65	24	19
Emily	65	38	16
Franklin	61	15	17
Gabe	55	22	17
Henry	50	16	39
Mean	64.75	29	26
SD	9.33	12.0	10.89

Note: PCL-M = PTSD Checklist- Military Version, BDI-II = Beck Depression Inventory-II, BAI = Beck Anxiety Inventory

Table 3 presents the PCL-M, BDI-II and BAI raw scores along with the means and standard deviations for each measure for participants in the sampling phase of the study. The PCL-M is commonly used in clinical practice as a screening tool for PTSD

symptoms, and the BDI-II and BAI are among the most widely used instruments for assessing depressive and anxiety symptoms in clinical practice.

For this sample, PCL-M scores range from 50 to 77 across participants (M = 64.75, SD = 9.33). The cutoff score determined by the developers of the PCL-M is 50, with scores at or above this cutoff indicating significant PTSD symptoms. All participants in the study met this cutoff score.

BDI-II scores ranged from 15 to 50 across participants (M = 29, SD = 12.0). Based on this measure, two participants (25%; Franklin and Henry) endorsed symptoms consistent with mild depression, two (25%; David and Gabe) endorsed symptoms consistent with moderate depression, and four (50%; Alan, Bradley, Chris, and Emily) endorsed symptoms consistent with severe depression. Despite the heterogeneity of co-occurring depressive symptoms among the participants, we did not detect substantial differences in DES results among participants with mild versus moderate or severe levels of co-occurring depression.

BAI scores ranged from 16 to 44 across participants (M = 26, SD = 10.89). Of the eight participants in the present study, five (63%; Bradley, David, Emily, Franklin, and Gabe) endorsed symptoms consistent with moderate co-occurring anxiety; and three (37%; Alan, Chris, and Henry) endorsed symptoms consistent with severe levels of co-occurring anxiety as measured by the BAI. Thus, there was some variability across participants, with slightly more participants endorsing moderate anxiety. We did not detect differences in DES results among participants with minimal/mild versus moderate levels of co-occurring anxiety.

In summary, Table 3 displays the range of co-occurring depression and anxiety across participants as measured by the BDI-II and BAI, with the majority of participants reporting moderate to severe depressive and anxiety symptoms. Despite this range of co-occurring symptomatology, there were no notable differences in individual DES results between those with moderate versus high co-occurring depressive or anxious symptoms. This sample's reported symptoms align with the PTSD literature, which indicates that heterogeneity in the frequency of co-occurring depression and anxiety (and other psychiatric disorders including substance abuse) is quite common.

Organization of Results

The following nine chapters discuss the data collected in this study on two levels: idiographically, focused on an individual participant, and collectively, across all participants. In order to present a large volume of qualitative data in a clear and organized way, the results of the study are broken in to nine chapters. The chapters are presented in order of highest PCL-M score to lowest (so, because Alan had the highest score, his chapter is presented first, because Bradley had the second highest score, his chapter is second, and so on). The next eight chapters will describe in detail the nature of inner experience in each of the eight sampling phase participants. After these eight individual chapters, Chapter 14 will summarize commonalities and differences in experience across participants, and will also provide a discussion of results and implications for future research.

CHAPTER 6

Idiographic Description of Alan's Experience

Alan was a 45-year-old Asian American male veteran who sampled with us for four days in May of 2014. He was deployed once to Iraq for 18 months, and reported that he saw active combat while there. He reported significant PTSD symptoms on the PCL-M self-report measure, and was in treatment for PTSD during the time we sampled with him. Alan also had significant military service-related back and neck injuries that resulted in chronic pain.

Alan collected 20 samples across four days, and participated in an expositional interview within 24 hours of collecting each day's samples. The first sampling interview is considered training, and likely of lower fidelity than subsequent days, thus, samples from the first day are generally not discussed unless relevant in the context of subsequent days. After discarding the samples from the first sampling day, there were 16 samples. Alan's first-sampling-day reports were notable in contrast to the samples from the rest of his sampling days, thus we will discuss the relevant features of the first-day reports; however, they are not included in the total counts in the table and throughout this chapter.

As shown in Table 4, the most frequent phenomena in Alan's samples were emotion-related, though his experience was never of a clearly experienced emotion (e.g., a feeling). These emotion-related (but not straightforward feeling) samples comprised approximately half of Alan's samples across all days, and were the most frequent type of experience by a large margin. Less than one-quarter of his samples involved unsymbolized thinking and inner speaking, and two samples included sensory awareness.

There was one sample in which Alan was just doing a task, and one sample in which there was nothing in experience.

Table 4
Frequency of Phenomena: Alan (16 samples)

	Frequency	Percentage
Emotion without Feeling	7 – 9*	43 – 56%
Unsymbolized Thinking	3	19%
Inner Seeing	3	19%
Inner Speaking	2 – 3*	13 – 19%
Sensory Awareness	2	13%
Just Doing	1 – 2*	6 – 13%
Nothing	1	6

*These frequencies represent both conservative and liberal counts of experiences in a particular category. The lower number is the number of samples that clearly fell into the listed category, and the higher includes samples that were somehow ambiguous, but that were possibly or likely in that category.

Emotion without Feeling

Overall, Alan's emotion-related samples were notable because of what was not present, rather than what was. There was no example of a clearly experienced emotion (that is, there were no *feelings*, which is the term we reserve for the experience of emotion). There were many examples (7 or possibly 9 samples) of an ongoing emotional process that could be inferred from the situation or recognized by Alan himself, but where there was no feeling , where a lack of an unpleasant emotion was taken to indicate a pleasant emotion, and/or where there was a lack of clarity about the presence or absence of feeling. In some of the samples where emotion was significant but not felt, Alan's

experience was of nothing, just doing, sensory awareness, or some other phenomenon while the ongoing emotion was not in experience. For example:

> **Sample 2.5** Alan was in bed and had been hearing his neighbors argue outside since 4 am; it was now about 4:45 am and the row was still ongoing. At the moment of the beep, he was innerly seeing the scene that was occurring outside on the sidewalk, with a black "dirt bag" standing on the left and a black woman standing on the right facing each other, arguing. This inner seeing recreated the scene that he was actually hearing. He was hearing the woman saying, "don't you hit me," and innerly saw her as she said it. Alan was furious in a racially charged way [because this row had awakened him a long time earlier; and because the row was typical of the way black men (dirt bags) treated women] but this fury, while very strong in his body, was not present in his experience at the moment of the beep.

In this sample, Alan was quite clear that his fury was an intense emotion, that, while certainly ongoing, was not present in experience. That is, whereas Alan was able to recognize the fury when describing this moment, he did not *feel* furious at the moment.

Another example in which Alan had some emotional process ongoing but not felt was in sample 2.2:

> **Sample 2.2** Prior to the beep, Alan had been angry that he had to take cash out of an ATM inside a restaurant that only accepted cash. At the moment of the beep, Alan was just typing his pin number into the ATM keypad. The anger, which was doubtless still strongly present in his body, was not felt in his experience at the moment of the beep.

In this sample, Alan's experience was of just doing—just typing in his pin number to an ATM, despite his awareness in the interview that the emotion of anger was still ongoing in his body. The anger was in no way felt in experience.

It was not just anger (and similar emotions) that were evidently ongoing outside felt experience in Alan's samples. For example:

> **Sample 3.1** At the moment of the beep, Alan was innerly speaking "Marty" in a warm and loving tone. The context was that his friend Marty had shaved her head at a Yellow Ribbon event to help raise funds for a solider from their unit who had cancer, but that context was not present to him at the moment of the beep. All that was in his experience at the moment of the beep was the innerly lovingly spoken "Marty."

That is, whereas Alan's inner tone in this moment conveyed warm loving, he did not feel warm loving.

In other samples, the exact valence or nature of the emotion was less clear, but it was clear that there was a lack of phenomena related to the potential emotion. In one sample, Alan struggled to describe feeling happy, which we eventually came to realize was likely instead the *absence* of a previously felt anxiety.

> **Sample 2.4** Prior to the beep, Alan had been nervous about asking his date out for a second date. Just before the beep, she had agreed to go out with him again. At the moment of the beep, Alan was not nervous anymore.

Originally, and for a substantial portion of the discussion of sample 2.4, Alan said that at the moment of the beep he was feeling happy, but eventually we understood that what he meant by "feeling happy" was that he was not being nervous anymore. This was a

difficult thing to sort out, but by the end of the discussion we were fairly certain that Alan's "feeling of happiness" was actually a lack of an unpleasant experienced feeling.

In a different sample, Alan was critical outside of experience:

Sample 3.5 Alan was talking with his friend Greg at a coffee shop, and his friend had just told him that he was attracted only to Asian girls. At the moment of the beep, Alan was thinking that there was more to life than that. This was a notion not present in words or images. Alan recognized after the fact that this thought was critical, but did not experience a criticalness at the moment of the beep.

Although it could be debated whether being critical should be considered an emotion, this sample does highlight the disconnect between emotion-related (or perhaps emotion-tinged) ongoing processes and felt experience.

Sample 2.3 was similar:

Sample 2.3 Alan was watching a fight scene in the movie *Salt*. At the moment of the beep, he was watching a small female character knock out a bigger male character with one kick, and Alan was innerly speaking "fucking bullshit." This was spoken in his voice with a snickering tone.

Though Alan did not identify a particular ongoing emotion or emotional process, the snickering tone suggests that Alan was incredulous or derisive in some way, which seems emotionally-relevant, even if the exact nature of the emotion at play cannot be pinpointed. Again, as in the preceding example, this emotion-like process was not felt.

Other samples in this section were notable in that Alan was simply not sure (even a few moments after the beep when taking notes) whether or how some emotion-related phenomenon was in experience. For example:

Sample 4.2 Alan was in a coffee shop talking to his friend Greg about going to dinner or karaoke that night. At the moment of the beep he had just said the word "karaoke." The coffee shop was very loud, though Alan was not sure whether this was in his experience. He may have had a warm, happy, excited feeling in his body, but perhaps he did not notice this until he reflected back after the beep went off.

In this sample, Alan's lack of clarity about his own experience was noteworthy. Alan was not sure, even in the moments just after this moment, whether the happy feeling was in his experience or not. There was another example similar to this:

Sample 2.6 Alan was sitting in the corner of Starbucks at the Student Union. At the moment of the beep, he was innerly seeing the woman from the argument that morning [see sample 2.5] pounding on the car window. He heard the thunk thunk of her fists. The seeing was detailed (pounding on the driver's side window of her boyfriend's car with her right hand) and was more vivid and detailed than it had been in real life. He was also wondering why people get into arguments like that. This thought was present without words or images.

In this case, Alan's experience was of a hyper-vivid, emotionally-laden inner seeing that was present without feeling.

In sum, Alan's emotion-related samples presented in various ways, but were clearly unusual in comparison to how most DES participants describe feelings. It was notable that he often recognized himself after the fact to have had some ongoing emotion or emotion-like process, but this was never directly in experience. It was also notable that at times the absence of one emotion was taken as the feeling of the opposite emotion,

rather than a straightforward feeling of the second emotion. Many of Alan's emotion-related samples involved emotionally-charged content that was simply in experience without being felt. These samples, though diverse in their presentation, shared an atypical experience (or lack of experience) of emotion that made them similar and noteworthy. And in fact, atypical emotion-related phenomena were the most common across all of Alan's sampling days.

Other Phenomena

Unsymbolized thinking. Three of Alan's samples involved a clearly experienced thinking present without words, images, or any other experiential phenomena. For example:

> **Sample 3.2** Alan was walking across campus and at the moment of the beep, was wondering how his wearing the DES beeper would help Stacy (the researcher) do her study. He was confident that this thinking was present at the moment of the beep, but was not present in words or images.

The other examples of unsymbolized thinking both included emotion without feeling (or something like emotion without feeling). The first was sample 2.6, discussed above in the Emotion without Feeling section (in which Alan was innerly seeing the scene of the woman pounding on the car window), and sample 3.5 (in which he was not experiencing a critical feeling toward his friend, though his unsymbolized thinking was critical).

Inner seeing. There were three examples of inner seeing among Alan's samples. Two were was discussed above—sample 2.5, in which Alan innerly saw the fight he was

hearing outside; and sample 2.6, in which he innerly saw the woman pounding the car window. Here is the third example:

> **Sample 3.3** At the moment of the beep, Alan was innerly seeing his far back left bottom molar and the head of his toothbrush, as though he were seeing it in his bathroom mirror. He did not see the rest of his mouth, his hand, the mirror, or anything else. The context was that he has gum disease and had been somehow considering whether he brushed adequately now and when he was a child, but at the moment of the beep all that was present was the inner seeing of the tooth.

Inner speaking. In two or possibly three samples, Alan's experience included inner speaking. Two of these samples were discussed above in the Emotion without Feeling section (sample 2.3, in which Alan innerly said "fucking bullshit" in response to the action scene in *Salt*, and sample 3.1, in which he was innerly speaking "Marty" in a loving tone). The third example of inner speaking was notable due to Alan's uncertainty whether it was spoken aloud or innerly:

> **Sample 4.1** Alan was watching the news with the sound off, and they were showing a picture of O.J. Simpson. At the moment of the beep, Alan mumbled "What a piece of shit." He may have mumbled it out loud, or he may have mumbled it innerly, he was not sure after the fact.

This was another striking example of Alan's difficulty accessing his experience, as most DES participants know for certain whether they spoke aloud or innerly, and would have no trouble distinguishing. Again, it was not the case that Alan simply could not recall during the interview whether he had spoken aloud or innerly, nor did it seem that it was a result of poor skill at reporting experience on his part or asking about experience on ours

(particularly as this was the fourth day of sampling). Rather, Alan was not sure immediately afterward when jotting notes about his experience at the moment, how the speaking was in experience.

Sensory awareness. Alan's experience in two samples (13%) was of sensory awareness. Here is an example:

> **Sample 4.4** Alan was talking to a classmate, Christy. At the moment of the beep, he was looking at her face, skin tone, and complexion and was particularly noticing the attractiveness of her face.

This seemed to be a relatively uncomplicated visual sensory awareness, though Alan had some difficulty describing exactly what he was drawn to, and mentioned her "youngness" at first, possibly as a euphemism for attractiveness. Alan struggled in a similar way when describing his experience in the interview about the other sensory awareness sample:

> **Sample 2.1** Alan was at dinner with a date. At the moment of the beep, he was looking at and enjoying the sight of his date's cleavage.

This description was the result of a long discussion about issues relevant to the date, all of which were at one point or another in the discussion advanced as being present at the moment of the beep. Eventually, however, we settled on the noticing of the cleavage as the only thing in his experience at the moment of the beep. It was unclear to us whether Alan's struggle was related to worries about how the interviewers would perceive him, difficulty accessing experience at the moment, self-consciousness in sharing about sensory awareness, or some other interfering factor or factors.

Just doing. In two samples, Alan's experience was of just doing some action, with either not much, or possibly nothing in experience. The first example of this was

sample 2.2 (discussed in the Emotion without Feeling section), in which Alan was typing in his pin number at the ATM, which was all that was in experience despite his knowing himself to be furious. In the other example, he may have been just showing his cellphone to a friend; however, it was not clear whether he had no inner experience, or whether the doing was somehow present in experience at that moment.

> **Sample 4.5** Alan was showing a picture of his son wearing a kilt to his friend Christy. At the moment of the beep, he was holding up his phone to show her. His eyes were aimed at the back of his phone with the Apple logo, but he was not sure whether that or nothing was in his experience.

This was another example of Alan's occasional lack of clarity about what was in experience, or exactly how it was.

Nothing. In one sample, Alan was clear that he was experiencing nothing, which he called "hibernation mode."

> **Sample 3.4** Prior to the beep, Alan had been listening to a classmate's presentation on engineering. At the moment of the beep, he had no inner experience, which he described as being bored or in "hibernation mode."

This was qualitatively different than sample 2.2 (typing in the pin number) and sample 4.5 (showing the phone to a friend) in which Alan was just doing a task, and other samples in which Alan was uncertain what was or was not in experience, because in this sample, he was quite certain that there was nothing environmental and nothing internal ongoing in his experience.

Presuppositions about Hypervigilance?

Another noteworthy facet of Alan's sampling with us was his report of his experience on day one, which was not included in the figures and samples presented in this chapter because the first DES sampling day is considered training. However, in the context of PTSD, Alan's first sampling day deserves comment.

Alan reported that during his first sampling day his experience generally was of being "on guard" or hyperwatchful at nearly all times, including during that expositional interview. He also reported being "extremely" bothered by all symptoms of hypervigilance on the PCL-M administered during screening, more than any other symptom cluster. On his first sampling day, all four of his samples were relevant to his putative hypervigilance: in two of the four samples he reported frank hypervigilance, and in two samples that he said were relief from hypervigilance. Here are the two hypervigilant samples:

> **Sample 1.1** Alan was sitting on a bench outside of an academic building, waiting for class to start. Before the moment of the beep, he had scanned the environment and observed a man who appeared to be of Middle Eastern descent and therefore a potential threat. At the moment of the beep, he was observing this man walking past. He was in a state of readiness to take action, hyper-alertly inspecting this man for any sign of weapons, explosives, or behavior that might indicate a threat, though no specific action or plans were in his experience at the moment.
>
> **Sample 1.3** Alan was walking to his apartment from campus, along a long, straight sidewalk. The situation included various things typical of an urban/suburban residential sidewalk: bushes, mounds of dirt, staircases, windows, people, rooftops, etc. At the moment of the beep, he was

simultaneously focused on all of these things as potential threats. He felt like he "was on patrol" in the sense that he was vigilant of his surroundings, inspecting the rooftop for signs of snipers, inspecting the bushes for hidden personnel, inspecting the sidewalk for signs of IEDs, inspecting the people for threatening behavior, and so on, all simultaneously in a state of intense vigilance. He was even more intensely vigilant than he would have been on a three-man patrol because he was alone (instead of with teammates) and therefore had to be alert in all directions simultaneously.

Here are the two samples where hypervigilance was noteworthy by its absence:

Sample 1.2 Alan was in class, sitting in his usual spot. At the moment of the beep, he was zoned out—not paying attention to anything in the room, and had no internal experience. He was "absolutely blank." [This was described as feeling safe, a comfortable relief from the hyper-alert scanning which he usually engages in.]

Sample 1.4 At the moment of the beep, Alan was asleep in his recliner. He had no experience. [The recliner, having been owned by Alan's father, was described as a place of safety].

We were not sure whether these accurately reflected Alan's experience, or whether they might have reflected Alan's presuppositions about experience, or possibly about what we were interested in or looking for. Though we are cautious in DES not to over-interpret samples from day one, it was noteworthy that whereas hypervigilance by its frank presence or absence was taken to be relevant in all four of his first-day samples, hypervigilance was *never* a feature of his remaining three sampling days. It is possible

this is simply a coincidence (the result of random sampling), but it is possible that once Alan became more skilled at the sampling task and better able to bracket presuppositions about experience, his way of apprehending his experience changed rather substantially.

Discussion

In summary, Alan's experience was characterized by numerous emotion without feeling samples and no examples of clear feelings.

Although he was clear about the nature of his experience most of the time, there were at least five samples in which Alan was uncertain about the presence and/or content of his experience, and sometimes he was uncertain mere moments after the fact, while writing notes. It seems plausible that these samples represented a sometimes weak connection to experience.

Finally, it was notable that Alan seemed to expect hypervigilance to be a significant part of his experience, and in fact informed us prior to sampling that he was "constantly" hypervigilant. Alan's sampling did not include any hypervigilance (see the description of Alan's day one samples, above). We considered that Alan may have had presuppositions about hypervigilance in his experience, and also that for some reason hypervigilance may have stood out to Alan when it did happen, perhaps leading to an erroneous conclusion that because hypervigilance was vivid or memorable, it was frequent.

CHAPTER 7

Idiographic Description of Bradley's Experience

Bradley was a 34-year-old Caucasian male combat veteran with one deployment to Iraq who sampled with us in May 2014. He reported significant PTSD symptoms that met diagnostic criteria on the PCL-M, as well as significant generalized anxiety and moderate depressive symptoms.

For his first day of sampling, Bradley collected information mostly related to his reactions to the sound of the beep. After the first sampling day; however, he returned with a striking clarity about his experience, which turned out to be very similar and consistent across all sampling days. Bradley collected 17 samples over the course of four sampling days and participated in an expositional interview within 24 hours after each sampling day. After discarding the three samples from the first sampling day, Bradley had 14 sampled experiences that will be discussed in this section.

As shown in Table 5, the most salient phenomenon in Bradley's experience (93% of samples), was categorized as inner seeing. He also had sensory awareness frequently (64 – 79%), and approximately two-thirds (64%) of his samples involved inner speaking. Bradley's samples also included examples of emotion ongoing without feeling in experience (21 – 36%). Each feature of experience is discussed in detail below. Across all sampling days, only one of Bradley's samples was of a solitary phenomenon in experience; all the rest were of multiple simultaneous phenomena, sometimes of the same type (e.g., two simultaneous inner seeings) and sometimes of two different types.

Table 5
Frequency of Phenomena: Bradley (14 samples)

	Frequency	Percentage
Inner Seeing	13	93%
Sensory Awareness	9 – 11*	64 – 79%
Inner Speaking	9	64%
Emotion without Feeling	3 -5*	21 – 36%

*These frequencies represent both conservative and liberal counts of experiences in a particular category. The lower number is the number of samples that clearly fell into the listed category, and the higher includes samples that were somehow ambiguous, but that were possibly or likely in that category

Inner Seeing

In all but one (13 of 14) of Bradley's samples across four days, his experience included inner seeing. In nine of these samples, there were multiple separate but simultaneous inner seeings. For example:

> **Sample 2.5** Bradley was in bed reading about Donald Sterling and V. Stiviano on his phone. At the moment of the beep, he was innerly seeing V. Stiviano getting into a red Ferrari, from the back of the car. He saw her facing backward, toward the back of the car, with the driver's side door open. Simultaneously, he innerly saw her face from a three-quarter angle (so he was seeing most of the left side of her face) and was mostly focused on how her cheekbones were protruding (unnaturally the result of plastic surgery), but was also generally noting the plastic surgery look to her face. At the same time, Bradley was innerly seeing the back of a red Ferrari that he knew to be expensive as it was low to the ground and had an aerodynamic/fast look to it. At the same time, he was innerly speaking the words "he's fallen for the oldest trick in the book; he's like 80, she's like 30; what did he expect?: what did she expect?, how could he fall for that?" in a rapid, run-

on series of sentences. He also had a sense of judging both of them, though it was not clear in interview whether this was implicit in the images and speaking, or whether this was somehow separate. All of these aspects of experience were layered and occurred very fast, possibly simultaneously, or in rapid succession.

In this sample there were three ongoing simultaneous inner seeings, all related to the same theme. It was not clear to us, nor to Bradley, whether these seeing occurred in rapid succession or simultaneously somehow, but it was clear to Bradley that they were all present to him at the moment of the beep.

In seven samples, Bradley had simultaneous inner seeings that included at least one in-motion inner seeing accompanied by one or more still inner seeings, as was the case in sample 2.1:

Sample 2.1 Bradley was watching the movie *We're the Millers*. At the moment of the beep, he was innerly seeing Jennifer Aniston's abs, up close, in the same outfit as they appeared in the movie. This was clear and in color. He was simultaneously innerly seeing Jennifer Aniston doing a crunch exercise with a purple ball, wearing workout clothes. This inner seeing was in motion, clearly and in color, as it would be in real life. At the same time, Bradley was innerly seeing Jennifer Aniston as she was in the movie. This was a zoomed-out, whole-person seeing of her in the same outfit as in the movie (and in the zoomed-in abs inner seeing). All three of these were simultaneously as though they were stacked one in front of the other, with the abs at the forefront, then the crunches, then the long body shot. At the same time, he was innerly speaking the words "she's never had any kids, that's also probably why she looks so good." This was in his

own voice as he would say it in real life in one rapid run-on sentence. The movie itself was not in his experience.

Bradley used the terms "stacked" and "layered" to describe the way in which the inner seeings were present to him simultaneously (or close to simultaneously). Sample 3.2 was similar, and as with all of Bradley's samples, his experience at this moment was quite complex, and involved multiple simultaneous phenomena:

Sample 3.2 Bradley was getting ready to go to work. At the moment of the beep, he was innerly seeing his co-worker from head to toe, standing, leaning on the bar at work with her hands clasped and innerly hearing her telling him about her planned travels to Barcelona, Berlin, and Dublin. He knew this to be a replay of an actual conversation that happened previously. He was particularly hearing the high-pitched inflection of her voice. At the same time, he was innerly seeing two men wearing Barcelona soccer team colored scarves walking at night. This was in motion, and he knew the men to be drunk Barcelona soccer fans. He also innerly heard them speaking in Spanish. This inner seeing began when he innerly heard his coworker say "Barcelona." Within rapid succession, when his imaginary coworker said "Berlin," Bradley innerly saw the German flag separately and behind the seeing of the drunk men, though the flag was less prominent than the inner seeing of the men in Barcelona, which was still ongoing. Then his coworker (in his imagination) said "Dublin" and both the flag and the Barcelona fans faded and he innerly saw an obelisk in a town square in the daytime that he knew to represent Dublin.

This sample was notable for its complexity, as it was an innerly seen replaying of a previous conversation accompanied by three other separate simultaneous inner seeings, one of which was in motion and included its own words in Spanish (separate from the words of his co-worker in the inner seeing of her and the conversation), and two of which were still. At the same time, Bradley had a sensory awareness of the high-pitch of his co-worker's voice. Bradley was quite certain that all of these elements were in experience at the moment of the beep, and that they were in experience simultaneously yet separately.

In another sample, Bradley's inner seeing in motion also included a physical sensation in experience of what he was seeing himself do:

> **Sample 3.3** Several days prior to sampling, Bradley had a tetanus shot in his left shoulder. At the moment of the beep, he was innerly seeing his shoulder close up in isolation with a huge red welt on it (which was not there in real life). This was in color. At the same time, he innerly saw and physically felt himself doing his normal shoulder exercise and his shoulder failing at the gym. The seeing was from the perspective of looking at himself in the gym mirror in front of the machine (though the mirror was not in experience). The seeing and feeling were part of the same experience, not separate phenomenon. He simultaneously felt his stomach clench and his leg muscles clench, which he knew to be dread. He was also innerly speaking "Will this affect my shoulder routine?"

On the fourth sampling day, we discussed at length with Bradley the way in which multiple simultaneous separate seeings (some in motion, some still) were present to him. This sample led to that discussion:

Sample 4.2 Prior to the beep, Bradley was making chicken huts (baked croissants stuffed with chopped chicken and topped with butter and sesame seeds) for dinner with his daughter, and she had said to him "You get no chicken huts, they're all for Grandpa Greg" just before the beep. At the moment of the beep, Bradley innerly saw Grandpa Greg, eating (an unknown food—not chicken huts) voraciously. He was wearing a baseball cap and seen in detail and motion. At the same time but separately, Bradley saw a chicken hut with melted butter and sesame seeds on top of it. The sesame seeds particularly stood out to him. This seeing was still, and above or in a layer behind the moving seeing of Grandpa Greg, though clearly separate from it. The innerly seen Grandpa Greg was the most prominent aspect of experience, then an equal split between seeing the chicken hut and hearing his daughter speak.

It was difficult for Bradley to describe the manner of simultaneity even though the phenomenon seemed clearly present to him. As best we could understand, the two inner seeings seemed directly in front of him but present separately. He apparently used "above" to mean the same thing as "behind": both meant in a layer that was not as prominent as the other layer. By "layers" he apparently meant two discrete separate seeings into the same visual space, so that the innerly seen objects could be said to occupy the same experiential space but also could be said to be entirely separate. This is of course difficult or impossible in physical space. This type of multiple simultaneous but separate inner seeings was the most frequently occurring of any phenomenon in Bradley's samples.

Inner Speaking

In approximately two-thirds (9 of 14) of Bradley's samples, his experience included inner speaking. In almost all (7 of 9) cases, this was a rapid-fire run-on-sentence type of speaking, and all cases included other types of phenomena in experience simultaneously, as in sample 2.3:

> **Sample 2.3** Bradley had taken the dog outside to urinate. At the moment of the beep, he was innerly seeing the dog going potty, facing left, with his leg up, peeing on the pile of leaves in the yard he always uses. This inner seeing was clear and accurately colored. Bradley was simultaneously innerly speaking the words "Frank, go potty; why doesn't he go potty?; why does this take so long?; just go pee" in a run-on sentence with a mildly impatient tone. He may have felt a physical rush from his core up to his neck or face, as well as tense fists that signified impatience. At the same time, Bradley innerly saw a hawk swoop in from the sky and carry the tiny dog away. This was in motion, in color and clear, [and Bradley knew it to be a familiar inner seeing that he sees often when he takes the dog out into the yard]. The hawk was the least salient aspect of experience at the moment.

In all of Bradley's inner speaking samples, the speaking was in his own voice. The majority of his inner speaking samples involved rapid-fire, run-on sentences like the inner speaking in sample 2.3. Another example:

> **Sample 2.6** Bradley was lying in bed with his girlfriend snuggled against him and his arm under her head. At the moment of the beep he was feeling pain in his arm where she was lying, and innerly speaking "how much longer is this going to go on for?, I just want to go to bed; when is she going to get used to sleeping on

her side?" At the same time, he was innerly seeing his hand under her head and then moving her off of his arm, from his own perspective lying in bed. This was in motion, and he knew it to be a maneuver he had used to get her off of his arm in the past.

This run-on style of inner speaking was notable both for its frequency in Bradley's samples, and for its comparative infrequency in most DES participants. For most people, most inner speaking is single words, single sentence fragments, or single complete sentences, so Bradley's run-on inner speaking was particularly striking.

However, Bradley did not always report run-on sentences, nor did their frequency across samples seem to be an artifact of the interviewing technique or process. Though we were skeptical at first that he may have been simply reporting imprecisely about the exact words of his inner speaking, it eventually became clear that he was also able to report about inner speaking that was a solitary sentence. There were two samples in which Bradley was innerly speaking a single sentence without the rapid run-on quality that was more common among his samples. One was sample 3.3 (discussed in the Inner Seeing section, in which Bradley asked whether his tetanus shot would affect his shoulder routine) and the other (sample 3.4) will be discussed below, in the Sensory Awareness section.

Sensory Awareness

In 8 or 10 of Bradley's 14 samples, his experience involved sensory awareness. In only one of these samples was sensory awareness the only phenomenon ongoing in experience:

Sample 4.1 Bradley was playing Old Maid with his daughter, who was dealing. At the moment of the beep, he was visually drawn to the dimples in her hand (at the first knuckles of her left pointer and middle fingers) that particularly stood out, (reflecting the chubbiness of her little hands).

In fact, this was the only of Bradley's samples across all days in which his experience was of a single phenomenon rather than multiple simultaneous phenomena. In the other sensory awareness samples, as with the rest of Bradley's samples, there were multiple phenomena ongoing in experience at the moment including sensory awareness. Here is an example where Bradley had two sensory awarenesses in experience sim ultaneously:

Sample 3.4 Bradley was washing dishes. At the moment of the beep, he was smelling the stink of the sponge. He was also innerly seeing a new, sealed package of four green sponges with a yellow scrubby layer that he knew to be under the sink where they keep the sponges (though there was no actual new pack of sponges there). He was particularly drawn to the color of the innerly seen sponges. The smell and the inner seeing were both equally in experience, and to a lesser degree, he was innerly speaking "This sponge smells."

In that sample, both the colors of the innerly seen sponges and the stink of the real-life sponge were particularly in experience at the moment. Other examples of sensory awareness were discussed above, in the Inner Seeing section (e.g., sample 2.6, in which Bradley felt the pain in his arm as his girlfriend lay on it, and sample 4.2, in which the innerly seen sesame seeds stood out).

Emotion without Feeling

In all of our sampling with Bradley, there were no examples of a clear feeling in experience. There were three (possibly 5) samples in which there was apparently some ongoing emotion that was not felt in experience. There were two different ways in which this phenomenon was present. One way in which this emotion without feeling phenomenon presented itself was in two or possibly three samples that included a bodily sensory awareness that was known to reflect an emotion, but was not experientially felt as an emotion. For example:

> **Sample 3.1** Bradley was putting socks on and thinking of the food options in the refrigerator that he could eat for lunch. At the moment of the beep, he was innerly seeing sweaty-with-condensation leftover taco meat in a clear Tupperware container with a red lid on it. He saw this in color and as clearly as he would see it in real life, out in front of him. It was as though he was zoomed-in on the taco meat. At the same time, he was separately innerly seeing the top of a plastic Oscar Meyer lunch meat container with a red lid that he knew to contain turkey and ham. He may have seen a bit of turkey, but mostly just the top of the container, and this was less detailed and less prominent than the taco meat, and also below the taco meat seeing. He was simultaneously and separately from the taco meat and Oscar Meyer container, innerly seeing the side of a big yogurt container (which he knew also to be in the refrigerator). He saw the less-detailed-than-in-reality logo on the side of the container. He may have been particularly drawn to the red of the Tupperware lid and Oscar Meyer lid. At the same time, Bradley was feeling a clenched stomach and bubbly gut feeling that started in his

stomach and went up, deep inside his body, which he knew to be disgust. He was simultaneously innerly speaking "Nothing sounds good; that sounds disgusting; don't eat that" in a rapid, run-on series of sentences, in reference particularly to the disgustingness of the taco meat. The seeing of the taco meat was the most salient aspect of experience.

This was a complex sample with multiple simultaneous inner seeings, as well as a possible sensory awareness, rapid-run-on inner speech, and a bodily sensation that he could later identify as related to disgust, though the feeling of disgust was not itself in experience at the moment. That is, Bradley recognized the clenched stomach and rising bubbly gut sensation as signs of disgust, but he did not *feel* disgust at the moment. The other example of a physically represented emotion (not in experience) was sample 3.3 (in which Bradley felt a stomach clench which he knew signaled dread). In that sample, Bradley also physically felt his shoulder fail at the gym, as part of an inner seeing – though the shoulder fail sense was not an emotional feeling, it was notable that he simultaneously experienced two different physical sensations, one of which was a physical sensation tied to an inner seeing, and one of which signified emotion ongoing outside experience.

The other example of bodily experience recognized to be emotion but not felt was in sample 2.3 (in which Bradley took the dog out), and it was not clear whether Bradley felt a physical rush that signified impatience at the moment of the beep, or whether this perhaps occurred before or after the moment of the beep.

The second way in which Bradley's emotion-related phenomena presented during our sampling was in samples where emotion was ongoing but not felt, nor signaled by

sensory awareness (as it was in the preceding samples discussed in this section). In one (or possibly three) samples, Bradley apparently had some emotion ongoing outside of experience that was not indicated by a bodily sensation. The clearest example of this was sample 2.2:

> **Sample 2.2** Bradley was watching a movie at home with his girlfriend, and massaging a cramp in her quad muscle. At the moment of the beep, Bradley was innerly seeing a quad muscle, by itself, from the perspective of his hand. That is, he saw it as though his hand was the camera looking into her leg in 3-D, and he was looking at the muscle from the same angle his hand would see it. The quad muscle was the only muscle Bradley saw, none of the muscles around it. At the same time he was innerly speaking the words, rapidly as if in a run-on sentence, "How much longer do I have to do this; really!?; I just want to relax; oh my God" in an annoyed tone. The feeling of annoyance was not otherwise in his experience. The inner seeing was more salient in his experience than the inner speaking at the moment.

In this sample, Bradley's annoyance was ongoing, but was not felt in experience, and in fact, was only evident in the tone of his inner speaking. Unlike the samples discussed above, there was no physical sensation that Bradley later recognized as ongoing emotion, yet the presence of ongoing emotion not experientially felt was similar in sample 2.2.

In sample 2.5 (in which Bradley innerly saw V. Stiviano and the red Ferrari), he had a sense of judging both V. Stiviano and Donald Sterling, though it was not clear whether this judging/criticism was implicit in his inner speaking (which was "he's fallen

for the oldest trick in the book; he's like 80, she's like 30; what did he expect?; what did she expect?, how could he fall for that?"), or whether it was somehow separate, or in experience at all. Though a sense of judging/criticizing may or may not be categorized as an emotion, it seemed to us similar enough to emotion to be noted in this section, as the average DES participant would likely be confident about whether and how their judging was in experience. A lack of clarity about emotion (or the emotion-like process of judging) is not common among our typical participants, and seems relevant to what we have called emotion without feeling.

The two ways in which the emotion without feeling phenomena presented in Bradley's samples were slightly different from one another; however, the core of the experience in all of these samples was a lack of experience (specifically, the experience of emotion that was later recognized to be ongoing). This was notable because it was unusual in comparison to the way most DES participants describe feelings, and also in light of the fact that there were no samples in which Bradley's experience involved a clearly felt emotion.

Discussion

Across all days of sampling, Bradley's inner experience was notably similar in terms of the types of phenomena and how they were present to him. His experience and access to it did not seem to change very much after the first sampling day. Bradley's experience was like that of the other participants in this study in that it was often quite complex, and that his experience of emotion (or lack of experience of emotion) was unusual in comparison to average DES participants. His experience was unlike that of the other participants in this study in that he seemed to have a clarity and access to

experience that the others did not have, or had much less frequently. In addition, Bradley's experience consisted mainly of inner seeing and rapid, run-on inner speakings, which was not the case for the other participants.

CHAPTER 8

Idiographic Description of Chris's Experience

Chris was a 37-year-old Caucasian male veteran who sampled with us in June of 2014. He was deployed four times; twice to Afghanistan and twice to Ira, and reported significant PTSD symptoms. Chris collected 23 samples over the course of four sampling days with us, and after discarding the samples from the first day, had 18 samples. Although Chris seemed to grasp the task of sampling fairly well, he frequently canceled or missed scheduled sampling meetings, and took a great deal longer than usual to complete all 4 sampling days. This suggested the possibility that he may have struggled with some aspect of sampling, and perhaps engaged in avoidance of the task at times, though he was willing to return and continue sampling after each cancellation until his sampling was complete.

In 36% of samples, Chris' experience was characterized by a feeling, and in 17% of samples, he had emotion ongoing without feeling. In 3% of Chris' samples, his experience was of inner speaking, and in 28% of samples he was engaged somehow in a verbal process (e.g., reading, speaking, inner speaking, etc.) that was not in his experience. In 17% of samples, Chris was just speaking aloud. In 11% of samples, Chris had an inner seeing, and in 11% he was engaged in a passive searching process that was not in experience. In one sample (5%) he was intently focused on a task, and in one sample (5%), he was just watching television. Table 6 represents the frequency and percentage of different types of phenomena found in Chris' sampling.

Table 6
Frequency of Phenomena: Chris (18 samples)

	Frequency	Percentage
Feeling	7	36%
Emotion without Feeling	3	17%
Verbal without Experience	5	28%
Inner Speaking	3	17%
Speaking Aloud	3	17%
Inner Seeing	2	11%
Passive Searching	2	11%
Concentrated Doing	1	5%
Watching TV	1	5%

Feeling/Emotion without Feeling

In seven of Chris' 18 samples (39%), feelings were at the center of his experience. Some of these were felt bodily, as in sample 4.3:

> **Sample 4.3** Chris was typing his answer to an essay question on an online exam. At the moment of the beep he was feeling a rushed/frustrated/stressed feeling that manifested as his heart thumping in his chest. At the same time, he was reading information on the pro-slavery movement of the 1800's on his desktop PC and simultaneously forming a summary of that information and typing it into his essay on his Mac. The feeling rushed/frustrated/stressed was 60% his experience, the reading was 20%, and the summarizing was 20%.

In this sample, Chris had a stressed feeling that was in experience as the physical sensation of his heart pounding.

In some samples, Chris had both a mental and bodily feeling. For example:

Sample 2.4 Chris' 18-month-old daughter had awakened and started to cry. At the moment of the beep, Chris was innerly speaking "How long is this gonna take?" in his own voice with a tone somewhere between worry and frustration. The worry/frustration was present as a mental feeling (which was expressed entirely in the inner speaking) and as a bodily feeling of all over body tension and mild heart racing. The words were the most salient aspect of experience, the bodily tension and heart racing were less salient.

In sample 2.4, Chris felt the worry/frustration both as a mental feeling and as a physical feeling.

In one feeling sample, Chris' experience was completely consumed by a powerfully felt emotion:

Sample 2.5 Chris was holding his 18-month-old daughter and swaying, rocking her to sleep. At the moment of the beep, Chris felt a warm, melty feeling deep inside his chest and throughout his entire body. The warmth (which felt like a temperature increase) somehow represented or connoted or reflected the context of his relationship with his daughter (that she was special, that he nearly lost his life in an accident and nearly did not have the chance to hold her), which was present as part of the warm, melty feeling. The warm feeling was his entire experience at the moment. He was somehow choosing a song to sing to her, but this was not in his experience.

In this sample, the warm, melty feeling was intense enough to occupy his experience completely.

In one sample, Chris had two simultaneous different feelings; one mental feeling in addition to a separate bodily feeling. Here is that sample:

> **Sample 4.4** Chris was playing with his new English bulldog puppy, who was a gift from his family. At the moment of the beep, he was feeling happiness, which was a bodily warmth in his chest, arms, and heart. He was simultaneously feeling joy, which was a mental feeling that he did not have a care in the world. [The bulldog, which was the source of his feelings, was not in his experience at the moment of the beep.]

In this sample, Chris' happy feeling was bodily, accompanied by a mentally experienced carefree joy.

Chris also had moments in which he had emotion ongoing but not felt, which comprised three of his samples. In two of these, it was an angry or frustrated emotion that was not in experience. For example:

> **Sample 2.3** Prior to the beep, Chris had hit the "print" key on his computer, which sometimes required being clicked several times before it would print. At the moment of the beep, Chris was innerly speaking "How many times am I going to have to hit this fucking key?" in a frustrated/angry tone. This inner speaking was louder than his usual volume, perhaps as loud as a yell. The feeling of frustration/anger was not present in any other way than the frustrated/angry inner speaking.

In a similar sample, Chris was apparently frustrated, though the frustration was not directly in his experience:

Sample 2.1 Chris was looking for the answer to a question for his history mid-term, and had been flipping through the textbook for approximately 10 minutes in the search. At the moment of the beep, Chris was innerly hearing his voice say "What am I doing wrong? What am I doing wrong?" repeatedly in succession. There were no words present, yet the meaning was somehow innerly transmitted in his own voice. There may have been a worried or concerned tone. The repeated hearing was a feeling of frustration, which was not present in any other way.

In the third emotion without feeling sample, it was an emotion of positive valence that was ongoing but not felt.

Sample 2.6 Chris had just finished several hours of homework. At the moment of the beep, he was sighing a big sigh which expressed a feeling of satisfaction. The satisfaction was a relief and the beginning of relaxation at being done with his homework, and was only present to Chris as the sigh.

In sum, Chris' feeling and emotion without feeling samples showed a broad range of ways Chris experienced (or did not experience) emotion, from moments in which Chris apparently had some emotion ongoing but not felt, to moments where emotions were felt clearly, to moments where two different feelings occurred simultaneously, to moments in which a powerful feeling shut out the outside world and all other inner experience.

Verbal Experience

In three samples, Chris was innerly speaking. For example:

Sample 3.3 Chris was grilling chicken on the outdoor grill, and was squeezing the chicken with the tongs to determine whether it was done cooking. At the moment of the beep, he was innerly speaking in his own voice "Is this chicken done?" in a matter-of-fact tone.

Chris was also innerly speaking in sample 2.4 (described in the Feeling section) in which Chris felt mentally and physically worried when his daughter woke up. In the other inner speaking sample (sample 2.3, in the Feeling section, in which Chris was frustrated at the printer), Chris's inner speaking was a yell that was the only manifestation of frustration.

There were three samples in which Chris was speaking aloud and that speaking was in his experience. For example:

Sample 3.2 Chris was working on blueprints for a new garage he was designing. At the moment of the beep, he was counting out loud the number of plugs he planned on the side wall ("1..2..3.."), and had just said "2." He was also seeing the blueprint at the moment of the beep.

However, there were three samples where his speaking aloud was *not* present in his experience. For example:

Sample 3.4 Chris was watching a home repair show in which someone was fixing a backsplash in a bathroom. At the moment of the beep, Chris was just seeing the task the workers were doing. He was saying aloud "Oh, I can do that," but this was not in his experience—the words were just rolling out at the moment of the beep.

In this sample, Chris's speaking was happening automatically, outside his experience completely. In another sample, the speaking was in experience, but only minimally:

Sample 4.1 Chris was cutting sausage for the baby's spaghetti dinner. At the moment of the beep, he was making sure the sausage was cut in small enough pieces for the baby, which was somehow in experience. At the same time he was asking his wife "Hey babe, is the sausage small enough?" (or maybe simply "Is this small enough?") which was secondary in experience to the making sure.

In one sample that was somewhat similar, Chris knew his inner voice to be speaking, but the voice did not have words. This was sample 2.1 (described above in the Feeling section), in which Chris was searching for the answer to a test question and innerly repeating "What am I doing wrong?" in some way so that the meaning was present to him, but without words.

In another example, Chris had a verbal process ongoing, but the verbal nature was not explicitly in experience. In this sample, Chris was simultaneously reading and summarizing the information he was reading as he did so (sample 4.3, described above in the Feeling section, in which Chris felt heart-thumping stress). In that sample, Chris was somehow engaged in two separate but related verbal processes simultaneously, and mostly outside experience.

In two additional samples, Chris was engaged in a search for verbal information, and the search was somehow ongoing outside experience, so that he was not experiencing any particular words, but was waiting for the correct words to come to him. For example:

Sample 2.2 Chris had typed a sentence in his history homework, and was dissatisfied with one word of the sentence. At the moment of the beep, he was

searching a few paragraphs in the textbook looking for the correct word to replace the undesired word. He did not know the word he was looking for, but was looking for a specific word and would know it when he saw it.

In this sample, Chris was passively waiting for the correct word to jump out, rather than experiencing the verbal nature of the experience.

The other sample in which a similar nonverbal passive search occurred was sample 2.6 (described in the Feeling section), in which Chris felt the intense warm, melty feeling. In that sample, he was somehow searching for a song to sing to his daughter, but neither that search process, nor the titles, words, or tunes of songs, were in experience.

In summary, in some samples, Chris had a clearly experienced verbal process (speaking aloud, inner speaking), but in other samples, Chris had did not have verbal experience, even though a verbal process such as the production of speech, reading, or searching for the correct word was certainly ongoing. The broad range of ways in which speaking and verbal processes were in—or not in—Chris' experience suggested that his experience was not necessarily tightly related to his activity, including his verbal activity.

Other Phenomena

Inner seeing. There were two samples in which Chris possibly had inner seeing, though in both cases, his mention of the inner seeing as part of experience occurred relatively late in the interview, which left room for skepticism about whether the inner seeing was in experience at the moment. Here is an example of Chris' inner seeing:

Sample 4.2 Chris was describing the difference between the old RoboCop movie and the newer remake to his wife, and was trying to recall the old movie. At the moment of the beep, he was speaking aloud to his wife, describing the

differences, but this speaking was just rolling out so that he did not really attend to the words he was speaking. His experience was dominated by innerly seeing high speed scenes from the old RoboCop movie going by, as though they were a VHS tape in fast forward (that is, with the motion within the scenes speeded up, not merely skipping from one scene to the next).

We had reason to be skeptical about whether Chris was innerly seeing, as he did not mention the inner seeing until later in the interview. Until that time it had been clear in the interview that the center of his experience was trying to recall the old RoboCop in relation to the new movie, but the detail of the inner seeing came late in the process. We inquired of Chris whether he had indeed been seeing the scenes at the moment of the beep, and he averred that he had, so we can be confident that he understood the distinction between being created in the retelling and existing at the moment of the beep. However, we cannot be confident that, despite his protests, he was seeing scenes at the moment of the beep. The mention of the inner seeing late in the interview was the same for the other possible inner seeing sample. It was possible Chris was self-conscious about those samples, or the experience of inner seeing in particular, for some reason that made it difficult to discuss, but we could not know for sure.

Concentrated doing. In one sample, Chris was intently focused on doing a task the right way (sample 4.1, described in the Verbal without Experience section). This was more than just doing; it was a purposeful focus on the cutting of the sausage to that it would be small enough for the baby to eat.

Discussion

Chris had mostly emotion without feeling samples, but he also had a broad range of other types of feeling samples, some relatively typical, some atypical of DES participants in general. This was unlike the other participants in this sample, who had very few straightforward feeling samples.

Another notable feature of sampling with Chris was that it seemed he at times had difficulty saying what was in his experience, and his degree of access to experience (or perhaps ability or willingness to attempt to render a faithful description) seemed to fluctuate over sampling days. For example, on day two, Chris seemed fairly confident and able to describe experience, and then on day three he had more trouble describing experience, and seemed less certain of what was in experience. It may have been that Chris' access to experience and perhaps ability to tolerate focus on experience fluctuated across time.

CHAPTER 9

Idiographic Description of David's Experience

David was a 31-year-old Hispanic male combat veteran with three deployments to Iraq who sampled with us in December 2013. He reported significant PTSD symptoms that met diagnostic criteria on the PCL-M, and carried an outside PTSD diagnosis. David collected 26 samples over the course of six sampling days and participated in an expositional interview within 24 hours after each sampling day. After discarding the samples from the first sampling day, David had 22 sampled experiences.

As shown in Table 7, a salient phenomenon in David's experience was sensory awareness (45 – 55% of samples), as was emotion without feeling, which appeared in approximately 41% of his samples. Other salient features of David's experience include unsymbolized thinking (9 – 18%), just doing (9 – 14%), and moments in which David had two centers of experience (5 – 9%). David had instances of inner seeing (9%), inner hearing (5%), inner speech (5%), inner hearing/inner speech (5%), and hypervigilance (5%). Each feature of experience is discussed in detail below.

Table 7
Frequency of Phenomena: David (22 samples)

	Frequency	Percentage
Sensory Awareness	10 – 14*	45 – 63%
Emotion without Feeling	9	41%
Unsymbolized Thinking	3 – 4*	14 – 18%
Just Doing	2 – 3*	9 – 14%
Two Centers of Experience	2 – 3*	9 – 14%
Inner Seeing	2	9%
Inner Speaking	1	5%
Inner Hearing	1	5%
Inner Speaking/Inner Hearing	1	5%
Hypervigilance	1	5%

*These frequencies represent both conservative and liberal counts of experiences in a particular category. The lower number is the number of samples that clearly fell into the listed category, and the higher includes samples that were somehow ambiguous, but that were possibly or likely in that category.

Sensory Awareness

Of David's total of 22 samples between 10 and 14 (45 – 63%) included sensory awareness of some kind. Six of David's sensory awarenesses were experienced within his own body and four were of the interaction between his body and the physical world. Much less frequently, if at all, David had visual sensory awarenesses. There were two ambiguous samples that seem likely to be visual sensory awareness, counted in the liberal (but not conservative) count in Table 1, and one visual awareness moment from the first sampling day which we did not count, but is worth noting, considering the amount of sensory awareness in David's experience.

David experienced straightforward bodily awarenesses in four samples. For example:

Sample 6.1 David was reading a Facebook message, and at the moment of the beep, he felt a heaviness inside his head an inch or so behind his eyes, as though that part of the inside of his head were made out of a heavy material. [After the beep, he recognized the heavy feeling as tiredness, but that tiredness was not in his experience at the moment of the beep.]

The experience in this example was of an unambiguous internal, sensory nature. Three other samples were similarly unambiguous. There was one additional sample in which David's experience included the absence of sensation, rather than the presence, and David retrospectively identified the significance of that experience as the absence of sensation. This was sample 3.4:

Sample 3.4 David was sitting in class. At the moment of the beep, he was noticing a tired/fatigued/pleasant/ "hollow" feeling in his entire body, uniformly head to toe. This was a pleasant sensation that his whole body was relaxed, like an empty, light space where particular feelings or sensations might take place but were not taking place at the moment of the beep.

It was debatable whether 3.4 should be counted as sensory awareness. Thus the Table 1 frequency of sensory awareness provides a count both excluding and including this sample.

Four of David's samples included sensory awareness of aspects of the external world, rather than focused within his own body. In three of those samples, the sensory awareness was fairly straightforward; David was paying particular attention to the weight of an Xbox controller (sample 5.2), feeling his feet drag across the top seam of a chair (sample 2.2), and feeling the shape and pressure of a button. For example:

Sample 3.1 Prior to the beep, David thought the beeper might be broken, and reached down to check it by putting his thumb on the button. At the moment of the beep, David was feeling the cylindrical shape of the button, and, to a lesser degree, the pressure of his thumb pushing lightly on the button.

The remaining sample of external-world sensory awareness sample will be discussed in the Two Centers of Experience section below.

David may have had two visual sensory awareness samples, though they were less clear than the other two types of sensory experiences (bodily and external). In sample 3.5, which we categorized as a just doing sample, there may have been a visual sensory awareness component to David's watching his instructor take a sip from a bottle of water; he may have been focused on the water flowing from the bottle into the instructor's mouth, but we were not sure. In 3.6, there were several aspects of experience at the moment, one of which might have been a sensory awareness of the highlights in his classmate's hair. This sample, however, was an example of hypervigilance, and will be discussed further in that section. David also had visual sensory awareness in the first sample from the first interview day.

Emotion without Feeling

In nine of 22 samples (41%), David apparently had some emotional process ongoing but did not experience that emotion directly; that is, there was no feeling in his experience though he later, when describing the moment, identified an ongoing emotional process at the moment. There were nine examples of this phenomenon and no examples of clearly experienced feelings in any of our samples, which suggested that David commonly did not experience feelings at moments in which there was some emotion

ongoing. In such a moment, David experienced the physical sensations that doubtless were part of an emotion process, but did not, in the moment nor in experience, connect those physical sensations to emotions or even the expression of emotions (e.g., a smile).

One example of this phenomenon occurred in sample 4.3:

Sample 4.3 Prior to the moment of the beep, David was playing the video game *Call of Duty* and had shot an attacker in the head. At the moment of the beep, he was sensing the musculature on the right side of his mouth and face curl up. He also felt a sensation like butterflies inside his stomach and chest which radiated from his stomach upward into his chest. At the moment the mouth/face musculature was more salient in his experience than was the butterfly sensation. [In retrospect, he recognized the mouth/face musculature sensations as being the inner experience of a smile, but the smile itself was not experientially present at the moment of the beep. Also retrospectively, he said recognized himself to be happy—that the smile and the butterflies were part of a happy feeling, but that happiness was not directly in his experience at the moment of the beep.]

In this example, David was directly experientially aware of the sensory feel of his face musculature and butterflies. The emotion of happiness was not in his experience, nor did he even recognize the muscle process as a smile in the moment.

In sample 4.2 David was watching his character reload his gun on *Call of Duty*, and after the beep, realized that he was breathing heavily and animatedly; that is, retrospectively he recognized himself as being excited. His experience at the moment of the beep, however, was not excited; he was just waiting and watching his man reload.

Another example of emotion without feeling was sample 5.5:

Sample 5.5 David's son was sitting on his lap and quickly and enthusiastically drinking a bottle of formula. At the moment of the beep, David was recognizing that his son was enjoying his bottle. He had a cognitive sense that his son's enjoyment was a good thing [and after the beep concluded that he should feel good about it, but at the moment of the beep he did not feel anything].

In this sample, David's experience was entirely cognitive, and only in retrospect did he categorize the event (his son enjoying a bottle) as an emotionally meaningful one. This was similar to sample 6.5, in which David described being "mentally confused" and experiencing unclear thoughts, but not a *feeling* of confusion.

In one other emotion without feeling sample, David experienced a lack of sensation that he retrospectively identified as emotion-related. This was sample 3.4 (described in the Sensory Awareness section) in which David noticed a hollow feeling head to toe and retrospectively understood that the hollow sensation was a lack of anxiety—a space where anxiety might occur but was not. In a similar sample, David retrospectively understood a physical sensation as a relaxed or non-anxious state:

Sample 4.1 At the moment of the beep, David felt a coolness inside the front portion of his skull (behind his forehead area, inside his skull, but not down deep). In retrospect, he recognized this as a pleasant sensation that represented a lack of anxiety or a lack of "static," which is present when he is anxious, but at the moment, he was just sensing the coolness.

We inquired about the similarity between this pleasant absence of anxiety and the "hollowness" of sample 3.4. David's impression was that the two were similar in that both reflected an absence of anxiety, but the hollowness is a stronger, more

encompassing version. The coolness was just inside his head whereas the hollowness was throughout his body, head to toe. In both cases, no part of the "lack of anxiety" feeling was in David's experience.

The example of ongoing emotion that was closest to being an experience of emotion was:

> **Sample 3.2** David was driving, and prior to the beep, was concerned that the beeper was not working, and was imagining telling Dr. Hurlburt that he had not completed the task of collecting beeps. At the moment of the beep, he was innerly saying "I hate to do this, but…" in his own voice, as though he were speaking to Dr. Hurlburt (though Dr. Hurlburt was not otherwise in his experience at the moment). The inner speaking was about 70% of his experience. The words after "but" were not in his experience at the moment, but the sentence would have continued were it not interrupted by the beep. At the moment, he had some sense that he had made a mistake or not completed a mission. This was about 30% of his experience; whether it was a feeling or a thought was not clear.

It was clear that David had some awareness of making a mistake, which he described as a mental (but not emotional) feeling. This was the closest to the experience of feeling as any of the samples from David.

The final possible emotion without feeling sample was 2.2:

> **Sample 2.2** David was getting up from his chair in the kitchen, where he had his legs draped over another chair. At the moment of the beep, he was feeling, through his show, his feet dragging over the bump of the seam on the top of the chair. To a lesser degree he was feeling anxious and rushed, which he described

as an emotional, not thinking or bodily, experience. [In interview he thought the feeling his feet drag across the seam was about 70% of his experience, and the anxiety/rushed feeling was about 30%.]

During the interview, David explained that before and after the beep, he felt a hot feeling all over his body, which he knew later to be a rushed/anxious feeling, though the hotness was not in his experience right at the moment of this beep. It may be that at this moment, David directly felt rushed and anxious, or it could be that he felt hot all over, which he later knew to be anxiety, or it could be that it was simply a fact of the universe that David was indeed rushed, but that was not in his experience at all at this moment. Because this was a sample from David's second sampling day, we were skeptical of David's possible assumption that if he is rushed, he must also be experiencing rushed-ness.

There were three additional examples from the first sampling day one that apparently involve ongoing emotion without feeling. Though we are not counting samples from the first sampling day, it was notable that there were likely 12 total examples of David retrospectively identifying some ongoing emotional process that was not directly in his experience in any way that he connected to emotion or feeling in the moment.

Two Centers of Experience

David had two or three (9 – 14% depending on how we count) instances in which there were two centers of his experience. In the first two examples, David was simultaneously distinctly in two roles (video game controller and character; and speaker and hearer). The third (less clear) instance seemed similar, in that he innerly referred to himself as "I" and "you." The first example:

Sample 5.3 David was playing *Call of Duty* and his character on the game had taken a lot of bullet damage. At the moment of the beep, David was pushing hard on the joystick to move his character out of the firefight to reload his gun. He felt the pressure of his thumb against the joystick. David simultaneously felt that he was there in the firefight, in control of the character but at the same time at the mercy of the David controlling the character. Thus there were two simultaneous but separate centers of experience: David [in his living room] feeling the joystick and David [in the *Call of Duty* firefight] controlling his *Call of Duty* avatar. This in-the-firefight David was experientially both there with his avatar, controlling the avatar, moving with the avatar, but at the same time not in the firefight, not participating in the action. Thus experientially he was there in the game and also in control at the same time.

In this example, David clearly experienced two separate simultaneous centers of his inner experience. This seems importantly tied to the diagnostic criteria of depersonalization in PTSD, in which an adaptive detachment from directly experiencing a traumatic event becomes generalized to everyday life.

Sample 5.1 was likely another example of a two centers of experience moment:

Sample 5.1 David was typing a report on Henry Box Brown. At the moment of the beep, he was innerly saying "abolitionist gladiator, abolitionist gladiator" over and over, in his own voice without any particular inflection. This speaking seemed to take place perhaps a foot in front of the real David's face. At the same time, he was innerly hearing that speaking, as though the hearing part of himself was inside the real David's head hearing the words coming from the front.

Simultaneously, he was typing, entirely on autopilot, a sentence that involved the abolitionist gladiator. Thus there were two separate verbal experiences and a simultaneous-but-outside-of-experience verbal processing. His eyes were aimed at the monitor on which the typed words were appearing, but that also was not in his experience at the moment of the beep.

David was, in this sample, simultaneously the speaker and the distinctly separate hearer of his own spoken words.

The third example, while less explicit, seems nevertheless related to the lack of a center of experience phenomenon:

Sample 2.1 David had just sat down to eat an omelet and at the moment of the beep, was innerly hearing the words "I should go get your computer," where "your" referred to his own computer. He was confident that the words of this inner sentence included the inconsistent pronouns "I" and "your," both of which referred to himself. He was confident that the experience was of hearing his voice rather than speaking it; he heard these words in his own voice, with a tone of mild urgency.

The implication that there were to centers of experience, one that should go and the other that owns the computer, hinges only on the two pronouns, and especially because this was only the second interview, there is grounds for skepticism. We include it because such pronoun inconsistency is, across DES, rare and may be noteworthy in the context of the PTSD diagnostic criteria of depersonalization.

Other Phenomena

Unsymbolized thinking. David had three or four (14-18% of the total, depending on how we count) moments of unsymbolized thinking. Two of David's unsymbolized thinking samples were straightforward, clearly experienced thoughts:

> **Sample 6.2** David was playing *Call of Duty*, and before the beep, his player was reloading his gun. At the moment of the beep, David was thinking without words or images that the game was very unrealistic. This was more than just a noticing; it was an experienced thinking that the game was unrealistic.
>
> **Sample 5.4** David was playing *Call of Duty*. At the moment of the beep, he felt a tired, dull pain behind his eyes. This was about 70% of his experience. The other 30% was a knowing that the reason for the tired feeling was that he had stayed up too late last night. This was a separate part of his experience, and not just implied by the dull pain.

These were unsymbolized thinking experiences in which the thought was clear and definite, just without words or images. The other example of an unsymbolized thinking phenomenon in David's samples was undifferentiated, meaning it was a vague, less-defined thought, rather than a clearly delineated (without words) thought process.

> **Sample 5.2** At the moment of the beep, David was picking up the Xbox controller and felt the light weight of it in his hand (an example of sensory awareness). At the same time, he was mentally acknowledging or recognizing the weight of it in his hand. That is, he did not merely sense the weight; there was also a simultaneous thinking/acknowledging/recognizing of the weight. These were two parallel and related experiences; about 50/50 in terms of salience.

In the fourth possible unsymbolized thinking sample, the experience was clearly mostly of inner seeing, and the presence of unsymbolized thinking is debatable. That sample (6.3) is discussed in the Inner Seeing section of this chapter.

Just doing. David had two or three (9-14% of total, depending on how we count) moments in which he was just doing something, that is, he was engaged in some action or activity without having words, images, sensory awareness, or feelings.

> **Sample 6.4** David was playing *Call of Duty*, and at the moment of the beep, moving his player forward about half the map and then laying him down and wait to ambush the enemy. He explained in the interview that he has done this maneuver many times on the game, and was very familiar with what he needed to do and where to go, and was not thinking about it.

The other clear example in this category is sample 4.2, discussed above in the Emotion without Feeling section. Though the actual content of the sample was just doing, the context (later realizing that he was breathless and excited) made it relevant to the emotion without feeling phenomenon.

The last sample which debatably involved just doing, was sample 3.5, in which David watched his instructor drinking from a bottle of water. We were not sure whether this should be called just doing, or rather should be called a visual sensory awareness. Given the frequency of sensory awareness in David's experience in general, it was somewhat more probable that this moment was a visual sensory awareness, but it is worth mentioning that it was not totally explicit.

Inner seeing. David had one instance of inner seeing (5% of the total).

Sample 6.3 David was playing *Call of Duty*, and before the beep, his player was being pursued by two enemies on the right and, he had just realized, one new enemy on the left. At the moment of the beep, he wanted to know where the left enemy was, and was innerly seeing a white van that he knew to be nearby and to the left of his player on the game, and that he knew he could use for cover (this knowledge was implicit in the seeing of the van). He saw the van from the perspective of the player crouching on the ground in the game, and saw only the van and the sky in the background. As far as he could tell, the van and sky looked as they would in the real game.

In this instance, there may also have been an unsymbolized thinking, but it was not clear that this was separate from the inner seeing.

Inner speaking. David had one inner speaking sample (5% of the total) which is discussed in more detail above in the emotion without feeling section (sample 3.2). The inner speech in that sample was quite straightforward: he was innerly saying "I hate to do this, but…" in his own naturally inflected voice.

Inner hearing. David had one example of inner hearing sample (5% of total; sample 2.1) which is discussed in the section on two centers of experience ("I should go get your computer").

Inner speech/inner hearing. David had one sample (5% of total) in which he was both innerly speaking and innerly hearing: sample 5.1, which is discussed in the two centers of experience section ("abolitionist gladiator").

Hypervigilance. David had one instance that might be called hypervigilance (5% of total; sample 3.6).

Sample 3.6 Prior to the beep, David was sitting in class as the door across the room just out of his peripheral vision opened and a female classmate walked through. Before the beep, he had been assessing whether or not the noise of the door opening was a threat; then he recognized the classmate primarily from the highlights in her hair, upon which he determined that she was not a threat. Now, at the moment of the beep, that determination was in the process of fading from his experience (he said it remained about 25% of his experience). Most of his experience at the moment was of seeing the girl "break the threshold" of the door, by which he apparently meant enter into view. He recognized the highlights in her hair, but most of his experience at the moment was of seeing her whole person walk in the door.

In David's experience, this was the closest we found to a moment of true hypervigilance. It seemed as though the experience immediately preceding the beep was a full hypervigilance experience, in which he was assessing the environment for a threat. This sample caught the tail-end of a hypervigilant moment as it faded from David's experience, and the bulk of this moment seemed to be a just seeing/visual sensory awareness experience.

Discussion

David's experience consisted mainly of sensory awareness. Like the other participants in the current sample, David also had many samples in which emotion was ongoing without feeling in experience.

One notable feature of David's sampling was the two samples in which David had two separate centers of experience. This seemed potentially relevant to the dissociative

symptoms of PTSD, and raised the hypothesis that "dissociation" in experience may manifest as a fragmented experience that lacks a focused center.

David had the only clear example of hypervigilance across all participants, which was somewhat surprising given the emphasis in the PTSD literature on hypervigilance.

CHAPTER 10

Idiographic Description of Emily's Experience

Emily was a 42-year-old female African American veteran who was deployed twice: for 15 months to Afghanistan and for 12 months to Iraq. On the PCL-M she completed during screening, she noted avoidance, feeling emotionally numb, and feeling cut off from others as her most severe symptoms of PTSD. She sampled with us for 6 days in July 2014.

The process of Emily's sampling was relevant to our ultimate understanding of her inner experience. On sampling day one, all of her sample notes were about what she was feeling (though it was not clear that there were ever feelings or anything else in experience). Then on day two, she wrote notes about what she was thinking for every sample (though, again, she struggled to describe experience in a clear way). By day three, she had given up on attempting to report on strictly feelings or thoughts, and it seemed more likely that there was most often no experience or very little in experience. Throughout all of sampling, Emily began her descriptions of each moment with some version of "I wrote down…" and had trouble describing her experience in any more detail than what was in her notes, which was often context, one word, or a vague descriptor of the situation. Emily had no problem describing the situation, what she was doing, who was present, etc., which indicated it was not simply a recall problem. She was almost always uncertain of what was in her direct experience, and struggled more than most participants in describing her inner experience. In all but two samples, when Emily said she might have been innerly speaking, she could not identify the exact words or how they were in experience, which suggested that in fact, there were no words in her experience.

Over the course of sampling, we realized that Emily was not wearing the earphone, so for days five and six, she wore the earphone to collect her samples. She noted that it was much easier to pinpoint the moment of the beep. The content of her samples on those days was very similar to the preceding days, which suggested to us that in fact, her difficulty describing experience was not simply a result of not wearing the earphone, but was due to the fact that Emily had very little inner experience to describe to us. It took several sampling days to be certain, but by the end of day 6, it was clear that Emily frequently had no or very little inner experience. In some of the samples we characterized as "no experience" samples, it was possible there was a low-level phenomenon ongoing in Emily's experience, but it was not clear enough, or perhaps not present enough to Emily for either her or us to detect or describe.

In the majority of Emily's samples (47 – 70%), there was no experience ongoing. One sample seemed likely to be an unsymbolized thinking, and there were six others that may have been unsymbolized thinking, but where it was more likely there was nothing in experience (3 – 20% unsymbolized thinking). In two samples, it seemed very likely that Emily was innerly speaking. There were two additional samples from early in sampling in which Emily thought perhaps there were words in her experience, though for both of those samples, she was unable to recall the specific words or how they were present, which led us to believe that these were in fact no experience samples (7 – 13% inner speaking). There were two samples (7%) in which it was possible Emily had some emotional process ongoing, but we were never sure whether these were actually in experience or whether she, in retrospect, recognized that the moment was emotion-laden and assumed she must have felt something in experience. In one or possibly two samples

(3 – 7%), Emily had a sensory awareness, in one sample her experience was of inner seeing (3%) and in one (3%) she was engaged in a concentrated doing. Table 8 represents the frequency and percentage of the different types of phenomena in Emily's samples.

Table 8
Frequency of Phenomena: Emily (30 samples)

	Frequency	Percentage
No Experience	14 – 21*	47 – 70%
Unsymbolized Thinking	1 – 6*	3 – 20%
Inner Speaking	2 – 4*	7 – 13%
Feeling	0 – 2*	0 – 7%
Sensory Awareness	1 – 2*	3 – 7%
Inner Seeing	1	3%
Concentrated Doing	1	3%

*These frequencies represent both conservative and liberal counts of experiences in a particular category. The lower number is the number of samples that clearly fell into the listed category, and the higher includes samples that were somehow ambiguous, but that were possibly or likely in that category.

No Experience

In at least 14 of 30 samples (47%), we were confident that Emily had no inner experience (and there were 7 additional samples where we suspected there was no experience, but they occurred too early in sampling for us to be certain). Here is an example of a typical sample for Emily:

> **Sample 6.4** Emily was walking to the laundry room. At the moment of the beep, there was nothing in experience (not the walking, not the laundry room, or anything else).

And another:

> **Sample 5.5** Emily was on the phone with a friend. At the moment of the beep there was nothing, including her friend's talking, in her experience. Her eyes were aimed at the couch, but that was not in experience either.

By the time we reached the sixth day of sampling, it was clear that Emily often had no inner experience. In five of these samples, Emily was engaged in some activity that we would expect to be experienced, but had no experience of that action. For example:

> **Sample 5.1** Emily was watching a kids show with her daughter. At the moment of the beep, she was just watching the show and singing along. There was nothing particular in her experience at this moment.

Though it occurs fairly often that *speaking* happens outside or minimally in experience, it was unusual that Emily's *singing* was not at all in her experience. Here is another example of an occurrence we would expect to be in experience, but for Emily, was not:

> **Sample 5.4** Emily was watching her daughter play with play-doh. At the moment of the beep, Emily was watching her use different colors of play-doh. She was noting that her daughter was using multiple colors, but this was not a cognitive experience, and the particular colors themselves did not especially draw her experience.

We might expect a typical participant to have a sensory awareness of the play-doh colors, an inner speaking or unsymbolized thinking related to the fact that her daughter was using many colors, or any number of other phenomena in experience. Instead, none of those things, nor any other phenomenon, was in Emily's experience.

In seven other samples, Emily had no inner experience, but she characterized herself as waiting or searching for something. For example:

> **Sample 6.5** Emily was typing a letter on the computer, and at the moment of the beep, was trying to figure out how to say what she wanted to say in a nice way. She was just waiting for the right words to come to her. She was physically typing "is doing a" at the moment, but this was not in her experience.

Emily was not actively engaged in the process of finding the right words (at least, not in experience), rather this seemed to be a passive sort of process in which the words would somehow come to her. Here is another example:

> **Sample 4.1** Emily was deciding whether to keep or get rid of a gray sweater, and at the moment of the beep, she was somehow in the process of deciding, though this process was not in experience.

In sample 4.1, it was as if the deciding was happening outside of experience, and Emily was waiting for the decision to be made. In the other similar samples, Emily was trying, searching, or deciding in a passive way, so that the waiting/searching itself was not in experience.

Though it took the first three days of sampling to become confident that Emily often had no inner experience as she went about her everyday life, it became quite clear by the end of sampling that this was the case.

Other Phenomena

Unsymbolized thinking. There was one example of clear unsymbolized thinking in Emily's samples. This was one of very few explicit descriptions of ongoing inner experience in all of Emily's interviews.

Sample 6.6 Emily was watching TV and had heard someone say that it was National Cheesecake Day. At the moment of the beep, Emily was wondering whether there would be a special price on cheesecake that week. This was a clear notion present without words, visual phenomenon, or any other representation.

There was one example that may have been an unsymbolized thinking, but was perhaps only partially realized in Emily's experience.

Sample 4.6 Emily was looking at information for an HR course on her computer. At the moment of the beep, she may have been thinking without words, images, or any other experienced way, something in the ballpark that the course would be a refresher for her, that she knew the material, that maybe she could take a different course.

This sample seemed somewhere between an unsymbolized thinking and no experience, as the notion that the course would be a refresher did seem to be somehow in experience, but Emily did not describe that notion with the type of clarity that is typical of unsymbolized thinking. Thus, it seemed possible that this was perhaps an unsymbolized thinking that was not fully present or fully realized in Emily's experience.

There were six samples from our third sampling day that we determined at the time were possibly unsymbolized thinking or possibly no inner experience. We became more confident over time that it was very likely those were in fact moments in which Emily had no experience ongoing, after the process of sampling unfolded (as described in the introduction to this chapter), and it became clear that more often than any other occurrence, Emily had no inner experience.

Inner speaking. There were two clear examples of inner speaking, where Emily could identify the words that were in experience. This was the first:

> **Sample 3.6** Emily was looking in the mirror and putting on eyeliner. At the moment of the beep, she was innerly speaking "Why do I have to keep my mouth open?" in her own voice (she knew herself to be asking why she kept her mouth open while applying eyeliner, though there was no mention of the eyeliner in her inner speaking). At the same time, there may have been a thought that she should put the eyeliner on thicker, present without words or images.

There was something about this sample that led Emily to report enthusiastically, both at the beginning of the entire interview and at the beginning of the discussion of this sample, that there was something about this experience that had led her to "figure out" what the sampling study was about. In the interview, Emily stated that she thought she had figured out what her experience was, because she recorded what she was thinking (the mouth-open inner speaking) and what must have been going on in the back of her mind (the should-make-it-thicker unsymbolized thinking) because she was, in fact, making the eyeliner line thicker. We clarified that she did not necessarily have to have a thought process going on in experience just because she was making the eyeliner thicker, and it was not clear whether the unsymbolized thinking was actually in experience at this moment. It was clear; however, that this sample was qualitatively different in Emily's view than any previous samples. This was another piece of evidence that suggested to us that this was likely the first incident of explicit ongoing inner experience amongst a majority of samples in which Emily had little or no experience.

There were two additional samples that may have involved inner speaking, though we were skeptical about whether there was anything in experience because Emily could not say what the words were in either sample.

Feeling. There were possibly two samples in which Emily had a feeling, though we were not confident about this.

> **Sample 2.5** Emily was listening to the song "I'm Satisfied with Jesus in My Heart" and at the moment of the beep, the meaning of the words may have been somehow in her experience, and she may have had a feeling of satisfaction with her life (though this may have been prior to the beep).

This was early in sampling, and Emily was struggling to describe (and we were struggling to apprehend) her experience. It is possible that Emily felt satisfied, or it is possible that she was satisfied, but the feeling was not in experience, or it is possible that she had no experience. This sample, however, seemed the most likely to involve a feeling of any of Emily's samples.

There was one other sample in which Emily may have had a feeling in experience:

> **Sample 3.5** Emily's daughter (age 2) had just finished saying something very clearly, so that every word could be understood. At the moment of the beep, Emily may have been thinking without words or images that her daughter had spoken very clearly and she understood every word. At the same time, Emily may have felt amused/happy, which was perhaps a mental feeling.

Again, it was unclear whether the amused/happy feeling was in experience, or whether it was simply the case that she was amused, but the amusement was apparent to her only

after the fact, when writing notes about the moment. It is noteworthy (though not by any means definitive) that after day 3 of sampling, Emily did not have another sample in which she had a feeling in experience, or an emotion ongoing outside experience.

Inner seeing. There was one example of inner seeing among Emily's sampling:

> **Sample 6.2** Emily was on the phone with a co-worker, who was giving her directions. At the moment of the beep, Emily was innerly seeing a white building and the sidewalk outside of it, from left of the building. She knew this building to be the one her co-worker was describing in her directions. The inner seeing was in color, and there was nothing other than the building and sidewalk (no background, etc.), which were about as clear as she would see them in reality. Her friend's speaking was in experience as well.

This was one of only eight samples total in which we were confident there was some phenomenon in direct experience. Emily's ability to describe explicit experience at this and the other seven moments in which there was clearly a phenomenon in experience, increased our confidence in the fact that the samples she struggled to describe were in fact moments in which she had no explicit experience.

Sensory awareness. In Emily's sampling, there was one example of a clear sensory awareness:

> **Sampling 2.3** Emily was doing her daughter's hair and at the moment of the beep was feeling a sharp pain in her left shoulder. She also may have been experientially wanting to hurry up and finish doing the hairstyle because of the pain in her shoulder.

It was not clear in our interview whether the pain and the wanting to hurry up were the same experience or somehow separate processes, or whether the wanting to hurry up was a retrospective gloss.

There was one other example in which Emily may have had a sensory awareness:

Sample 2.6 Emily was watching TV and had been dozing on and off. At the moment of the beep, she was feeling sleepy. It is possible that somehow that sleepiness was experientially urging her to go to bed (though the need to go to bed was not in her experience in any way other than the sleepiness).

It was not clear whether the sleepiness was in Emily's experience, and if so, how it was in experience. In retrospect, given the frequency of samples in which Emily had no experience, it seemed plausible that in sample 2.6 she had no experience, rather than an explicit sensory awareness.

Concentrated doing. There was one sample in which Emily's experience was of intently focused doing:

Sample 5.2 Emily was hot gluing a project, and at the moment of the beep, she was intently, carefully avoiding burning her finger as she glued. The project itself was not in her experience, nor was any cognitive injunction to be careful.

In this sample, it was not that Emily was simply doing the task of hot gluing, or that the gluing was outside experience. This was a purposeful taking care not to burn her fingers, a concentrated focus on the task.

Discussion

Emily had nothing or very little in experience at almost all sampled moments. We became more confident in that when she had moments in which she *did* have clear

phenomena in experience that she had no trouble describing, which was in stark contrast to the other samples when she made a genuine effort to answer our questions, but struggled to know what to say about her experience. Emily's lack of inner experience seemed similar to some others in the sample, in that it represented a seemingly weak connection to experience.

CHAPTER 11

Idiographic Description of Franklin's Experience

Franklin was a 30-year-old Hispanic male combat veteran with one deployment to Iraq who sampled with us in April 2014. He reported significant PTSD symptoms and carried an outside PTSD diagnosis. Franklin collected 22 samples over the course of 5 sampling days and participated in an expositional interview within 24 hours after each sampling day. After discarding the 3 samples from the first sampling day, Franklin had 19 sampled experiences that we will discuss.

As shown in Table 9, the most salient phenomenon in Franklin's experience (53 – 63% of samples), was broadly categorized as feeling. Approximately one-third of Franklin's samples involved inner seeing (32%). Less frequent phenomena included two samples of what might be called inner speaking (11%), two samples in which Franklin was just doing a task (11%), one or possibly two samples in which there was no central experience (5 – 11%), one instance of a sensory awareness (5%), and one of hearing and comprehending (5%). Each feature of experience is discussed in detail below.

Table 9
Frequency of Phenomena: Franklin (19 samples)

	Frequency	Percentage
Feeling	10 – 12*	53 – 63%
Inner Seeing	6	32%
Inner Speaking	2	11%
Just Doing	2	11%
Lack of Centrality	1 – 2*	5 – 11%
Sensory Awareness	1	5%
Hearing and Comprehending	1	5%

*These frequencies represent both conservative and liberal counts of experiences in a particular category. The lower number is the number of samples that clearly fell into the listed category, and the higher includes samples that were somehow ambiguous, but that were possibly or likely in that category.

Feeling

More than half of Franklin's samples involved feeling (53 or 63%, depending on how we count); however, the way in which the feelings were present in Franklin's experience was highly variable across samples, which was unusual. In three (maybe four) of these samples, the feeling was in experience bodily; that is, Franklin's experience was of a physical sensation that he knew to represent emotion. Two samples involved separate but simultaneous feelings, one bodily and one mental. On two other occasions, Franklin experienced two feelings simultaneously that were of opposite valence. In three samples, his experience consisted exclusively or nearly exclusively of feeling, and in one sample, he had emotion ongoing but not in experience. Finally, the greater majority of Franklin's feeling samples involved a mental/thinking/feeling type of experience, in which it was impossible to distinguish whether the experience was thinking or feeling.

In three (possibly four) of these samples, the feeling was in experience bodily; that is, Franklin's feeling involved a physical sensation that he understood to be integral with or itself *be* the feeling. Sample 3.2 was the clearest example of a bodily feeling:

> **Sample 3.2** Franklin was answering a question from his mother to his brother-in-law, while translating for them between Spanish and English. At the moment of the beep, he was feeling annoyed, which included a churning/butterflies feeling in his stomach. The annoyed feeling was about 95% of his experience, and his saying the words "no, no es hacer" to his mother was about 5% of his experience.

The bodily feeling experience in this example was of an unambiguous internal, sensory nature, and this was the most unambiguous example of a bodily feeling.

The other samples that included a bodily feeling also had another presentation or form of feeling ongoing simultaneously. Partially because of this, Franklin's feeling samples were quite complex in comparison to the typical way in which DES participants report experiencing feelings, and difficult to categorize. For example, in sample 4.2 Franklin experienced a bodily feeling, but the overall feeling component and the other aspects of the sample were much more complex than the bodily feeling alone:

> **Sample 4.2** Franklin was listening to an NPR interview with a Sochi Olympic freestyle skiing gold medalist. The host had introduced the athlete as having a wife and child, and had mentioned the less-than-desirable conditions of the Sochi Olympics, including slushy snow. The interview continued afterward, but at the moment of the beep, Franklin was innerly seeing mud and muddy water like that from an obstacle in a military training course, which he knew to represent the difficult conditions he dealt with while in the military. This inner seeing was part of a negatively tinged comparison between the athlete's characterization of slushy snow as being less-than-desirable and Franklin's own experience in deep mud as being less-than-desirable while deployed. Simultaneously, Franklin was comparing or noting the similarity or reflecting on the difficulty of his own attending college while balancing having a wife and daughter with the skier's family situation. This was present without words or images. Both of these thought processes were ongoing at the moment of the beep, and were intertwined as part of Franklin's comparison between his own life and the athlete's life. At the same time, Franklin was feeling a bit irritated at the athlete's complaint about the conditions in Sochi, which he felt as butterflies/churning in his stomach.

Simultaneously (or perhaps slightly later but still present), Franklin felt unhappy with himself (this may have been a mental feeling) that he was irritated at the athlete, as he was somehow aware that the athlete must have worked hard to get to the Olympics. Franklin was clear that the inner seeing of the mud was most salient in his experience; the thought of his wife and daughter was next in salience; and the irritation and self-directed unhappiness with the irritation were least salient.

Although the inner seeing was the most prominent aspect of this sample in Franklin's experience, the feeling and emotion in this sample were notable for their complexity and varied presentation. The bodily feeling of irritation (in the form of butterflies/churning) was directly in experience as a purely physical phenomenon. Separately, the self-directed meta-feeling of unhappiness was directly in experience (though we did not get a clear sense of exactly how that was present; it may have been a mental feeling). There was also a third separate component to the feeling and emotion aspect of this sample: the negatively-tinged inner seeing/comparison, in which the emotional process was ongoing, but was not directly in experience as a feeling. The complexity of the feeling/emotion (both in experience and not directly in experience) in this sample was striking.

Franklin's feeling samples were interesting and complex in other ways as well. In two samples, Franklin simultaneously experienced two different feelings of opposite valence. For example:

Sample 3.1 Franklin's daughter had just asked to start her math homework, and at the moment of the beep, Franklin was feeling hopeful that she would eventually understand and improve at doing subtraction problems. The hopefulness was a

mental feeling that consumed most of Franklin's experience at the moment. He was also feeling a small amount of annoyance (about 20% of his experience) that he needed to study for a test, and that annoyance was physically located behind his head.

In sample 3.1, Franklin physically felt annoyance behind his head and simultaneously had a mental feeling of hopefulness. There was one other possible example of simultaneous contradictory feelings across all of Franklin's sampling days:

Sample 3.4 Franklin was watching his daughter complete a timed subtraction worksheet. Prior to the beep, he had explained to her that she could use her fingers to count backwards when subtracting, and she was not doing this while working on the problems. At the moment of the beep, he was innerly yelling at her "just count backwards!" in his own voice. At the same time, he felt frustration that she was not using the method he taught her, and to a much lesser degree (possibly at the moment and possibly later) he felt hopeful that she would get it eventually, and understanding that she was in the process of learning.

Franklin was less sure that the hopefulness was present right at the moment in sample 3.4 than in sample 3.1. The inner yelling may also denote another presentation of emotion, in which there is some emotional process ongoing that is not felt.

In three samples, Franklin's experience consisted exclusively or nearly exclusively of feeling. These were sample 3.1 (described above) in which Franklin felt hopeful while his daughter did her math homework, and sample 3.2 (described above) in which Franklin felt annoyed while translating between Spanish and English. Here is the other example in which Franklin's experience was entirely of feeling:

Sample 5.3 Franklin was in class, and a girl in his class was discussing the tradition of veiling women in Islamic culture. Prior to the beep, Franklin had innerly seen a woman in a veil that he had seen in a video the day before, seeing particularly her beautiful eyes. At the moment of the beep, Franklin was feeling angry/irate, confused, and disbelieving at the veiling of women. This was a powerful mental feeling (*not* in his body as in previous beeps where he had experienced butterflies, etc.), and his experience at the moment was entirely the anger/irate/confusion/disbelief. He was "into his own anger"—the girl in the class was still talking but he did not hear it.

In this sample, Franklin's experience was as pure an example of a mental feeling that he had across all days, and although he was angry, the feeling also had a thinking aspect—that is, his anger was a confused, disbelieving anger. It was also notable that in this sample, the feeling took over to the point that the outside world was completely shut out of experience.

In two samples, Franklin apparently had emotion ongoing that was not in his experience. Sample 4.2 (in which Franklin compared his life to the Olympic skier's life) was discussed above, and the other example of emotional processing ongoing but not felt (sample 2.1) will be discussed below, in the Inner Seeing section.

The feeling/emotion samples already discussed were unique and at times complex due to Franklin's experiencing multiple (sometimes opposite) feelings and/or emotional processes not in experience. However, those examples of feeling and emotion were, considered individually, fairly straightforward. That is, though they presented in unusual combinations, they were clearly bodily feelings, mental feelings, or emotion ongoing but

not experienced. In contrast, the majority of Franklin's feeling samples (five samples) involved a thinking/feeling phenomenon, in which it was impossible to distinguish whether the experience was thinking or feeling. This was more complex and difficult to understand than, for example, the irritation butterflies/churning of sample 4.2. We included these thinking/feeling samples under the "feeling" denomination given that feelings were common even among samples that were not of this thinking/feeling variety, which suggested that there was something important about feelings for Franklin in particular, even if he was not clearly able to determine whether a phenomenon was of thinking or feeling. Also, in the context of PTSD, a cluster of symptoms that seems to have a significant influence on the way feelings are experienced, it was logical to consider these ambiguous thinking/feeling samples alongside Franklin's clearer feeling samples, particularly in light of the fact that most DES subjects are able to distinguish clearly, most of the time, between thinking and feeling phenomena. Here is an example of the thinking/feeling phenomenon in Franklin's samples:

> **Sample 5.1** Prior to the beep, Franklin had been watching a YouTube video of a reporter talking about and showing pictures from the OIF war. The reporter had shown a picture of the battle of Fallujah just before the beep sounded. At the moment of the beep, Franklin was thinking/feeling guilt and regret. These were experienced as mental, and encompassed feeling guilty that he was not there, wondering what would have happened if he had been there, a sense that he had missed out, a knowledge that he could have gone there, remembering a conversation with his gunner, and numerous other ideas related to the Marine battle in Fallujah. None of these were specific thoughts directly in experience at

the moment of the beep, but all taken together comprised the feeling of guilt and regret. [It was striking that the feelings were not experienced bodily, because in the interview one could see that flush of emotion pass across his face, fleetingly.]

The thinking/feeling phenomenon was difficult for Franklin to explain in interview, and, it seemed, the emotional content of the experience in the moment was often unclear or poorly articulated. For example:

Sample 5.4 Franklin was in class during a discussion of the Koran. A few days prior to the beep, Franklin had read some of the Koran and was strongly frustrated by the numerous extreme and contradictory beliefs he noticed. At the moment of the beep, all the contradictions were somehow present to him powerfully, simultaneously, compiled so no particular contradiction was directly in experience. This was indistinguishably a thinking/feeling. He was also somehow actively resisting listening to the conversation his class was involved in about their own opinions of what they had read in the Koran. It was as if he did not want to hear it, that there was no possibility that what his classmate was saying about the Koran could assuage his feelings about it. Franklin was clear that this was not a passive shutting out of the discussion, but instead an intentional non-attending to the discussion.

In this sample, it seemed that Franklin was, perhaps, so overwhelmed by his frustration that he not only did not feel it, but also was actively engaged in shutting out the conversation that might have exacerbated it.

These thinking/feeling samples are unusual, and also potentially meaningfully related to Franklin's PTSD symptoms.

Inner Seeing

In 6 of 19 samples (32%) Franklin's experience involved inner seeing. In general, Franklin's inner seeing was clear, in color, and still, though there was one inner seeing that was in motion (sample 5.2, described below). In two of these samples the inner seeing was related to military/combat experiences. Sample 4.2 is described above, in which Franklin innerly saw the mud of a military obstacle course in comparison to the slushy mud of the Sochi Olympics. The other example of a military-related inner seeing was sample 2.1.

> **Sample 2.1** Prior to the beep, Franklin had been looking at a funny photo depicting POGs (People Other than Grunts, in military slang) going to the field (in nice, sunny weather) alongside a photo of Grunts going to the field (in bad, rainy weather). At the moment of the beep, Franklin was innerly seeing a panoramic view of mountains clearly and in color, as though he were standing in the mountains and could see all around. He knew this to represent his experiences being in the field when he was in the military, though the mountains he saw were a general mountain scene, not any specific mountains he had been to before. He knew the scene to be cold, though he did not feel cold at the moment. At the moment, he was also giggling at the humor of the picture, but it was not clear whether this was in his experience.

In this sample, in addition to a clearly innerly seen military scene, Franklin had apparently ongoing emotion (amusement) that was not in his experience.

In another inner seeing sample, Franklin was simultaneously innerly speaking, and in the same sample, was also inspecting another person's face for emotion.

Sample 5.2 Franklin was walking on campus, and while he walked he was rehearsing what he would say to his new Veteran Court mentee. At the moment of the beep, Franklin was innerly seeing his mentee's face as Franklin innerly said to him "You need to call your public defender 'cause he needs to know [beep sounds] who I am." He saw his mentee's face only (no body), as though they were speaking face to face, and his inner seeing was clear but perhaps not quite as clear as if he were seeing him in real life. He was also watching his mentee's reaction to his [inner] speaking, looking for confusion or disbelief on his face. Franklin was also somewhat (approximately 30%) aware of his surroundings on campus (not specifically aware of the details but also not oblivious to them), but the inner seeing and inner speech rehearsal was about 70% of his experience.

Franklin's remaining inner seeing samples were fairly straightforward; that is, Franklin's experience was clearly of inner seeing. For example:

Sample 5.5 Prior to the beep, Franklin had been reading an article about UNLV research and was debating whether he should stay at UNLV for graduate school or go to a school in Arizona he had planned on applying to. At the moment of the beep, Franklin was innerly seeing the Pida Plaza area of the UNLV campus, facing the direction of a sculpture at one end of the campus. He saw the area just as he would if he were standing there, and somehow knew the inner seeing to represent what the campus would look like if he were a graduate student.

Other Phenomena

Lack of centrality. In one or maybe two samples (5 – 11%), Franklin had numerous ongoing parts of experience with no one aspect at the center or pulling most of the focus.

> **Sample 3.5** Before the beep, Franklin had been studying for a test and felt tired of trying to study, knew he still had to give his daughter a shower, and knew he was not going to get much more studying in that night. At the moment of the beep, he heard his father's voice speaking (though he did not distinguish the words), heard his daughter's Garfield cartoon playing on her tablet, saw his tablet with notes on the screen, and saw his textbook. All of these things were simultaneously on the periphery of his experience, but nothing was central.

In the other sample similar to 3.5, it was less clear whether or not there was a center of Franklin's experience:

> **Sample 3.6** Franklin was playing Uno with his daughter, and prior to the beep, was annoyed that they both kept getting more cards, because the game was lasting longer than he thought. At the moment of the beep, he was feeling mentally and physically drained, and innerly thinking of the list of things that he had done that day that made him tired, including going to the gym, helping his daughter with her homework, and studying, among other things. This was a cognitive type process. At the same time, he felt irritation at how long the card game was taking.

In our interview, Franklin noted that he was not wearing the earphone at the time of this beep, which leaves room for skepticism about precisely what was in experience at the moment of the beep.

Inner speaking. Two of Franklin's samples (11%) included what might be called inner speaking; however, neither of these samples were typical examples of inner speaking. In sample 3.4 (described above in the "Feeling" section), Franklin was innerly yelling at his daughter to do subtraction the way he taught her. Inner yelling is unusual, and might represent an ongoing emotional process not in experience. In sample 5.2 (also described above, in the "Inner Seeing" section), Franklin was innerly seeing his Veteran Court mentee and watching his face for emotion. We chose to categorize this sample as an inner seeing with watching for emotion and inner speaking components, but it is worth noting that this is not the usual way in which inner speaking is experienced.

Doing. In two samples (11%), Franklin was engrossed in doing a task. In one sample, most of Franklin's experience was of just looking down at a step, though there may have been some feeling present:

> **Sample 3.3** Franklin was walking his brother-in-law out of the house on dimly lit steps. At the moment of the beep, he was looking down at the step where he would need to put his foot. This was about 90% of his experience, and the other 10% may have been a feeling of becoming calmer/relieved that he would have the time to study for his exam later that night.

In the other sample (2.3) his doing involved waiting to see the right article, which he would know when he saw, though the article itself was not in his experience.

> **Sample 2.3** Prior to the moment of the beep, Franklin was in class and heard his teacher mention the articles they would look at, then started searching on his computer tablet for the correct article. At the moment of the beep, he was just

swiping his computer screen for the article, watching pages go by on his screen, and would know the correct article when he saw it.

In this sample, Franklin's doing consisted of waiting to see the correct stimulus pass by.

Sensory Awareness. One of Franklin's samples (5%) involved a sensory awareness.

Sample 4.1 Franklin was driving to school and saw a sign for a Mexican butcher shop that read "Carneceria." At the moment of the beep, he was drawn to the red, white, and green color of the sign. Simultaneously he was seeing the word on the sign *carneceria* somehow broken into two separate pieces; "carne" and "ceria." It was almost as if the parts of the word were visually separated, but Franklin was not confident about that. The colors and the aspects of the word were equally in his experience.

The sensory awareness in this sample was of the words for their colors, not their meaning, and was notable in that it had a slightly or nearly distorted aspect to it.

Hearing and comprehending. In one sample, Franklin was just hearing and comprehending a class lecture.

Sample 2.4 Franklin was in class and his teacher was discussing differences between the Old and New Testaments. At the moment of the beep, he was just hearing and comprehending what his teacher was talking about. A few moments later, he asked a question, so believes he was processing the information in some way, but this was not in his experience at the moment.

Discussion

Franklin, unlike many of the other participants in the current study, had samples in which there were feelings (these were in fact the majority of his samples); however, these were complex, and his lack of clarity about whether most of these were a thinking or a feeling phenomenon was notable. We considered that Franklin's lack of clarity about thinking/feeling might have represented a weak grasp on experience at times, or on that particular type of experience. Franklin's two samples in which he had no clear center of experience seemed potentially related to the same experiential process.

Franklin had three samples in which his experience was somehow tied to his military history. Though these were not "flashbacks" in the way the DSM-5 (APA, 2013) defines them, we considered that these samples may be flashback-related. It was notable that Franklin did not say these were distressing phenomena.

CHAPTER 12

Idiographic Description of Gabe's Experience

Gabe was a 32-year-old veteran who sampled with us in May 2013. He reported significant PTSD symptoms that met the diagnostic criteria on the PCL-M. Gabe collected 35 samples over the course of six sampling days, and participated in an interview within 24 hours of each sampling day. Not including the data from the first sampling day (which is considered training, and discussed only if relevant to subsequent days), Gabe collected 29 samples.

Gabe's samples in general were notably more complex than average. In only six samples was Gabe's experience of only one single phenomenon, and not all of those were straightforward or similar to those of other DES subjects outside this study. All the rest of Gabe's samples involved multiple simultaneous experiences, and at times, multiple experiences of the same type simultaneously. This made his samples difficult to categorize neatly, and there is much overlap in the way we have categorized samples in the service of faithfully capturing the detail of each sample. The data in Table 10 shows the frequency and percentage of each type of phenomenon in Gabe's samples. Most frequently, Gabe's experience was of an inchoate/underdeveloped nature (55%) or was of sensory awareness (52 – 55%). Gabe also had instances in which he was actively and premeditatedly doing some process that is automatic for most subjects (45%), and, in contrast, instances in which his own speaking or the speaking of others was happening but was not in experience (7%). Twenty-four percent of Gabe's samples involved inner seeing and 21% involved emotion without feeling. Less often, Gabe's experience included bodily experience that did not involve sensory awareness (7 – 10%), watching

others for a reaction to him (7%), and unsymbolized thinking (7%). Each feature of Gabe's experience in our sampling days is discussed in detail.

Table 10
Frequency of Phenomena: Gabe (29 samples)

	Frequency	Percentage
Inchoate/Underdeveloped/Non-Cohesive	15 – 17*	52 – 58%
Sensory Awareness	17 – 18*	58 – 62%
Doing Of	10 – 13*	34 – 45%
Happening of Speaking	6	21%
Inner Seeing	8	28%
Emotion without Feeling	6	21%
Unsymbolized Thinking	2 – 3*	7 – 10%
Watching for Reaction	2	7%
Inner Speaking	2	7%

*These frequencies represent both conservative and liberal counts of experiences in a particular category. The lower number is the number of samples that clearly fell into the listed category, and the higher includes samples that were somehow ambiguous, but that were possibly or likely in that category.

Inchoate/Underdeveloped/Non-cohesive Experience

Approximately half (48 - 55%) of Gabe's samples involved experience that was inchoate and seemed underdeveloped or not fully articulated; this non-cohesive characteristic was present across different types of phenomenon and to varying degrees in different samples. Seven of these samples involved experiences that were thought-like. For example:

> **Sample 3.6** Gabe was sitting in Starbucks typing an email to friends. At the moment of the beep he was trying to figure out how to type the next couple of words. There were numerous aspects of this experience; he was trying to figure out whether the bold type was on, he was somehow noting the finger position of Ctrl-B, he was trying to go fast and get it done, he was trying to get the right

words, and he was trying to figure out what he wanted to say. All of this jumble was present without words or images.

In the interview, Gabe and we were confident about the existence-in-experience of the jumble, but we were unable to discover details about the way the trying to do and say the jumble of things in experience was present to him beyond recognizing that the jumble seemed cognitive or thought-like.

Here is another example of the not-fully-formed thought-like phenomenon:

Sample 2.3 Gabe was at the bar eating. At the moment of the beep, he was thinking (though he was not sure what he was thinking about), which occupied about 80% of his experience. He was also seeing the chicken wing in his hand, which was about 20% of his experience. At this moment, the noise and chaos of the bar was not at all in his experience [which in retrospect rather surprised him].

A moment later, when Gabe wrote notes about this experience, he could not recall what he was thinking, despite his confidence that the thought had occupied about 80% in his experience. Perhaps, he said in retrospect, it was just the beginning of a thought and so had not yet entirely formed. That is, the experience of thinking did not include the experience of the content of the thought. Another possibility, of course, is that the beeping process interfered with the recollection.

The samples included in the "Inchoate" category are alike largely in that Gabe was uncertain about what was in his experience and/or about how he experienced a particular moment even in the few seconds after the beep sounded, when he was writing notes to himself about the experience. That is, it was not that the underdeveloped samples were the result of Gabe's difficulty recalling or describing them in the interview,

rather, he stated that he was unable to recall/describe the momentary experience immediately after it happened.

Here is another example where Gabe's experience was inchoate, under-articulated and complex:

> **Sample 6.1** Gabe was at his computer with his email open. Prior to the beep, he had received a text message from his friend George and read it; now he was turning his attention to a new email message to his friend Sam that was open, ready to compose. At the moment of the beep, he had a sense of his other friend, Joe, who had sent him an email. He saw the subject line of Joe's email among the list in his inbox, and simultaneously had a vague sense of Joe. There was nothing specific about this sense and yet something about Joe was present to Gabe: it was something like the hint of an affective take on Joe, more or less like a hint of the way Gabe would be if he were with Joe. He simultaneously had a sense of George, similar to his take on Joe in that it was a hint of an affective take on George, but different because the on-George-affective-take was different from the on-Joe-affective-take. He also had a separate affective take of Sam (to whom he was composing the email)—three simultaneous but separate affective takes of three different friends. At the same time Gabe had a sense that he was thinking something, and while he was confident that he had a thinking experience, he could not grasp what the content of that thinking involved. At the same time, Gabe was trying to form what he was going to say in response to the text to George, and what he was going to write in his email to Joe, but it was not clear to Gabe or to the interviewers the extent or whether these were in experience.

In this sample, Gabe has three separate, simultaneous affectively-tinged aspects of experience ongoing, though none of the three are developed even enough to identify the general type of affect. This is also an example of the inchoate thinking experience discussed above.

Here is another example of Gabe's inchoate, jumbled thinking experience:

Sample 5.3 Gabe was in the tank room of his biology research lab on campus with his friend Vanessa. He was putting his fingers into an aquarium full of cold water in order to feed a crab. At the moment of the beep, most of his experience was centered on the coldness of the water on his fingers (a clear sensory awareness). He was also trying to drop the food in just the right way so it would fall directly onto the crab. Simultaneously, he wondered vaguely about the crab's wellbeing (without words or images); this seemed like a jumble of thoughts, though he retrospectively did not know exactly what those thoughts were. He also heard his friend Vanessa's voice talking, but was not attending to the words. At the same time, the sounds of the aquarium pumps and water buckets being filled was in his experience a little bit (another, not so clear, sensory awareness). Vanessa's voice was somewhat distinct from the other noises in the room, but he was not listening to the content of her speech (another, not so clear, sensory awareness).

In this sample and the others similar to it, Gabe's experience was partially quite clear and well-articulated (i.e., the coldness of the water), with other less clear or at least less articulated aspects ongoing simultaneously (i.e., the jumble of thoughts, the vague sensory awarenesses).

In another sample, Gabe had a similar jumbled, inchoate thought process (or processes) ongoing, along with a sense of one phenomenon fading out of experience while another rises into experience:

> **Sample 2.4** Prior to the beep, Gabe was watching the hockey game on TV in the bar. At the moment of the beep the watching-of-hockey was "collapsing" or fading from his experience. Rising in his experience was the swinging of attention from left to the right, to the waitress who was checking on him and his friends. This rising experience had numerous aspects: he wanted to answer the waitress quickly and get back to watching the hockey game, he wanted effectively to convey that he was ok, he knew his friends liked the waitress and wanted to chat with her. At the same time the chaotic bar noise flooded into his experience at the moment, and the wanting to convey his "okayness" to the waitress was in the middle of that. There were no words in any aspect of this experience.

Gabe's hypothesis to explain some of the inchoate, jumbled thought moments was that the lack of detail was a result of phenomenon rising into and fading out of experience. Sample 2.4 was the only sample in which it was clear that there was a particular fading/rising process, and we could not be sure whether the rising/fading of phenomena explained the other samples that lacked detail or were in some way inchoate. Most people have constant, ongoing experience that overlaps, without distinct space or transitions between phenomena.

Gabe's sensory awareness experience could also be semi-articulated, as two examples illustrate. In both of these samples, Gabe's primary experience was of some

other phenomenon, but there was a component of vaguely-in-experience sensory awareness. For example:

> **Sample 3.4** Gabe and his girlfriend, Jane, were sitting on the couch watching a nature program on TV. Prior to the beep, Jane had said "Oh, a water buffalo," as the TV showed a group of zebras and one water buffalo silhouetted by the setting sun. At the moment of the beep, Gabe was drawn to the water buffalo's silhouette—drawn to the shape and the color as it stood out from the other animals. He also had a vague notion that Jane had been in Africa before, and that was cool. This notion was not present in words, images, or otherwise, and was clearly present though not very clearly articulated in his experience. There was also something about the sensation of Jane's legs across his lap that was somehow in his experience.

In this sample, Gabe did have a clearly articulated sensory awareness (of the water buffalo), but also had a vaguely-in-experience sensory awareness of Jane's legs across his lap at the same time, along with an under-articulated thinking process.

The other inchoate sensory awareness example was of multiple, disjointed and undetailed sensory awarenesses that Gabe had not yet fully assembled into meaningful experience:

> **Sample 4.1** Gabe was at Starbucks listening to a podcast through headphones. Just before the beep, someone on the podcast had said something about Viagra and condoms being sold as a package, and now at the moment of the beep Gabe was hearing either a sentence including the word "Viagra" or just the word "Viagra." Simultaneously he was watching a woman walk into the coffee shop.

She was partially obscured by a bookcase, so that he could see only parts of her through openings in the shelves as she walked. At the moment of the beep, he saw her waist area and part of her leg through a square opening of a display case as she walked behind the case. Apparently Gabe was somehow assembling the pieces of the woman as they sequentially appeared, in a process that would eventually result in a sense of the woman's attractiveness. At the same time he heard the click of the walking woman's high heels on the floor, as well as the voices (but not the specific words) of two women conversing on the couch near him. The heel clicks and voices were part of Gabe's experience at the moment of the beep but were less prominent than the watching the woman walk and the hearing of "Viagra."

Gabe's experience in this sample was of several uncoordinated sensory awarenesses that he had not yet synchronized into organized experience.

Gabe had one sample in which he was innerly speaking an undetailed or not-fully-formed sentence:

Sample 6.2 Gabe had just measured a piece of equipment in the lab. At the moment of the beep, he was innerly seeing the grid square held up against a plastic ruler through a microscope. The grid square was the length of three black millimeter bars on the ruler. He saw this as a black circle against which was a bright field, in color, just as he would if he were looking through a microscope. It seemed an accurate portrayal—the millimeter bars were wide under the microscope just as they would be in a real seeing. At the same time he was innerly saying "300 millimicrons…3 millimeters" as though he were saying a

sentence in a conversation with a lab mate, though the sentence was not fully articulated and included only the measurements. That is, the entire sentence was somehow present to Gabe, yet the only portion of the sentence that was innerly spoken was the measurements. He also had a visual sense of the lab mate, not at all fully articulated.

The inner speaking of the measurements in this sample was clear; however, the complete sentence, which was somehow present to Gabe as a full sentence he would say in conversation, was not entirely articulated in experience nor innerly spoken in its entirety. This sample also included a clear inner seeing and an undetailed inner visual sense of the person to whom his undetailed inner sentence was directed. Gabe's clear inner seeing in this example offered additional evidence that Gabe was in fact able to describe clear inner experience when he had it (e.g., the clearly innerly seen grid square); this gave us confidence that our understanding of his inchoate and underdeveloped experience was not simply an artifact of the interview process, or an inability on Gabe's part to describe experience clearly. Rather, some of Gabe's experience was quite clear, and some was jumbled, undetailed, and inchoate.

Another two of Gabe's under-developed samples were of incompletely formed inner seeing, and these also occurred simultaneously with other phenomenon. One of these samples was notably more complex than the other; here, sample 3.7, is the less complex of the two:

Sample 3.7 Gabe was still typing at Starbucks. At the moment of the beep, he was trying to come up with the correct words to convince two particular friends to come on the camping trip. He had the sense that he was trying to convince them,

or appeal to them. This was not present in words or images. He was simultaneously innerly seeing what he understood to be those two friends standing in Brian Head campground. He saw the mountains and trees in the background clearly, and he saw two very vague outlines of two people, who he knew to be his friends, with the white friend on the right and brown friend on the left. There were no details (including probably color), and an outsider would not have known the shapes were even people, but Gabe knew the outlines/shapes to represent his friends.

Though sample 3.7 was somewhat complex in that there are multiple simultaneous aspects of experience ongoing, it was simple in contrast to the other example of not-fully-articulated inner seeing:

Sample 5.5 Gabe was sitting outside on a bench in the sun staring at the math tutoring clinic. Several minutes before, he had talked to his dad about his (Gabe's) relationship with his girlfriend Jane, who had expressed a desire that Gabe go to therapy. At the moment of the beep, he was feeling the warmth of the day and the warmth of the bench, which were pleasant (examples of sensory awareness). Simultaneously and strongly, there was a bodily revulsion and frustration that felt like a hollowed-out numbness and/or a heavy weight to his entire body, but it was not clear the extent to which this was actually experienced bodily (an example of inchoate sensory awareness). He also had the sense that he did not want to put the effort of going to therapy into his relationship, though this was not present in words or images. It was not clear in interview whether this sense was separable from the bodily revulsion/frustration, or whether it was

merely a way of describing the numbness/frustration. Simultaneously, he was innerly seeing Jane lying on his left in bed along with the canopy over the bed. These were undetailed and not fully developed, but they were immediately recognized by Gabe. That is, there was no question that he innerly saw Jane, but there were not many or any details available to the seeing. At the same time, it was not the case that he was seeing an undeveloped Jane—he was seeing Jane, but the seeing itself was undetailed. The same was true for the canopy. He was seeing both simultaneously, as though he were looking straight up at the canopy while lying in bed, and also looking to the side at Jane--that is, he was innerly seeing in two directions at once. He understood this scene to be the specific conversation about her wanting him to go to therapy, though there was no motion or sound to the inner seeing.

This was an example of a particularly complex inner experience sample which included two simultaneous under-articulated inner seeings along with several other components. Gabe informed us prior to the interview that he was worried about talking about this beep, that he expected to "act like a jerk" with us, that when he feels the way he felt in this beep, it is as though he is out of control, and the negative emotions take his thoughts through a repeating process that he can do nothing about but wait until it is over. That was not in his experience at this moment, however. Despite his expectations, the actual interview about this beep was not at all problematic, and there was no evidence that he was actually out of control during the interview or at the moment of the beep.

Across Gabe's sampling days, the inchoate/underdeveloped samples were the most common type of experience, and there were examples of this across many aspects of

experience (thinking, sensory awareness, inner speaking, inner seeing). In the upcoming section entitled Emotion without Feeling, the samples in which Gabe had unfelt emotion, or emotion that was not well articulated in experience, will be discussed. The not-fully-formed nature of those emotion not felt samples was similar to the samples included here in the Inchoate section; however, because of the importance of feelings in PTSD, and because there was so much overlap of different aspects of experience in Gabe's samples, the disjointed or not felt emotion samples are discussed in their own section.

The later section entitled Happening of Speaking will discuss the samples in which Gabe was speaking, or someone else was speaking, and Gabe did not have any semantic experience of that speaking. Again, because this was a unique phenomenon, it will be discussed on its own; however, it is worth noting here that the speaking outside semantic experience seems related to the inchoate, underarticulated type of experience covered in the current section, and was perhaps a different way in which Gabe's experience was not well-detailed.

Sensory Awareness

Just over half (58 – 62%) of Gabe's samples involved sensory awareness. Gabe's sensory awareness samples, like most of his samples, were often complex and atypical in comparison to other DES subjects. In all of Gabe's sensory awareness samples, there was at least one other phenomenon ongoing at the moment of the beep, so while he was drawn in to a sensation, his experience was divided (sometimes with sensory awareness at the forefront, and sometimes with it in the background of his experience). Some of Gabe's sensory awarenesses were clear and detailed, whereas some were inchoate. Here is an example of a relatively simple sensory awareness sample:

Sample 6.5 Gabe was walking down the hall toward the biology learning center and had just seen the blank pegboard that reminded him that the semester was over. At the moment of the beep, he was innerly seeing the orange door with the blue, green, purple, etc. colorful schedule posted on it. He was drawn to the colors of the schedule. He was also wondering whether he would see that schedule on the door (which was a few feet down the hall). The wondering was maybe partially in words, but Gabe was not sure about that. To a lesser degree, Gabe was also seeing the hallway in front of him and the empty pegboard hanging on the wall.

In this sample, Gabe was innerly seeing a schedule posted on a familiar door he would walk past in a few seconds, and was particularly drawn to the innerly seen colors of the schedule. This was a relatively simple example of a sensory awareness, which was not the case for the majority of Gabe's sensory awareness samples. In fact, a notable aspect of Gabe's sensory awareness in our sampling days was that in seven of the 15 or 16 sensory awareness samples, there were multiple sensory awarenesses simultaneously ongoing. Examples of these have already been discussed above: sample 3.4, the water buffalo and legs across his lap sample, sample 4.1, in which Gabe saw parts of a walking woman and heard conversation, sample 5.3, in which Gabe felt the coldness of the water in the crab tank and heard Vanessa's voice talking without semantic experience, and sample 5.5 in which Gabe simultaneously felt the warmth of the day and separately, the warmth of the bench upon which he sat. In these samples and others, there were multiple of the same type of experience ongoing (sensory awareness), as well as multiple simultaneous other phenomena.

In one sample, Gabe's sensory awareness was a hyperclear seeing, apparently with an intention to avoid a difficult topic of conversation:

> **Sample 6.4** Gabe was at lunch at Raising Cane's with his girlfriend Jane. Prior to the beep, she had asked him a question he did not want to talk about. At the moment of the beep, he was reaching for a napkin and intently saw the napkin hyperclearly, so that everything else faded away and he was completely focused on the color of the napkin, the writing on it, the color of the food it was sitting on, and the grease stain on it. At the same time, he felt a tightening up of his torso along with frustration and the onset of anxiety, and a feeling of discord, like part of him wanted to talk about it and part of him didn't. [He understood the intense focus on the napkin as a way to avoid the unwanted conversation and to avoid looking at Jane.]

This was Gabe's only sample with an intensely hyperclear sensory awareness, and it was notable for two reasons: first, that the sensory awareness had intentionality to it, and second, that the intentionality was aimed at avoidance, particularly in the context of PTSD, a diagnosis in which avoidance plays a central role.

In 10 of Gabe's sensory awareness samples, there was some component of experience that was inchoate or undetailed. On three occasions, it was the sensory awareness itself that was undetailed, as in sample 3.4 (discussed above) in which Gabe was drawn in to the silhouette of a water buffalo on television while he has a notion that his girlfriend has been to Africa, and also simultaneously has a vague sense of Jane's legs across his lap. In that sample, Gabe also had a clearly experienced sensory awareness (the water buffalo) ongoing simultaneously with the not-fully-articulated sensory

awareness of the legs across his lap. In another sample, Gabe had multiple, disjointed sensory awarenesses (sample 4.1, discussed in the Inchoate section) in which Gabe heard the word "Viagra," saw parts of a woman walking, heard the click of her heels, and heard the sounds but not the words or meaning of a conversation going on in the coffee shop.

In the other examples of what seemed to be a not-fully-developed sensory awareness, Gabe experienced all-over bodily sensation without a particular focus on any aspect of the sensation. It may be that these sensations were ongoing without actually being in experience, or it may be that they were ongoing in experience, but that Gabe was not focused on any sensory aspect of them. The samples included sample 3.1 (described in the Inchoate section, in which Gabe felt all over easing of tension after a fight with his girlfriend was resolved), possibly sample 5.5 (described in the Inchoate section) in which Gabe's body had a hollowed-out numbness that did not seem to be experienced as a sensation, and sample 4.2:

> **Sample 4.2** Gabe was sitting in Starbucks. Before the beep, he had listened to the hosts of the podcast talk about an online video of John Lennon and Chuck Berry singing together and Yoko Ono's reaction to it. The podcast hosts had said this was one of the funniest videos of all time, and now Gabe was watching that video on his laptop. At the moment of the beep, he was seeing John Lennon and Chuck Berry singing into a microphone, and feeling a "keyed up" physical/mental expectation—the video was not funny yet, so the funny part must be coming soon. The expectation was primarily physical, felt all over his body but in no particular part of his body, something like a moving ahead or a wrapping into the upcoming video. Gabe was confident that the experience was bodily, but it was difficult or

impossible to put the experience into words other than to say it was as if his whole body wanted to move, to see what was coming.

In this instance, it seemed that Gabe's experience was physical/bodily, but there was no particular sensory awareness of that physical experience. This was another example of how Gabe's sensory awareness was at times inchoate, seemingly fragmented or not fully in experience.

In a different sample, Gabe's sensory awareness may have been a distortion (sample 5.2, which will be discussed in the Doing Of section).

Taken together, Gabe's sensory awareness samples were noticeably complex and often unusual in comparison to the typical DES participant without PTSD.

Doing of

In 10 to 13 of Gabe's samples, he was directly experiencing a purposeful doing, seeing, hearing, etc. This was more than just intentionally doing something; it involved the specific premeditated meddling in or purposefully altering or purposefully creating experience. This was different from straightforward sensory awareness, and is illustrated by sample 4.5:

> **Sample 4.5** Gabe was at a restaurant listening to his dad talk about the remodeling going on at his house (where Gabe used to live with his dad). At the moment of the beep, he was innerly seeing the family room, the chairs in the room, the dogs that live there, and so on. As his dad's description unfolded, Gabe was actively trying to incorporate the new details (remodeling dust/workers/etc.) into his inner seeing. That is, Gabe was not merely updating the imagery as his

dad's description developed; he was purposefully trying to update the imagery. He was also seeing in reality his dad's face and hearing him as he talked.

In this sample, Gabe was not simply watching a scene unfold, as we might expect the average person to do; instead, he was intentionally trying to alter the seeing. This is the phenomenon we called the "doing of" inner seeing. Most of the time, the updating of inner seeing just happens, without any conscious effort to change or alter the seeing. This was not the case here, and Gabe's "doing of" processes that typically happen outside experience was evident in other types of phenomenon as well. In a different example of this, Gabe was meddling with the process of feeling pain:

> **Sample 5.2** Gabe was walking down the stairs in the library from the 3rd or 4th floor to the first floor. At the moment of the beep, he was feeling the pain in his right knee and ankle. He also felt both of his feet specifically: how they felt in his shoes and hitting the stairs. He was deliberately walking down the stairs in a way that exacerbated the pain, just different enough from his normal walk to feel the pain in his right knee and ankle. He may have felt that his legs were physically big, but he was not sure about that.

In this sample, Gabe was not merely feeling a pain in his knee (that would be straightforward sensory awareness); instead, Gabe was purposefully creating the pain in his knee, and both the sensation and the intentionality were in his experience. This is the "doing of" sensory awareness. Most of the time, when participants report sensory awareness, the experience is of being drawn in to some sensation; in this case, Gabe was not just drawn in to the pain, he was also intentionally making the pain happen. Another example of the doing of sensory awareness was discussed above (sample 6.2), and

involved Gabe's hyperclear focus on a napkin with the intention of avoiding a topic of conversation.

There were also examples of the doing of hearing:

Sample 4.4 Gabe was driving through an intersection. At the moment of the beep, he was seeing the light (which was green), the sky (which was blue), and the trees along the road out of the front of his windshield. He was listening to the song "Smooth Criminal" by Michael Jackson, and, drawn by the music, was purposefully or pointedly hearing or listening to the words of the song.

Here, Gabe was not simply hearing the music or taking in the semantic content of the words, he was listening to the words on purpose, with an intentionality that separates this from what we would consider a typical sensory awareness (in which we would expect the subject simply to *be drawn* to the words or music, rather than *intentionally trying to* hear the words).

Here is another example of intentional doing of:

Sample 3.2 Gabe was rubbing Jane's feet while they sat on the couch watching TV. At the moment of the beep he was somehow planning how/where he was going to rub her foot, though this was not present verbally, visually, or any other way. That is, the rubbing of her foot (sensations, actions) was itself not particularly in his experience; instead, he was in some way planning how he should rub her foot in the upcoming seconds. Simultaneously, he was thinking a thought at the moment, but could not recall what it was after the beep (an example of the inchoate thinking described above). That is, he was confident that he was thinking, and also confident that he did not know what he was thinking about

even one second after the beep. He was simultaneously impacted by the colors on the TV (an example of uncomplicated sensory awareness). He also may have felt a relaxed, pleasant feeling, but was not sure whether it was in his experience or the beep had just made him notice it retrospectively.

In this sample, Gabe was not just rubbing Jane's foot, or even having a sensory awareness of the feel of her foot, he was somehow planning/intending to rub her foot.

The purposefulness to the samples in this category made them stand out, particularly because they involved actively meddling with processes that we would expect to just happen, like seeing a living room with dust and workers in it, feeling pain, or hearing music.

Happening of Speaking

In contrast to the doing of samples, in which Gabe was effortful in processes that we would expect to be effortless, there were two samples in which Gabe was speaking, but did not experience himself as being the driver of the words—they just rolled out. There were four additional samples in which someone else was speaking, but this was not in Gabe's experience at all. In fact, there were no samples at all in which Gabe had a semantic experience of himself or another person speaking, other than his own inner speech. Here is an example of Gabe speaking without that speaking in experience:

Sample 5.4 Gabe was in the tank room in his lab with Vanessa. Prior to the beep, he had asked whether she would like to get together with a group of friends for the weekend, and she had declined because she had a wedding to attend. At the moment, of the beep he was looking at Vanessa's face specifically to see what effect this speaking was having on her/how she was reacting. Gabe was speaking,

but what he was speaking was not in his experience, which was absorbed mostly in her face. Factually, he was saying "I'm more important than your friend's wedding," but that was no more experiential than a hand gesture or a shift in posture. The aquarium pump noise and the sounds of buckets being filled with water were a small part of his experience.

The other example in which Gabe's speaking was not in his own experience was sample 2.1, which is discussed below in the Watching for Reaction section.

In four samples, the happening of speaking was someone else's speaking, but was similar in that the semantic experience of the speaking was not in Gabe's experience. In two of these samples he was involved in ongoing conversation, but no part of the other person's speaking to him was in his experience. One was sample 5.1 (see the Unsymbolized Thinking section) in which Gabe was involved in conversation with the girl at the gym counter, but her speaking was not at all in his experience. The other was sample 5.3 (in the Sensory Awareness section) in which the sound of his friend Vanessa's voice was in experience, but neither her words nor their meaning were in experience. In two other samples, Gabe heard the sounds of conversations or speaking going on around him, but the meaning of the speaking was not in experience. These were sample 4.1, described in the Sensory Awareness section, in which Gabe was seeing parts of a woman through a bookcase and the sound of ongoing conversation in Starbucks was in his experience, though the meaning of the words was not. The other example of this was sample 2.2:

Sample 2.2 Gabe was holding a chicken wing in the bar. At the moment of the beep, he was seeing the chicken wing in his hand and trying to dip it into the too-

small ranch dip bowl. He experienced chaos (noise from the TVs, people talking, etc.) assaulting his hearing from off to his left, though this was less in his experience than the trying to dip the wing.

Again in this sample, there was ongoing conversation, but instead of hearing the meaning of that speaking, Gabe heard it as part of the chaotic noise of the bar (a sensory awareness).

Although we typically do not discuss what was not in someone's experience, it is notable that in all of Gabe's samples that involved speaking, either his or someone else's, the speaking was not in his experience at the moment. The happening of speaking seems to be the other side of the "doing of" coin. Whereas Gabe was engaged in effortful doing of experiences that are typically automatic (e.g., sensory awareness), he was not engaged with processes that we would expect to be effortful—speaking or listening to the meaning of other peoples' speaking—in any of our samples.

Inner Seeing

In eight samples, Gabe's experience consisted (at least partly) of inner seeing. Gabe's inner seeing samples were all complex in that the inner seeing was never the only ongoing phenomenon in experience, but there were examples in which the inner seeing aspect of the sample was fairly clear. One of these was sample 6.2 (described in the Inchoate section) in which Gabe innerly saw the grid square clearly, and another was sample 6.5 (described in the Sensory Awareness section), in which Gabe innerly saw the colorful schedule on the orange door in the Biology building. These samples made it clear that Gabe was capable of having and describing (and we were capable of apprehending) relatively simple inner seeing. Those simpler examples contrasted with

Gabe's inner seeing samples that were unusually complex. One of Gabe's inner seeing samples was in motion, and also had an inner speaking and a sensory awareness component:

> **Sample 3.3** Gabe was sitting on the couch with Jane watching TV. Jane's daughter, Sarah, was calling the dog from her room at the end of the hallway off the living room, and the dog was sitting in the living room ignoring her. At the moment of the beep, he was seeing the dog in the living room, and simultaneously innerly seeing Sarah walking into the room from his right at an angle (as she would actually enter the room from the hallway). The inner seeing was in motion, like a movie of what would happen. In his inner seeing, he was saying to her "I don't know why the dog's not listening to you." This was spoken in his own voice. He was fairly sure he was particularly drawn to the colorful polka dot-ness of her dress in the inner seeing. The inner seeing was located in the upper right area of his head. To a lesser degree, he was also feeling pulled away from the TV, but this was not as salient in his experience as the inner seeing. There was also a background radiation of good feelings as in 3.1 [described in the Inchoate section.]

Thought sample 3.3 was fairly complex, in that there were multiple simultaneous aspects of experience, it was fully articulated in a way that some other inner seeing samples were not.

In one particularly complex sample, Gabe's experience consisted of multiple simultaneous inner seeings that were more and less articulated:

Sample 4.3 Gabe was at Starbucks plugged into a podcast on his laptop, but the podcast itself was not in his experience. Instead, he was experiencing three separate but simultaneous experiences that related to leaving Starbucks [it was time that he leave for his next appointment]. The most salient was an imagined experience of driving his truck, as if he were inside the truck. He felt his left hand on the steering wheel, and was imaginarily moving his right hand on the stick shift [but was not sure exactly what the movement was]. He also felt in his torso the movement/bounce of the truck as it would move while driving. He saw the windshield, the dash, and the steering wheel, but they were seen sketchily or not completely; Gabe understood them to be the windshield, wheel, and dash even though the details were not seen.

Simultaneously, Gabe experienced himself as walking toward the bathroom. He physically felt himself moving forward, felt his body being translated toward the bathroom. At the same time he saw a still view of himself from the right side walking toward the bathroom, seeing details such as his backpack and the brown walls of the Starbucks.

Simultaneously, Gabe was also imaginarily feeling himself closing his laptop and putting it into his backpack, a hint of bodily sensations as if opening the case and sliding the laptop inside. This was less in his experience than the driving and the bathroom, but still present.

This sample involved two simultaneous inner seeings that both included physicality he felt in the moment, along with a separate third sense of movement. In these inner seeing

samples, we again noted the under-detailed aspects that were in actuality not well defined, but were not experienced as under-detailed by Gabe at the moment.

Another example of an atypical (in comparison to most people) inner seeing was sample 4.5 (described in the Doing Of section) in which Gabe was purposefully modifying an inner seeing of his dad's living room.

One additional inner seeing was an underdeveloped/inchoate inner seeing (sample 3.7, discussed in the Inchoate section, in which Gabe saw his friends at the Brian Head campground). Another inchoate inner seeing was sample 5.5 (described above in the Inchoate section) in which Gabe simultaneously innerly saw his girlfriend and, separately, the canopy of the bed, both of which were in actuality poorly defined, though his experience was not of poorly defined girlfriend and canopy.

Despite the complexity present in most of Gabe's samples across all days, some of his inner seeing samples were relatively simple; however, overall, Gabe's inner seeing was multifaceted and often differed from run-of-the-mill inner seeing.

Emotion without Feeling

None of Gabe's samples involved a clearly experienced feeling; however, six samples involved experience that was notably emotion-related but not felt. Three of these samples included apparently ongoing emotion that was not directly in experience. For example:

> **Sample 2.5** Gabe was watching a YouTube video that showed repeatedly a school bus going over some bumps, causing a child to fly up out of his seat; at the moment of the beep he was watching the third or fourth replay of this scene. This seeing was astonished or in awe; that is, he was watching in an

astonished/awestruck way. However, whether or to what extent he felt astonishment or awe was not clear. He said that he may have felt it in his head, but neither Gabe nor we could not ascertain whether he meant that descriptively or metaphorically.

This is another example similar to sample 2.5, in which Gabe was engaged in an activity in a way that reflected ongoing emotion, but there was no feeling in his experience:

Sample 6.3 Gabe was leaving the lab to get lunch, and had just turned off the light switch. At the moment of the beep he was very slowly walking across the now-very-dark lab. He saw lighted outline of the door, and dimly saw the chair. He was walking very slowly and carefully, trying not to stumble on the other clutter of the lab. He was walking fearfully, but he did not experience fear at the moment of the beep. [He explained that when he was in Iraq he was walking in the dark and fell into a 6-foot deep hole. Since then, he has a bodily fear reaction to walking in the dark that causes him to walk very slowly and carefully. At this moment, the fear was not in his experience, but in retrospect, he knew the very slow walking to be a product of the conditioned fear response.]

This and the other samples mentioned above, appear to include emotion ongoing outside of experience. The previous two samples were relatively uncomplicated, in that there was only one phenomenon ongoing at the moment. The other samples involving emotion without feeling were more complex. In one sample, Gabe had two simultaneous emotional processes ongoing but not felt: sample 6.4, described in the Sensory Awareness section, in which Gabe saw the napkin hyperclearly and simultaneously had

tightness in his torso that represented frustration, along with competing desires to talk about and not talk about the topic. In that sample, Gabe was likely frustrated, and likely conflicted, but neither of those were felt directly.

Here is another example of a complex emotion without feeling sample:

Sample 3.1 Gabe was sitting on the couch with his girlfriend Jane, her daughter Sarah, and her girlfriend's friend. Gabe and Jane had just resolved an argument. Gabe was typing a text message as a favor to Jane. At the moment of the beep, Gabe was relieved that the fight was over. Relief was not felt directly, but instead was a lack of feeling tight everywhere (as if he had felt tightness everywhere before but no longer felt it). However, Gabe and we could not be confident that we knew what "everywhere" meant: whether this was bodily, mental, both, or neither. He used the metaphor of a spring: it had been coiled before, but now it was not. The tightness had apparently pervaded all of Gabe's aspects, not particularly the bodily. Now, there was no pervasive tightness. He also wanted to do something nice for his Jane (now that they were no longer fighting) [which was why he was sending the text, though the text itself was not in his experience at the moment]. However, while he was confident in interview that Gabe desired to do something nice, it was not clear how that desire presented itself. At the same time he was hearing Sarah laughing and playing with the dog.

Here, there were emotional aspects at this moment (Gabe was relieved; he desired to do something nice); however, it was unclear how or whether this was in experience, and the emotions (along with all other details of experience in this sample) were ambiguous to the researchers and apparently also to Gabe himself. In this sample, we see the way in

which the inchoate/underarticulated type of experience that was present across many types of experience, was also the nature of some of Gabe's emotion without feeling samples. That is, not only was there apparently an emotional process ongoing outside experience, the exact nature of the emotional process was not clear to Gabe (or to us).

In another sample, Gabe had three separate affectively tinged senses of three different people, though there was no clear emotion in experience (sample 6.1, described in the Inchoate section, in which Gabe was preparing to type an email). In one other sample (5.5, described above in the Inchoate section, in which Gabe sat on the bench and innerly saw his girlfriend and the bed canopy), Gabe had two ongoing emotional processes that that may or may not have been bodily (or may not have been in experience in any way). Like all of Gabe's samples with us, emotion without feeling was often complex and underarticulated.

Other Phenomena

Unsymbolized thinking. In two samples Gabe had a clear unsymbolized thinking. In sample 3.4 (described above in the Inchoate section, Gabe had a notion without words, images, or any other representation, that his girlfriend had been to Africa, and that was cool. This was striking as a clearly present unsymbolized notion, in contrast to the undetailed/inchoate experience in many of Gabe's other samples. In sample 6.5 (described in the Sensory Awareness section), Gabe innerly saw the colorful schedule and wondered whether it would be on the door up ahead. One other sample (5.1) may have had an unsymbolized thinking component, though it was not entirely clear whether this was actually an unsymbolized thinking or better characterized as an inchoate/not fully articulated thinking as described above.

Sample 5.1 Gabe was standing at the counter at the entrance of the gym asking for a piece of paper from the girl at the front desk. At the moment of the beep, he was looking at her too-long, out-of-place fake eyelashes. To a small degree, he also knew he was about to go work out, which he did not want to do. The girl was asking him whether a certain piece of paper would be ok, but that was not in his experience.

Watching for reaction. Two of Gabe's samples involved Gabe watching another person's face for a reaction, without a clear experience of anticipation or any other emotion. One of these was sample 5.4 (described in the Happening of Speaking section) in which Gabe was watching Vanessa's face for a reaction in the tank room, while his own speaking was not in experience. The other sample was:

Sample 2.1 Gabe was in a bar watching a hockey game with friends. He was making a funny comment, and at the moment of the beep, he was trying to make sure it was funny/trying to make sure it matched what he had thought a moment before/gauging his friend's expression to see if the joke was taking off. This was not experienced in words nor images, and Gabe could not say more about how this was experienced. It was clearly a trying—that is, he was not merely speaking. In fact, the speaking itself was barely if at all in his experience. Perhaps the center of Gabe's experience was the seeing of the friend's face and the noticing whether the words Gabe was uttering was having the desired effect; perhaps the center of Gabe's experience was the *trying* to say things in a way that would make his friend's face react in the desired way.

Both this sample and sample 5.4 were also categorized in the Happening of Speaking section, and this sample could also be categorized under the Doing Of category, as it is clear that the trying to be funny and watching for a reaction are the center of experience, rather than the speaking itself.

Inner speaking. Across all sampling days, Gabe had only two instances of inner speaking, which is a common phenomenon in DES samples for most people outside the current study. The first was sample 3.3, (described in the Inner Seeing section) in which Gabe innerly saw his girlfriend's daughter walking into the living room, and innerly spoke to her as part of the in-motion inner seeing. The second example of inner speaking was in sample 6.2 (described in the Inchoate section) in which Gabe innerly saw the grid square, and simultaneously innerly spoke measurements as part of an unspoken complete sentence (that was present to him, but not fully innerly spoken) as though he were speaking to a labmate.

Discussion

More than any other participant in this sample, Gabe's inner experience was complex and quite unclear to both him and us at times. There were samples in which experience was explicit; however, the majority of Gabe's samples involved inchoate experience, multiple complex aspects of experience, or simultaneously occurring experience that was a challenge to describe, apprehend, and analyze. We hypothesized that the inchoate nature of Gabe's experience (which pervaded all types of phenomenon) perhaps represented a fragmented connection to experience.

Like other participants with PTSD in DES, Gabe did not have feelings in experience in a typical way; rather, he had emotion without feeling, at times described the

absence of negative emotion or feeling to indicate a positive feeling that was not actually felt, and had complex other aspects of experience ongoing along with emotion.

CHAPTER 13

Idiographic Description of Henry' Experience

Henry was a 42-year-old Caucasian male combat veteran with one deployment to Iraq and one deployment to Bahrain who sampled with us in December 2013. Henry sampled with us for only three days. He explained that he did not particularly like wearing the beeper because it made him more anxious, and felt there was nothing more we could learn from an additional sampling day. Whereas Henry's ability to perform the sampling task improved across the three days of sampling (he became somewhat more willing to limit himself to reporting experience at the moment of the beep and to exclude generalizations about his experience), he never became adequately skilled at examining his inner experience and struggled with the task throughout the three sampling days.

Table 11 shows the frequency of phenomena in Henry's samples. Though we were not able to fully apprehend all of Henry's experience, it seemed that 75% of samples were of an inchoate, cognition-like phenomenon, half of his samples were of inner seeing, and 38% were samples in which there was some emotion ongoing that was most likely not in experience.

Table 11
Frequency of Phenomena: Henry (8 samples)

	Frequency	Percentage
Inchoate Cognition?	6	75%
Inner Seeing	4	50%
Emotion without Feeling	3	38%

Inchoate Cognition?

In 6 of 8 samples (75%, not including day one) Henry apparently had some cognition-like process occurring in his experience, but was, notably, unable or nearly unable to describe the exact nature of his experience of that putative process in any of those moments. For example:

Sample 2.4 Prior to the moment of the beep, Henry was sitting on the couch with his

> girlfriend as she laid down to take a nap. At the moment of the beep, he was looking at her, perhaps mostly noticing her head (she was lying with her feet toward him), and perhaps noticing (or perhaps intending to notice) that she was (or to discover whether she was) asleep. He was not sure how or whether the intention to see if she was asleep was in his experience. He may have been noticing that the light was too bright for her to sleep, but he was not sure how or whether that was in his experience.

In this sample, as in the majority of Henry's samples, precise details of the experience remained unclear after lengthy interviewing. We were not sure whether Henry experienced an intention to see if his girlfriend was asleep at the time of the beep or whether that was a retrospective gloss from the perspective of the interview.

Because we only had three sampling days with Henry, it was difficult both for him and for us to understand how and whether these inchoate cognition-like processes were in experience. The experience of some sort of inchoate cognitive process was more and less convoluted in different samples, but almost always present to some degree. One

of these samples (3.2) may have been an inner hearing, but like the other moments with this inchoate cognitive quality, it was difficult or impossible for us to be confident that Henry's inner experience actually included inner hearing at the moment of the beep.

> **Sample 3.2** Henry had been reading an email from his Marine Reserve officer in charge, which stated that some of the people in his jurisdiction were not doing an adequate job. At the moment of the beep, Henry may have been innerly hearing himself say "that's not me" or something similar (he was not sure in interview of the exact words) with a tone of disbelief. He was simultaneously moving toward opening Internet Explorer to login to his work site and check to make sure or prove that he was not one of the people being reprimanded in the email. The intention to prove it was not present in words, but was somehow attached to the words "that's not me."

We were not confident that words were actually present at the moment of the beep; it is possible or likely (based on Henry's subjunctification and other nonverbal aspects of the interview) that the worded disbelief was an artifact of the interview process. That is, we were never confident, in this or in most other samples, that Henry or the interview process adequately discriminated between pristine experience at the moment of the beep and context/explanation/surrounding facts—there were hints in the interviews that details were added that made logical sense but that were not directly apprehended at the moment of the beep. Based on the interview for this particular sample, it did seem that if words were present in this moment they were heard, not spoken. Most DES participants have a reasonably solid grasp of how to describe their experience by day three, and we, as skilled interviewers, have a fair understanding of how to help them tell us about their

experience. This was not the case with Henry as reflected by our struggle to apprehend the inchoate cognition process present in most of his samples.

Inner Seeing

In 4 of 8 samples (50%) Henry experienced inner seeing. Samples 3.1 and 3.4 were clearer than others, and it never became apparent to us whether that was a result of the inner seeing itself lacking clarity, or whether the less clear inner seeings were just difficult for Henry to describe. Here is an example:

> **Sample 2.2** Prior to the moment of the beep, Henry was typing a sentence that he had just memorized from a textbook. At the moment of the beep, he was innerly seeing the sentence he had memorized, highlighted in yellow, on the page from the book. He saw only the sentence clearly; the rest of the page was not clear. Only the sentence itself was highlighted (though it was not highlighted in the real life textbook). [There is reason for skepticism about this description, because it did not appear until late in the interview.] It is possible (perhaps likely) that he was typing without any particular aspect being in experience. There may have been some aspect of his experience that was an effort to remember the exact words of the sentence [or perhaps the entire inner seeing was that effort, but see the skepticism above]. He also was not sure whether he was hearing the music playing in the background at the moment of the beep.

We were skeptical about whether or not inner seeing was in Henry's experience at the moment of this beep, but we became more confident in his descriptions of inner seeing on the next sampling day.

Sample 3.3 Henry was watching the Andy Griffith show. At the moment of the beep, he was innerly seeing the box of a product Opie was trying to sell on the show. He saw the product box as it was displayed on an old 1960's style television, all in black and white. He saw only part of the edges of the TV around the screen, and the inner seeing was still. He was simultaneously thinking (somehow) that the product packaging was crappy. At the same time, he thought without words that the same principles of entrepreneurship applied in the 1960's as today, and that a good salesman can sell anything. These parts of his experience (the inner seeing, thinking about the principles of entrepreneurship, and thinking about a good salesman) were in layers of experience all going on at the same time. The image was the largest part of his experience, or the top layer.

The above description is what Henry said and adamantly reiterated, but we were skeptical that the interview process had adequately discriminated between what was actually present in pristine experience at the moment of the beep and what was context and general. Though we did not believe we fully apprehended a pristine account of Henry's experience at this moment, the inner seeing was perhaps the most convincing aspect of the description, whereas the inchoate cognition aspects gave us the most reason for skepticism. On the same day, Henry's two other inner seeing samples were clearer. For example:

Sample 3.1 Before the moment of the beep, Henry had been reading an article about increasing acid levels in the ocean. At the moment of the beep, he was innerly seeing the ocean floor, including the sand, seaweed, coral, and a couple of (maybe two) fish. It was as though he were there in the scene [though he did not

feel this physically or in any other way that he could articulate], standing on the ocean floor, seeing the scene [without goggles or a mask]. At the moment of the beep, he was also helpless to do anything for the ocean animals, which could not save themselves from the acid levels, though he was not sure how this was present to him.

This sample seemed a more-or-less straightforward description of Henry's experience. Henry also described this moment in a comparatively less-subjunctified manner, which increased our confidence in the description's accuracy. There was only one other sample that we felt similarly confident about, across all of Henry's samples:

Sample 3.4 Henry's friend had texted asking whether Henry would like to go get some food together. At the moment of the beep, Henry was innerly seeing the Cosmo buffet, from the perspective of the entrance line (though he did not feel as though he were there). He saw the buffet like a still panoramic scene--as it actually is in real life, in accurate colors, with all the food, and with people, but nothing was moving except his perspective: it was rather like he was turning his head to see the whole buffet while the whole still life remained fixed. At the same time, he was mentally formulating the words to text back to his friend, suggesting they go to the Cosmo buffet. No words were present yet, but the experience of forming something to say was present to him.

This sample and 3.1 seemed likely to be fairly high fidelity descriptions of the pristine experience, and were the clearest of any of Henry's descriptions on any sampling day. Inner seeing did seem to be the most clearly apprehended feature of Henry's experience.

Emotion without Feeling

Henry had 3 of 8 samples (38%) in which there apparently was an ongoing emotion, though it is questionable whether any experienced feeling was present in any of those samples. In one sample there were substantial sensory experiences that Henry understood as being anxiety:

> **Sample 2.3** At the moment of the beep, Henry was feeling what he knew to be the onset of anxiety, which he felt as a tingling/electrical sensation in his arms, just below the skin where the neurons are, and also perhaps to a lesser extent in his chest, and also perhaps in his head. He also experienced what he called a lightheadedness [it was difficult for the interviewers to grasp what that meant]. He may also have had a general sense that he should do something to beat the anxiety, but Henry was not sure in interview how this was present. If it was present, it was not as a separable cognitive/thought phenomenon, but perhaps as part of the tingly sensation itself.

Based on our interview, the center of Henry's experience at this moment was the sensation of tingling, which he interpreted as anxiety. He was still not very skilled at describing his experience during this interview; however, so there is room for skepticism about whether or not the emotion of anxiety was actually in his experience. The other two samples (3.1 and 3.2) involved situations that had emotional significance for Henry but where we could not be confident that there was actually an experience of emotion. In sample 3.1, discussed above in the Inner Seeing section, Henry may have felt helpless to do anything to fix acid levels in the ocean, but it was not at all clear that the feeling of helplessness was actually in experience. In sample 3.2 (discussed in the Inchoate

Cognition? section), Henry's inner speaking may have had a tone of disbelief, but it did not seem that the feeling of disbelief was in experience. Henry did not seem to experience emotion directly in either of those samples.

In addition to the three samples from sampling days two and three, Henry reported emotion in every sample from day one. As we examined those samples and learned more about Henry's inner experience in subsequent days; however, we became skeptical of his assertion that he was experiencing emotion in those samples. Henry informed us on sampling day one that his psychiatrist has taught him to rate his mood and feelings on a scale of 1 – 10 as part of his treatment for PTSD, so we believed it was possible Henry was primed to expect and look for emotion regardless of whether emotion exists in experience, or at the least, his assumption that emotion was present was an oversimplification of the emotional process that may or may not have been there. It is also notable that Henry reported less and less emotion as he gained skill in describing his experience.

Discussion

Henry's sampling with us was more difficult than is typical with other participants, both because Henry seemed to learn the task slowly and with great effort, and because he terminated sampling early. Henry's experience was almost all inchoate-cognition-type experience that was difficult to describe and to understand. It seemed that Henry was particularly unskilled at accessing inner experience, and though he began to improve on day three, he found the task of paying attention to his experience uncomfortable to the point that he declined to continue the study. It is impossible to know, but it is worth considering that there may have been something about Henry's pre-

existing inner experience structure or his experience of PTSD symptoms that may have made sampling especially difficult for him.

CHAPTER 14

Across-Participant Results and Discussion

The preceding eight chapters have presented idiographic descriptions of the inner experience of each of the study's eight participants as described by DES. This chapter will consider the similarities and shared features of inner experience across the sample, compare these results to the previous DES study of veterans with PTSD (Raymond, 2011), and discuss these findings in relation to the way in which the field of psychology defines and understands PTSD. Our participants endorsed significant symptoms of PTSD, based on the PCL-M, an established and widely used self-report measure; thus, we expect that at least some of the characteristics shared across participants have relevance for understanding the inner experience of individuals with PTSD. This study is exploratory, with a small, nonrepresentative sample and open-ended examination of the inner experience of eight individuals, so any conclusions must be tentative. Nonetheless, this approach has the unique potential to discover the unexpected and raise new questions to explore.

The across-participant results are based on a total of 156 samples (not including day one training samples) gathered from seven participants. Table 12 presents the relative frequency of some of the phenomena of inner experience for the participants in this study. Table 13 includes the average percentages of different types of phenomena in the current study, the averages from the previous DES study of PTSD (Raymond, 2011), and results from the Heavey and Hurlburt (2008) normative study that provided average percentages at which the five most frequently reported experiential phenomena occurred in a stratified sample of undergraduates in a large urban university.

Table 12
Questionnaire Scores& Characteristics of Inner Experience across Participants (percentages)

	Participants								
	Alan	Bradley	Chris	David	Emily	Franklin	Gabe	Henry	**All**
# of Samples (% of all Samples)	16 (10%)	14 (9%)	18 (12%)	22 (14%)	30 (19%)	19 (12%)	29 (19%)	8 (5%)	**156 (100%)**
Questionnaire									
PCL-M	77	75	70	65	65	61	55	50	
BDI-II	50	32	35	24	38	15	22	16	
BAI	31	25	44	19	16	17	17	39	
Characteristic									
Inner Seeing	19%	93%	11%	9%	3%	32%	28%	50%	**31%**
Sensory Awareness	13%	79%	0%	63%	7%	5%	62%	0%	**29%**
Emotion without Feeling	56%	36%	17%	41%	0%	5%	21%	38%	**27%**
Unclear*	19%	0%	0%	14%	0%	11%	58%	75%	**22%**
Inner Speaking	19%	64%	17%	5%	13%	11%	7%	0%	**17%**
Feeling	0%	0%	36%	0%	7%	58%	0%	0%	**13%**
No Experience	6%	0%	0%	0%	70%	0%	0%	0%	**10%**
Unsymbolized Thinking	19%	0%	0%	18%	20%	0%	10%	0%	**8%**
Verbal without Experience	0%	0%	28%	0%	0%	0%	21%	0%	**6%**
Hypervigilance	0%	0%	0%	5%	0%	0%	0%	0%	**1%**
Concentrated Doing	0%	0%	5%	0%	3%	0%	0%	0%	**1%**
Flashbacks	0%	0%	0%	0%	0%	0%	0%	0%	**0%**

Note: Percentages represent the frequency of each characteristic for each participant with average percentages represented in boldface in the far right column.
*Unclear includes samples in which the focus of experience was inchoate, unclear, lacked centrality, or had two centers.

Table 13
Comparison of Current Study Averages to Other DES Studies

	Current Study	Raymond (2011) PTSD	Heavey & Hurlburt (2008) normative
Characteristic			
Inner Seeing	31%	17%	34%
Sensory	29%	31%	22%
Awareness			
Emotion without Feeling	27%	>16%*	--
Unclear	20%	23%*	--
Inner Speaking	17%	5%	26%
Feeling	13%	16%	26%
No Experience	10%	3%*	--
Unsymbolized Thinking	8%	15%	22%
Verbal without Experience	6%	10%*	--
Hypervigilance	1%	10%	--
Concentrated	1%	5%	--
Doing			
Flashbacks	0%	3%	--

Note: Average percentages are provided for the Raymond (2011) study of OEF/OIF veterans with PTSD and the Heavey & Hurlburt (2008) normative sample that examined rates of the five most commonly reported types of inner experience across a stratified sample. -- indicates where there is no data for a particular characteristic.

*Percentages for Raymond (2011) Emotion without Feeling, Unclear, No Experience, and Verbal without Experience are estimates based on retrospective examination of the Raymond data set by the current author, for the purpose of comparison.

Variability of Experience in PTSD

As can be seen in Table 12, in the current study, there was a range of experience across our participants. The range of inner seeing samples was from 3% (Emily) to 93% (Bradley). Sensory awareness samples ranged from 0% (Chris and Henry) to 79% (Bradley), and emotion without feeling ranged from 0% (Emily) to 56% of individual

samples (Alan). Samples in which experience was unclear ranged from 0% (for Bradley and Chris) to 75% (Henry). Most participants had few samples of no experience (0% to 6%), with the exception of Emily, for whom 70% of samples fell into this category. Inner speaking also varied, ranging from 0% (Henry) to 64% (Bradley), and feeling was in experience rarely for most, but was often in experience for Franklin (ranging from 0% to 58%). In the Raymond (2011) study, feeling comprised 16% of samples. The variability of types of inner experience in our sample suggests either (a) that PTSD affects a wide range of individuals; (b) that some of the variability may be explained by perhaps different symptoms or presentations of PTSD ; or (c) that there are several or many different kinds of PTSD; or all of the above.

Overview of Experience in PTSD

To synthesize the large amount of detailed information gathered in this study, we will begin the discussion with a brief overview of inner experience in PTSD based on our findings, as well as the findings of Raymond (2011), which sampled with seven male veterans with PTSD.

A common theme across participants in both studies was a low frequency of feelings but a relatively high frequency of emotion without feeling samples (in the current study) or feeling samples that were in some way atypical (in Raymond, 2011). In addition, in the current study in particular, experience was often unclear and difficult to apprehend; that is, there were many examples in which experience was not explicitly present to the participant in the moment, or there were no (or minimal) phenomena present. In both studies, there were many samples that were quite complex, with multiple facets of experience ongoing simultaneously. Participants with PTSD had a somewhat

higher frequency of sensory awareness than has been reported in non-PTSD participants, but a somewhat lower frequency of other common inner phenomena (inner speaking and unsymbolized thinking). Less commonly, but still somewhat frequently, participants across both studies had instances where speaking, singing, and other verbal processes that often happen in experience, occurred completely or mostly outside experience. Participants in these studies experienced vigilance and flashback-like memories with low frequency.

Feeling and Emotion in PTSD

DES, like most emotion researchers, uses the term "feeling" to refer to directly experienced emotion. When some emotional state is ongoing (identified retrospectively or by behavioral correlates) but is not directly in experience, we have called that emotion without feeling. This distinction is central to our understanding of the data from the current study.

Across participants in this study, emotion without feeling was one of the most common phenomena, and was present for all participants other than Emily (who had mostly no experience at all). Overall, emotion without feeling was present in 27% of our samples. Feeling (emotion *in* experience), by contrast, was present only for Franklin, Chris, and possibly Emily (though we were not confident that the feeling was ever in her experience), and was present in only 13% of samples in the current study.

In the Raymond study (2011), feeling made up 16% of samples, but in that study, only feeling in experience samples were included in that category. Raymond (2011) did not include emotion without feeling as a separate category, so we examined all the samples collected in the Raymond study (Raymond presented descriptions of each

sample in an appendix), and we estimate that had Raymond identified an emotion without feeling category, roughly 16% of her samples would be counted as having this characteristic. This is a conservative estimate, as some written descriptions of samples in that study were not explicit about how (or whether) feeling was in experience, and only samples in which it was reasonably explicit that there was some emotion ongoing outside experience were included in our 16% estimate. Thus it is likely that our reconsideration of the Raymond results misses some samples that should be counted as emotion without feeling. Raymond (2011) did not include emotion without feeling as a separate category; however, she did discuss the fact that the "feeling" samples in the study were often complex, unclear, and "atypical." An examination of the written descriptions of the samples from that study confirms that in those samples, emotion was atypical in numerous ways, much like the current study. There were examples of emotion without feeling, disjointed or simultaneous opposite-valenced feelings, and many samples in which the way feelings were experienced (if at all) was not at all clear to either the participant or the investigators.

The Heavey and Hurlburt (2008) normative (non-PTSD) comparison study found rates of feeling present in 26% across their stratified sample, but did not concern itself with emotion without feeling because the phenomenon did not appear salient in the normative group. It is possible (perhaps likely) that their "feeling" category included at least some emotion without feeling instances. However, it seems reasonable to conclude (at least preliminarily, in the spirit of the present exploratory study) that emotion without feeling is more frequent in the PTSD samples than in the general population.

The frequency of emotion without feeling in this sample has important implications for the nature of emotion in PTSD. The link between trauma and emotion is widely accepted; however, the manner in which emotional experience and management of emotions may be affected by trauma is still a matter of study (e.g., Boden et al, 2013; Cloitre, Miranda, Stovall-McClough, Han, 2005; Ehring & Quack, 2010; Jerud, Zoellner, Pruitt & Feeny, 2014). One possible way of understanding the findings of this study, that emotions were *not* experienced far more often than they *were* experienced, is that in individuals with PTSD, emotions become somehow fragmented, disjointed, or otherwise disconnected from inner experience, possibly as a result of the way trauma is processed, or as a characteristic that exists prior to sampling. The question of whether the lack of integration between emotions and experience was a preexisting aspect of inner experience (that potentially increased the risk of developing PTSD), or resulted from exposure to trauma is one that cannot be answered in this study, but warrants further consideration, including longitudinal prospective studies.

The criteria for PTSD in the DSM-5 (APA, 2013) indicates that emotional numbing is a hallmark symptom of the disorder. Self-report studies suggest that the more frequently veterans with PTSD report emotional avoidance and numbing, the more severe their other reported PTSD symptoms are (e.g., Hassija, Luterek, Naragon-Gainey, More, Simpson, 2012). Emotional numbing might refer to either of two distinctly different phenomena: (a) that emotional processes are themselves blunted (or nonexistent); or (b) that emotional processes are normally or strongly ongoing but not felt. DSM-5 and its literature does not generally make such a distinction, but in our study, the common occurrence of emotion ongoing outside experience suggests that option (b) is likely. If

our sample is, in fact, representative of the way emotional processes occur in some individuals with PTSD, it is plausible that the emotional numbing component of PTSD is related to a disjointed process that involves emotion ongoing *outside* of experience. That is, if one retrospectively knows oneself to be angry (even furious), yet that anger is in no way felt or part of integrated experience at a moment, and that emotion-outside-of-experience occurrence is replicated regularly throughout everyday life, one might fairly consider oneself to be emotionally numb. Perhaps the symptom of emotional numbing equates experientially to not feeling emotions as they occur. It is also worth noting that in our sample, it was not solely positively valenced emotions that occurred outside experience (as indicated in the DSM criteria). Indeed, our sample had a broad range of emotion ongoing outside experience, from happiness to loving warmth to anxiety to annoyance to anger to fury. This suggests that it may not solely be the pleasant emotions that are "numbed" (or that occur outside experience) in PTSD, but emotions in general. In any case, this study suggests that it is not the emotion that is numbed (the emotion itself might be quite intense), but rather the feeling of that emotion that is numbed.

In this study, even for those participants who had samples of feeling, the feelings were for the most part complex, fragmented, and atypical. Chris was the only participant who had at least a few feelings that were relatively typical of other DES participants, and he also had a range of complex feeling and emotion without feeling samples. Franklin was the other participant who certainly had feeling samples; however, though the emotion was felt in experience, his feeling samples were quite atypical and often incompletely integrated. Franklin's feeling samples were, for the most part, extraordinarily complex, with multiple ongoing aspects of experience and sometimes

multiple feelings of different valences ongoing simultaneously. Emily was the other participant who may have had feeling samples, yet her experience was so unclear to her (and, as a result, to us) that we were never confident that the emotion was in experience. Thus, even when feelings were part of experience in the current PTSD sample, there were few examples of a straightforward feeling as we would see in most other DES studies. So although the current study is limited in its scope due to a small sample size, it offers evidence to support the findings by Raymond (2011), that emotion and emotion-related experience in PTSD are perhaps less skillful and certainly more fragmented and atypical than in comparison to the average population.

Unclear Experience

Inchoate or unclear experience is experience in which the details of what is in experience, how phenomena are in experience, and/or whether anything is ongoing in experience, are not explicit to the subject. That can range in intensity from mild uncertainty about whether a particular phenomenon was experienced directly (e.g., uncertainty whether a friend's talking was directly present right at the moment) to having no inner experience (e.g., though obviously a friend is talking, that talking is not at all in direct experience, nor is anything else at the moment).

In the current sample, 20% of samples were characterized by experience that was inchoate or unclear to the participant (and to us). Another 10% of samples involved moments in which the participant had either no or nearly no experience.

Raymond (2011) did not calculate the frequency of unclear/inchoate experience in her sample; however, we performed a retrospective review of all of the samples in her dataset using (as best we could, retrospectively) the same criteria with which we

categorized samples in our study as unclear (participant was not able to say or was uncertain what was in experience, whether a particular phenomenon was experienced, or how a phenomenon was present). Based on this review, we estimate that approximately 23% of samples in her study were likely unclear or inchoate in nature. A similar review of Raymond's samples for instances of no experience resulted in an estimated 3% of all samples. This was slightly lower than our 10% of no experience samples; however, our frequency was influenced by Emily's samples (of which 70% involved little or no experience), suggesting that the Raymond results were similar to our own in this regard, including some individual variability. The similarities between the two DES studies of PTSD in this regard strengthens the evidence that unclear experience may be central to PTSD.

Heavey and Hurlburt (2008) did not examine their sample for instances of unclear or inchoate experience, but their results imply that such instances are rare. Thus, the rates of unclear experience seemed considerably higher in our PTSD group than in typical DES sampling. In our PTSD sample, every participant had at least one sample (and most had considerably more) that involved detachment from, or very loose connection to inner experience. For example, approximately 58% of Gabe's samples with us were inchoate, which made them very difficult to describe and apprehend. For Henry, 75% of samples were inchoate or unclear. For Emily, in 70% of samples, she had no experience—the endpoint of the inchoate spectrum. These high rates of weak or incomplete formation of experience may have implications for the experience of what the field of psychology calls "dissociation." The DSM-5 (APA, 2013) criteria for PTSD include a specifier for a

dissociative subtype of PTSD to allow diagnosticians to note whether, in addition to meeting the criteria for PTSD, an individual reports

> 1. Depersonalization: experience of being an outside observer of or detached from oneself (e.g., feeling as if "this is not happening to me" or one were in a dream).
> 2. Derealization: experience of unreality, distance, or distortion (e.g., "things are not real"). (APA, 2013)

Though the psychology literature generally supports the existence of this subtype of PTSD (e.g., Friedman et al., 2011), there is a striking lack of scientific information about the nature of the lived experience of dissociation. In our study, there were no samples in which any participant's experience was of being an outside observer of him or herself, nor was there any sample in which any participant felt (in experience) detached from him or herself, nor any samples in which any participant's experience was that things were not real. A review of the Raymond (2011) data shows one possible example of depersonalization (in which a participant is himself sitting on his couch, and is simultaneously himself seeing himself from above and behind). This was the only example of what seemed to be a dissociative experience in the two DES-with-PTSD studies.

In addition to our 22% of unclear experience, 10% of no experience samples (estimated 23% and 3% respectively in Raymond, 2011), 6% of samples in the current study and an estimated 10% of samples in Raymond (2011) involved speaking or some other verbal process (reading, summarizing, singing) that was ongoing outside or very minimally in experience. These types of experience (unclear, no experience, verbal without experience) seem to be moments in which participants were loosely connected to

their inner (and at times also outer) experience. Specifically, Chris had five and Gabe had six samples in which their own speaking was happening completely outside their experience. Franklin had two samples in which there was no center of experience, instead, there were multiple ongoing occurrences all in experience at a low level simultaneously, none of which captured his experience—a lack of central experience. Emily had 21 examples in which there was simply no phenomenon surfacing in experience. In these samples, it was not that our participants were somehow meta-observers of their own detachment, it was that they were, in fact, only vaguely connected to their own experience. These participants may present themselves in clinical interviews as being dissociated. We posit that the unclear, inchoate, barely-grasped experience common across our sample may be part of the nature of the lived experience of dissociation. In the setting of trauma, perhaps one way of protecting oneself is to move away from clear experience (consciously or unconsciously), and it seems plausible that individuals who develop PTSD maintain that fragmented type of experience even after the threat of trauma is gone.

Another widely reported symptom of trauma is difficulty concentrating (e.g., MacDonald, Vasterling & Rassmusson, 2011; Uddo, Vasterling, Brailey, & Sutker, 1993), which has been hypothesized to be partially due to the interference of hypervigilance with attention (e.g., Conoscenti, Vine, Papa, & Litz, 2009). Our findings suggest that individuals with PTSD have a weak or incomplete formation of experience, which may provide additional information to explain the attention difficulties reported in PTSD. If much of one's everyday life is spent only loosely tied to experience, it is plausible that attention and concentration might suffer as a result. In our study, and in

Raymond (2011), unclear experience was common (as described above); however, explicit examples of hypervigilance were comparatively rare (1% in the current study, 10% in Raymond's (2011) study), suggesting that the attention difficulties in PTSD may be related to weakly or incompletely integrated experience (perhaps in addition to hypervigilance or other factors).

Vigilance

Hypervigilance in the DSM-5 (APA, 2013) is described as an enhanced state of awareness of the environment in order to detect threats. Hypervigilance can involve watchfulness of the environment, scanning for threats, observing in an on-guard way to determine the danger posed by particular people, keeping track of others, noticing exits, or other similar activities (APA, 2013). In our analysis of sampling data, we examined samples for any experience that resembled vigilance, surveillance, scanning the environment, or any other "alert" experience. In applying the broadest definition possible of vigilance, and examining each sample from each participant, we found that there were possibly six samples in which a very loosely defined vigilance may have been in experience. Those were: Alan samples 1.2 and 1.3; Gabe samples 4.1* and 6.3*, David sample 3.6, and Franklin sample 3.5*.

In all of the samples marked with asterisks, we concluded that these were, in fact, too far outside even a loose definition of vigilance to be reasonably counted as examples of hypervigilant experience. Both of Gabe's samples and Franklin's sample have in common with vigilance only that the environment was somehow part of experience at the moment. These samples do not represent watchfulness, scanning the environment for threats, being "on guard" or any other phenomenon that might be described as vigilant.

Alan's first day samples are not included in our count because we consider day one a training day and discard those samples. On the first day of sampling, participants have a very limited understanding of exactly what we are interested in (a highly detailed account of inner experience at a specific moment in time), and rarely, if ever, are participants able to collect samples that provide any true insight into their inner experience on the first sampling day. Alan was no exception.

It was of note that Alan reported having two instances of hypervigilance (and two instances of relief from hypervigilance) on his first day; then, once he had a better understanding of the task and became more skilled at observing and describing his experience, he had no subsequent instances of hypervigilance. It is possible that the random sampling process simply missed Alan's hypervigilant experience; however, it is also possible that Alan's first-day hypervigilance was a byproduct of his presuppositions and expectations about his experience (or about what the researchers were interested in hearing about) rather than actual sampled instances of vigilant experience.

After discarding Alan's day one samples and the samples from Gabe and Franklin, we were left with one sample: David's classroom sample, in which he had, just a moment before the beep, determined that a girl entering his classroom was not a threat. This did seem like the tail-end of a hypervigilance experience, and it was the only one of its kind in the current study.

Raymond (2011) found 15 samples (10% of her total samples) that involved vigilance among her five of her seven veterans with PTSD; we retrospectively reviewed those samples and concur with her categorization. In Raymond's study, one participant accounted for eight of the 15 vigilance samples, with the other four participants

accounting for between one and three vigilance samples. In those samples, it was explicit that participants were alert, on guard, and scanning the environment for threats, vigilantly tracking members of their group, simultaneously evaluating each person in their immediate environment for threat level, etc. The only example in our study that resembled those was David 3.6. In her discussion of vigilance, Raymond (2011) notes:

> Although we see the phenomenon [vigilance] with relatively low frequency in this study, it is important to make note of its presence. Two aspects stand out: 1) vigilance is present in a study with PTSD-positive participants and not in other DES studies and 2) despite the subjective ratings of the prominence of vigilance provided by the participants on the PCL-M, vigilance was encountered at an experiential frequency of only 10%. (Raymond, 2011, p. 196)

Our own study, as we have seen, found a lower rate than did Raymond.

The Heavey and Hurlburt (2008) normative study did not seek hypervigilance out among their samples, as it is not a typical phenomenon reported in DES studies, but their results imply that such instances are rare. Thus, there is no normative sample against which to compare the DES PTSD study results with regard to hypervigilance.

Hypervigilance in PTSD has been the focus of considerable investigation and has even been called a gateway to posttraumatic disturbance (Conoscenti, Vine, Papa, & Litz, 2009), and suggested to more powerfully determine an individual's recovery trajectory than any other symptom of PTSD (Schell, Marshall, & Jaycox, 2004). Though there is no literature focused on how frequently hypervigilance is in experience (likely due to the fact that most studies do not engage in a careful examination of inner experience), hypervigilance is widely accepted to be quite common in PTSD (Hoge et al., 2004). One

recent study found that it was the most commonly endorsed PTSD symptom among a sample of 1,325 Vietnam veterans, 88% of whom endorsed hypervigilance (Holowka, Marx, Kaloupek, & Keane, 2012).

The relatively low rate of hypervigilance in the two DES studies of PTSD is significant in the context of a field that understands hypervigilance as a key symptom in PTSD, and particularly noteworthy because all the participants in both the present and the Raymond study reported severe and distressing hypervigilance on the PCL-M. Though 10% is a notable proportion of Raymond's samples, particularly given that hypervigilance is rare in non-PTSD sampling, it still seems less frequent than we might expect, given the literature's portrayal of hypervigilance as a very common feature of PTSD, and particularly in light of the lower frequency (1%) in the current study. It is possible that the current sample was somehow atypical of individuals with PTSD, or it is possible that the random sampling process simply did not capture the hypervigilance that was actually present for our participants as frequently as they reported. However, it is also possible that the field of psychology perceives the frequency of hypervigilance in experience as higher than it is when inner experience is carefully examined. The DES in PTSD results suggest that hypervigilance, though certainly present in experience, may be a lower-frequency phenomenon than is reflected in the literature, which characterizes individuals with PTSD as being often, or nearly constantly, in a hypervigilant state (e.g., Hoge et al., 2004; Kimble et al., 2014).

If hypervigilance occurs less frequently in experience than is believed, what might explain the over-perception? We posit that perhaps the unclear experience common across our participants may provide a reasonable explanation. If a considerable portion

of processes are unclear, inchoate, minimally—or not at all—in experience for some individuals with PTSD (which was true in the current study and in Raymond, 2011) and moments of hypervigilance, when they do occur, involve intense and hypervivid awareness of the environment and people, perhaps the comparative intensity of the hypervigilant experience is more memorable than other types of experience. Thus, hypervigilant experience, against a backdrop of unclear or less captivating inner experience, might be prominent in subjective perception of what experience is like when individuals with PTSD are asked to rate how severe their hypervigilance is. So, although the combined results of the DES in PTSD studies suggest hypervigilance does occur in individuals with PTSD more often than in individuals without PTSD, the objective frequency with which hypervigilance is in experience may be lower than the field of psychology assumes.

Flashbacks

Intrusive memories and dissociative flashbacks are listed as criteria for PTSD in the DSM-5 (APA, 2013), and are thought to occur as a result of disturbance in memory formation and recall processes in PTSD (Brewin, 2011). Flashbacks are defined in the DSM-5 as a re-experiencing of a traumatic event, as if one were there. Intrusive memories are described as unwanted distressing memories of an event (though there is no sense that one is actually back in the experience, as in flashbacks). In one study, flashbacks were endorsed by 47% of participants with a current PTSD diagnosis, and by 4% of participants without a past or current PTSD diagnosis (Holowaka, Marx, Kaloupek & Keane, 2011). In a recent electronic diary study in which adult survivors of childhood sexual abuse with PTSD reported every two hours on whether and how often they had

flashbacks or intrusive memories, participants reported on average 75 intrusions and 24 flashbacks in one week (Priebe et al., 2013). However, the present study found no (0%) flashbacks.

Table 14
Distress Reported on PCL-M Items

	PCL-M Symptom Rating		DES % of Intrusive Memory or Flashback Samples
Participant	Intrusive Memories[1]	Flashbacks[2]	
Alan	Quite a Bit	Quite a Bit	0%
Bradley	Moderately	Quite a Bit	0%
Chris	Extremely	Quite a Bit	0%
David	Quite a Bit	A Little Bit	0%
Emily	Moderately	A Little Bit	0%
Franklin	Quite a Bit	Moderately	0%
Gabe	Moderately	A Little Bit	0%
Henry	Moderately	A Little Bit	0%
Raymond (2011)	--	--	3%

Note: Symptom ratings are based on the following scale: 1 – Not at All, 2 – A Little Bit, 3 – Moderately, 4 – Quite a Bit, 5 – Extremely
[1]Intrusive memory rating is based on PCL-M item 1
[2]Flashback rating is based on PCL-M item 3

In the current study, participants reported varying degrees of distress related to flashbacks and intrusive memories on the PCL-M, but we found no examples of flashbacks (that is, no examples of re-experiencing of a traumatic event). Each participant's reported level of distress related to intrusive memories and flashbacks is shown in Table 14.

In the current study, the only phenomena that came close to resembling intrusive memories or flashbacks were in Franklin's samples. Franklin had three samples in which

his inner experience was somehow tied to his military days, though none of these were recollections of a traumatic event. Though these were not "flashbacks" in the way the DSM-5 defines them (distressing re-experiencing of a traumatic event, APA, 2013), we captured two moments in which Franklin was innerly seeing a scene that was tied to his experiences in the military. In one of those samples, Franklin was innerly seeing mud that he knew to be from an obstacle course like he had completed in basic training (sample 4.2). In another sample, Franklin was innerly seeing a mountain range that he knew to represent the mountains in the location he had been deployed to, though they were not any specific mountains (sample 2.1). Franklin did not report that these were distressing. In one other sample, Franklin had seen a video of Fallujah, and at the moment, was regretting not having been in Fallujah when the combat took place there, which was a jumbled, hard-to-grasp experience and which we suspected was distressing based on Franklin's body language when discussing the sample, though there was no distress in his direct experience in the sample. Although this was not a recollection of a particular experience of his own, it seemed potentially related to flashbacks and intrusive memories. These three samples comprised only 2% of all samples, and used a very broad definition of flashbacks.

Raymond (2011) reported that three participants had five (total) instances of flashbacks over the course of sampling (3% of samples). In a retrospective examination of her data, we concur with her findings that there were five instances of flashbacks if we use a broad definition of "flashback." Only one of her samples was a flashback in the DSM-5 defined sense of the word, in which a participant's experience was of reliving a traumatic moment (seeing a friend killed). The other four flashback-related samples were

benign memories of military experiences that were not reported as distressing by the participants (e.g., standing in a guard tower watching the sunset, seeing a convoy driving, seeing a white flag waving in the distance). These were well-defined and specific memories with a fair amount of detail, unlike Franklin's samples in the current study that could be considered flashback-like, which were nonspecific and undetailed (e.g., mud that was like the mud on a training course, not the specific mud of a specific instance on the training course).

Heavey and Hurlburt (2008) did not report on frequency of flashbacks or intrusive memories in their normative sample, as these are not considered commonly present (if at all) in a non-PTSD population.

As was the case with hypervigilance, the two DES studies of PTSD revealed a much lower frequency of flashbacks than is generally assumed in the PTSD literature. Perhaps our random sampling missed nearly all of the flashback or flashback-like experience among our participants, but particularly given that even by a broad definition, there were only three examples in the current study and five examples in Raymond (2011) that could be considered flashback-related, it seems plausible and perhaps more likely that flashbacks and intrusions are not as common in experience as the literature assumes, and not as common in experience as individuals subjectively perceive. A similar explanation for the dissonance between subjective, retrospective reports of hypervigilance and the findings of this study may also fit for flashbacks and intrusions. Perhaps because flashbacks and intrusive memories are vivid in experience, they stand out in comparison to unclear or minimal inner experience, thus are more readily recalled and judged to happen more often.

Sensory Awareness

Sensory awareness is the experience of close attention paid to sensory (e.g., visual, auditory, olfactory, gustatory and tactile) details of the environment, or to internal processes (e.g., bodily sensations; Hurlburt, Heavey, & Bensaheb, 2009). In the current study 29% of samples involved sensory awareness, in comparison to, 31% in the Raymond (2011) DES with PTSD study and 22% in the Heavey and Hurlburt (2008) normative sample.

Replicating the results of the Raymond study (2011), our findings suggest that sensory awareness is somewhat more common among individuals with PTSD than in those without PTSD. However, it was notable that three of the participants in this study accounted for the majority of the sensory awareness samples. Gabe, David, and Bradley each had sensory awareness in over 60% of their samples, whereas Alan, Franklin, and Emily had between 5% and 13% sensory awareness, and neither Chris nor Henry had any instances of sensory awareness.

Inner Seeing, Unsymbolized Thinking, and Inner Speaking

Inner seeing occurred with a frequency of 31% in the current study, 17% in Raymond (2011), and 34% of samples in the Heavey and Hurlburt (2008) normative sample. At first glance, inner seeing in the current study seems considerably more common than in the Raymond study; however, one participant (Bradley) accounted for the majority of inner seeing samples in our study, as 93% of his samples involved inner seeing. Without Bradley's outlying frequency of inner seeing, the average across the rest of the participants was 19%, which was similar to the 17% finding in Raymond's (2011)

study of DES in PTSD. Not counting Bradley's samples, inner seeing was consistently present at a lower frequency than in the Heavey and Hurlburt (2008) sample (at 34%).

Similarly, unsymbolized thinking was present in the current study (8% of samples) and in the Raymond (2011) study (15% of samples) at lower rates than the Heavey and Hurlburt (2008) sample (22% of samples). In the current study, Alan, Gabe, David, and Emily had unsymbolized thinking samples, though it was likely that the majority of Emily's unsymbolized thinking samples were in fact instances of no experience, which would lower the rate of unsymbolized thinking in this study to 6%.

Inner speaking was present in 17% of samples in this study, in 5% of samples in the Raymond (2011) study, and in 26% of samples in the Heavey and Hurlburt (2008) study. In the current study, there was a broad range of inner speaking: Henry had 0% inner speaking, Bradley had 64% inner speaking, and all other participants ranged from 5% to 19% inner speaking. As with inner seeing and unsymbolized thinking, the rates of inner speaking in this sample were lower than the Heavey and Hurlburt (2008) sample and generally agreed with the findings of the previous DES examination of PTSD (Raymond, 2011).

Concentrated Doing

Concentrated doing is a highly attentive, careful focus on a specific aspect of a specific task (Raymond, 2011). Concentrated doing is not an extensively studied or well-understood phenomenon. Prior to the Raymond (2011) study, concentrated doing was examined and discussed in only Mizrachi's DES studies of left-handed individuals, where left-handers had 8 – 10% of samples that involved concentrated doing (Mizrachi, 2010; Mizrachi, 2013).

In the current study, concentrated doing comprised only 1% of our samples (Emily and Chris each had only one instance); however, it is worth comment in light of the fact that it was also present in Raymond's (2011) study.

In the Raymond (2011) study, 5% of samples were of concentrated doing. She further suggested that concentrated doing was potentially related to vigilance, as both involve an intense, purposeful paying attention. In the case of vigilance, the alert focus is on the environment, and in concentrated doing, the focus is directed at a particular process. Heavey and Hurlburt (2008) did not examine their samples for concentrated doing, so there is no normative base for comparison.

With only two DES in PTSD samples to date, it is difficult to speculate about the role of concentrated doing in PTSD, particularly given that only 1% of the current sample involved concentrated doing (in comparison to 5% in Raymond's sample). Although there is little information about this phenomenon, it may be related to sensory awareness and vigilance, as it appears to be, in some ways, a particularly heightened focus on sensory details (e.g., Emily's hot gluing sample, in which she was purposefully, intently focused on not burning her fingers). Further studies would be useful in elucidating the frequency with which this phenomenon is present in PTSD, and perhaps for further understanding its role in the disorder.

Comparison of Current Study to Previous Sampling with PTSD

As we have seen, the current results generally support many of the findings of Raymond (2011). As Table 13 showed, the two studies found similar rates of the five most frequent phenomenon (inner seeing, inner speaking, unsymbolized thinking, feeling, and sensory awareness). The rates of inner seeing, inner speaking, and unsymbolized

thinking were similarly lower than expected, based on Heavey and Hurlburt (2008) in both the current and the 2011 study (though Bradley's extremely high rate of inner seeing inflated the rate of inner seeing in the current study). Both studies also shared a higher than average frequency of sensory awareness across participants, and few to no instances of hypervigilance and flashbacks across samples.

The major difference between the current and previous study of DES in PTSD was the emergence of emotion without feeling as a significant aspect of the results of the current study. Although Raymond (2011) noted that the experience of emotion was atypical and fragmented in her participants, and that at times emotion was ongoing outside experience, the occurrence of emotion without feeling took shape in a meaningful and evident way in this study that was simply not the case in the earlier study. In our retrospective review of her data, we found that possibly 16% of her samples could be categorized as emotion without feeling (in comparison to our 27%). Our retrospective estimate was conservative, as we relied on written sample descriptions only and counted only those samples that could reasonably be considered emotion without feeling. This suggests that our results may be similar, particularly considering that the emotion without feeling phenomenon is likely a low-frequency occurrence in non-PTSD populations, and both of the DES in PTSD studies include it as a considerable proportion of samples. The overall findings related to emotion and feelings in PTSD revealed a broad range of experience (and absence thereof), suggesting that emotion and feelings play a major role in the lived experience of PTSD, and that there may be individual differences or other factors that play a role in the way that emotions and feelings occur.

Experiential Integration in PTSD

As discussed above, the current study and Raymond (2011) found high rates of unintegrated or atypical emotion, high rates of unclear or no experience, and higher rates of sensory awareness, and lower rates of inner seeing, inner speaking, and unsymbolized thinking than a normative sample (Heavey & Hurlburt, 2008). One possible explanation for these findings is that in PTSD, experience is less integrated than in the general population. If this is the case, it stands to reason that exposure to trauma may somehow interact with experiential integration. Based on this study, it is impossible to say with certainty how that relationship occurs. It may be that individuals who develop PTSD after exposure to trauma have more fragmented inner experience to begin with. Researchers have speculated that one risk factor in the development of PTSD relates to the way in which a traumatic experience is integrated and processed at the time of the trauma, and how effectively the memory of trauma is processed thereafter (e.g., Cahill & Foa, 2007; Ehlers & Clark, 2000). Perhaps a preexisting lack of experiential integration reduces the detail with which trauma can be processed in experience, contributing to the development of PTSD after traumatic exposure. An individual's integration of feeling seems particularly relevant to processing a trauma, given the emotional nature of trauma.

It is possible that less integration of other types of experiential phenomenon (e.g., inner seeing, inner speaking, unsymbolized thinking) may relate to the way in which trauma is processed, though the exact nature of that interaction is not clear.

It may also be the case that exposure to trauma (or, in the case of our sample and many veterans with PTSD, repeated exposure to trauma) somehow reduces the integration of feeling, perhaps related to avoidance of emotional content or emotional numbing after a trauma. Thus, it is possible that individuals who experience less

integrated feeling may be more likely to develop PTSD due to a decreased ability to process emotional content; alternately, it is possible that integration of emotion is somehow degraded by exposure to trauma. It is also possible that PTSD and the integration of feeling are unrelated, though the combined results of the current study and the Raymond (2011) study suggest that less integrated feeling experience may be common among veterans with PTSD.

Descriptive Experience Sampling and PTSD

In conducting the current study with OEF/OIF veterans reporting PTSD, some of the complexities involved in sampling with this population became apparent. From the beginning, data collection progressed slowly, partially due to relatively high rates of drop out that occurred either after interested individuals learned the details of the study, after individuals had signed on for the study, or after individuals had completed one interview. There were perhaps aspects of the task of observing and describing experience that may be difficult for this population in particular. It is possible that because of the general anxiety and behavioral avoidance common among persons with PTSD, the task of purposefully attending to experience was overwhelming or very uncomfortable. It is also possible that the unclarity of experience that this study showed was common across participants made the sampling task (describe your experience clearly) particularly difficult for some participants with PTSD. In fact, two of our potential participants who completed only one interview cited the discomfort of the task as their primary reason for discontinuing the study. (This is in contrast to most DES participants, who, while finding the task challenging, generally enjoy examining experience in a new way). There was one screened individual who qualified for the study, but who declined to participate because

he said that the sound of the beeper triggered flashbacks, and another of our participants noted that the sound of the beeper was very unpleasant and difficult to tolerate. Those reactions are unusual in DES studies.

Another challenging aspect of sampling with the PTSD population was the comparatively high rates of cancelled appointments, no-show appointments, and difficulty contacting/getting responses from some individuals who expressed interest in the study, and at times, from participants. Again, it was possible this could be attributed to anxiety in general or to some aspect of the task itself; it is also possible that our population had difficulty with organization (which could be related to PTSD symptoms).

For those participants who participated fully, there were certain aspects of their sampled experience that increased the challenge of data collection and analysis. One common theme across most of the participants was a lack of clarity about what was in experience. Almost all of the participants in this study had one or more (some significantly more) samples in which they were unsure what was in experience, how a particular phenomenon was in experience, or whether an occurrence was actually in experience. Unclarity of experience makes sampling particularly difficult for participants trying to describe experience clearly. This also has ramifications for those who might consider applying the DES process. Participant Emily, for example, had little inner experience, but in the pursuit of bracketing presuppositions and apprehending pristine experience, we could not be confident of this until well into sampling. Thus, her early samples were understood and written in a way that reflected the ambiguity, a painstaking process. This was true to various degrees for all participants. In fact, the lack of clarity, the uncertainty about experience, and the complex nature of the inner experience we

found in this population, though fascinating and richly informative, in large part makes the sampling process difficult. Despite the considerable barriers to sampling with individuals with PTSD, the results of the study provide valuable information, and a solid framework for beginning to understand the lived experience of PTSD.

Study Limitations and Implications for Future Research

The current study had a number of limitations. First, the small sample size (N = 8) limited the extent to which results could be interpreted and generalized. DES studies are inherently time and labor intensive, and require commitment by both researchers and participants. Participants in DES are participants in the truest sense of the word; they not only attend multiple interviews about their experience, they are required to wear the beeper often for several hours in order to collect enough samples for each interview. As a result, people not prepared to engage in this extended effort will decline to participate, thus potentially biasing the subject pool.

The time- and labor-intensive nature of DES hinders the ability to study large samples; therefore statistical power is not sufficient to draw meaningful quantitative conclusions from the data collected. Furthermore, the results can be confidently generalized only across several or many studies of the size of the present study. Even if it were practical to conduct a DES study with a much larger sample, the idiographic nature of the results of DES would make quantitative analysis difficult.

The study is also limited by the nature of collecting ecologically valid data. That is, because participants were free to collect their samples in their own everyday environments when and where they chose, study control was restricted. It is the nature of

this method that the samples collected may vary systematically based on when and where participants chose to sample.

Individual participants have strong presuppositions that impact the way they perceive and describe their inner experience. The heart of the DES method is to help participants to bracket those presuppositions. There are interview characteristics that guide the bracketing process and suggest whether it is being effective, but there is no guarantee except replication that such bracketing is effective.

A fourth limitation of the current study is the possibility that the researchers' presuppositions and personal beliefs interfered with high-fidelity apprehension of the participants' inner experience. However, the presence of two investigators at each interview was intended to reduce the likelihood of contamination of the data by presuppositions.

A final limitation of the current study was that expositional interviews for some participants were conducted either with one researcher present in person and one researcher video conferencing via Skype, or, in the case of one participant, with both researchers and the participant video conferencing via group Skype. Though it is possible that some fidelity was lost conducting interviews via video conference, this is not believed to have significantly impacted sampling due to the iterative process that provided numerous opportunities to describe and understand inner experience over time.

The findings of the current study suggest that additional DES studies investigating inner experience in veterans who report PTSD would be worthwhile to refine our understanding of this population and the way trauma and PTSD symptoms impact inner experience. Future research might address the limitations of this study by using a larger

sample size, or using a similar sample size and similar methods that would contribute to the combined results of Raymond (2011) and the current study. In addition, sampling with participants over a more extended period of time could improve our understanding of the frequency with which certain phenomena occur, for example, emotion without feeling, vigilance, and flashbacks. Additional DES studies with this population may help to shed further light on the discussion of experiential skill in individuals with PTSD. An ideal future study might explore experiential skill in PTSD by examining inner experience in soldiers prior to and following first deployments to a combat zone. Pre- and post-deployment sampling could shed light on the relationship between experiential skill and exposure to combat-related trauma, and in particular, the subsequent development of PTSD.

APPENDIX A

Participant Samples

Alan (Chapter 6)

Sample 1.1 Alan was sitting on a bench outside of an academic building, waiting for class to start. Before the moment of the beep, he had scanned the environment and observed a man who appeared to be of Middle Eastern descent and therefore a potential threat. At the moment of the beep, he was observing this man walking past. He was in a state of readiness to take action, hyper-alertly inspecting this man for any sign of weapons, explosives, or behavior that might indicate a threat, though no specific action or plans were in his experience at the moment.

Sample 1.2 Alan was in class, sitting in his usual spot. At the moment of the beep, he was zoned out—not paying attention to anything in the room, and had no internal experience. He was "absolutely blank." [This was described as feeling safe, a comfortable relief from the hyper-alert scanning which he usually engages in.]

Sample 1.3 Alan was walking to his apartment from campus, along a long, straight sidewalk. The situation included various things typical of an urban/suburban residential sidewalk: bushes, mounds of dirt, staircases, windows, people, rooftops, etc. At the moment of the beep, he was simultaneously focused on all of these things as potential threats. He felt like he "was on patrol" in the sense that he was vigilant of his surroundings, inspecting the rooftop for signs of snipers, inspecting the bushes for hidden personnel, inspecting the sidewalk for signs of IEDs, inspecting the people for threatening behavior, and so on, all simultaneously in a state of intense vigilance. He was even more intensely vigilant than he would have been on a three-man patrol because he was alone (instead of with teammates) and therefore had to be alert in all directions simultaneously.

Sample 1.4 At the moment of the beep, Alan was asleep in his recliner. He had no experience. [The recliner, having been owned by Alan's father, was described as a place of safety.

Sample 2.1 Alan was at dinner with a date. At the moment of the beep, he was looking at and enjoying the sight of his date's cleavage.

Sample 2.2 Prior to the beep, Alan was angry that he had to take cash out of an ATM inside a restaurant that only accepted cash. At the moment of the beep, Alan was just typing his pin number into the ATM keypad. The anger, which was doubtless still strongly present in his body, was not in his experience at the moment of the beep.

Sample 2.3 Alan was watching a fight scene in the movie *Salt.* At the moment of the beep, he was watching a small female character knock out a bigger male character with one kick, and innerly speaking "fucking bullshit." This was spoken in his voice with a snickering tone.

Sample 2.4 Prior to the beep, Alan had been nervous about asking his date out for a second date. Just before the beep, she had agreed to go out with him again. At the moment of the beep, Alan was not nervous anymore.

Sample 2.5 Alan was in bed and had been hearing his neighbors argue outside since 4 am; it was now about 4:45 and the row was still ongoing. At the moment of the beep, he was innerly seeing the scene that was occurring outside on the sidewalk, with a black "dirt bag" standing on the left and a black woman standing on the right facing each other, arguing. This inner seeing recreated the scene that he was actually hearing. He was hearing the woman saying, "don't you hit me," and innerly saw her as she said it. Alan was furious in a racially charged way [because this row had awakened him a long time earlier; and because the row was typical of the way black men (dirt bags) treated women] but this fury, while very strong in his body, was not present in his experience at the moment of the beep.

Sample 2.6 Alan was sitting in the corner of Starbucks at the Student Union. At the moment of the beep, he was innerly seeing the woman from the argument that morning pounding on the car window. He heard the thunk thunk of her fists. The seeing was detailed (pounding on the driver's side window of her boyfriend's car with her right hand) and was more vivid and detailed than it had been in real life. He was also wondering why people get into arguments like that. This thought was present without words or images.

Sample 3.1 At the moment of the beep, Alan was innerly speaking "Marty" in a warm and loving tone. The context was that his friend Marty had shaved her head at a Yellow Ribbon event to help raise funds for a solider from their unit who had cancer, but that context was not present to him at the moment of the beep. All that was in his experience at the moment of the beep was the innerly lovingly spoken "Marty."

Sample 3.2 Alan was walking across campus and at the moment of the beep, was wondering how his wearing the DES beeper would help Stacy (the researcher) do her study. He was confident that this thinking was present at the moment of the beep, but was not present in words or images.

Sample 3.3 At the moment of the beep, Alan was innerly seeing his far back left bottom molar and the head of his toothbrush, as though he were seeing it in his bathroom mirror. He did not see the rest of his mouth, his hand, the mirror, or anything else. The context was that he has gum disease and had been somehow considering whether he brushed adequately now and when he was a child, but at the moment of the beep all that was present was the inner seeing.

Sample 3.4 Prior to the beep, Alan had been listening to a classmate's presentation on engineering. At the moment of the beep, he had no inner experience, which he described as being bored or in "hibernation mode."

Sample 3.5 Alan was talking with his friend Greg at a coffee shop, and his friend had just told him that he was attracted only to Asian girls. At the moment of the beep, Alan was thinking that there was more to life than that. This was a notion not present in words

or images. Alan recognized after the fact that this thought was critical, but did not experience a criticalness at the moment of the beep.

Sample 4.1 Alan was watching the news with the sound off, and they were showing a picture of O.J. Simpson. At the moment of the beep, Alan mumbled "What a piece of shit." He may have mumbled it out loud, or he may have mumbled it innerly, he was not sure after the fact.

Sample 4.2 Alan was in a coffee shop talking to his friend Greg about going to dinner or karaoke that night. At the moment of the beep he had just said the word "karaoke." The coffee shop was very loud, though Alan was not sure whether this was in his experience. He may have had a warm, happy, excited feeling in his body, but perhaps he did not notice this until he reflected back after the beep went off.

Sample 4.3 Alan was standing in line at Starbucks deciding which drink he wanted. He was choosing between an iced coffee and a mocha. At the moment of the beep, he was seeing the word "mocha" on the menu sign. The word "mocha" occupied all of his experience.

Sample 4.4 Alan was talking to a classmate, Christy. At the moment of the beep, he was looking at her face, skin tone, and complexion and was particularly noticing the attractiveness of her face.

Sample 4.5 Alan was showing a picture of his son wearing a kilt to his friend Christy. At the moment of the beep, he was holding up his phone to show her. His eyes were aimed at the back of his phone with the Apple logo, but he was not sure whether that or nothing was in his experience.

Bradley (Chapter 7)

Sample 1.1 Bradley was about to drink an old fashioned he had made. At the moment of the beep, he may have been somehow worried about how the drink would taste because he used cherries that had become frozen in the refrigerator. He was just about to take a sip, though it was not clear whether the sipping was in experience.

Sample 1.2 Bradley was engaged in his morning routine and had thought he heard the beep several times throughout the morning, though these turned out to be "phantom beeps." At the moment of the beep, he may have been somehow anxious about when the beep would sound, though his experience at the moment of the beep was not clear to us.

Sample 1.3 Bradley was drinking his coffee while his daughter watched a children's show on TV. He was at some point in the morning wondering when the beep was going to sound, and this may have been in his experience when the beep sounded. He may also have been about to take a sip of coffee.

Sample 2.1 Bradley was watching the movie *We're the Millers*. At the moment of the beep, he was innerly seeing Jennifer Aniston's abs, up close, in the same outfit as they appeared in the movie. This was clear and in color. He was simultaneously innerly seeing Jennifer Aniston doing a crunch exercise with a purple ball, wearing workout

clothes. This inner seeing was in motion, clearly and in color, as it would be in real life. At the same time, Bradley was innerly seeing Jennifer Aniston as she was in the movie. This was a zoomed-out, whole-person seeing of her in the same outfit as in the movie (and in the zoomed-in abs inner seeing). All three of these were simultaneously as though they were stacked one in front of the other, with the abs at the forefront, then the crunches, then the long body shot. At the same time, he was innerly speaking the words "she's never had any kids, that's also probably why she looks so good." This was in his own voice as he would say it in real life in one rapid run-on sentence. The movie itself was not in his experience.

Sample 2.2 Bradley was watching a movie at home with his girlfriend, and massaging a cramp in her quad muscle. At the moment of the beep, Bradley was innerly seeing a quad muscle, by itself, from the perspective of his hand. That is, he saw it as though his hand was the camera looking into her leg in 3-D, and he was looking at the muscle from the same angle his hand would see it. The quad muscle was the only muscle Bradley saw, none of the muscles around it. At the same time he was innerly speaking the words, rapidly as if in a run-on sentence, "How much longer do I have to do this; really!?; I just want to relax; oh my God" in an annoyed tone. The feeling of annoyance was not otherwise in his experience. The inner seeing was more salient in his experience than the inner speaking at the moment.

Sample 2.3 Bradley had taken the dog outside to urinate. At the moment of the beep, he was innerly seeing the dog going potty, facing left, with his leg up, peeing on the pile of leaves in the yard he always uses. This inner seeing was clear and accurately colored. Bradley was simultaneously innerly speaking the words "Frank, go potty; why doesn't he go potty?; why does this take so long?; just go pee" in a run-on sentence with a mildly impatient tone. He may have felt a physical rush from his core up to his neck or face, as well as tense fists that signified impatience. At the same time, Bradley innerly saw a hawk swoop in from the sky and carry the tiny dog away. This was in motion, in color and clear, [and Bradley knew it to be a familiar inner seeing that he sees often when he takes the dog out into the yard]. The hawk was the least salient aspect of experience at the moment.

Sample 2.4 Bradley was cutting a cucumber to make cucumber mint water, and had thrown away an old cucumber that had become soft and moldy. At the moment of the beep, he was innerly seeing a white spot that was on the old cucumber he threw away. He saw the green of the surrounding cucumber, but was zoomed in on the white of a moldy spot. This inner seeing was in color and clear, and somehow the soft, squishy texture of the old cucumber was in his experience, though in interview Bradley did not think this was visually, but in some other way, possibly mentally. Bradley was simultaneously rapidly innerly speaking (in one run-on series of sentences) "this doesn't look so bad; it's still good; I'm still going to use it." The inner seeing was more salient in Bradley's experience, and the cutting was not in his experience.

Sample 2.5 Bradley was in bed reading about Donald Sterling and V. Stiviano on his phone. At the moment of the beep, he was innerly seeing V. Stiviano getting into a red Ferrari, from the back of the car. He saw her facing backward, toward the back of the car, with the driver's side door open. Simultaneously, he innerly saw her face from a

three-quarter angle (so he was seeing most of the left side of her face) and was mostly focused on how her cheekbones were protruding (unnaturally the result of plastic surgery), but was also generally noting the plastic surgery look to her face. At the same time, Bradley was innerly seeing the back of a red Ferrari that he knew to be expensive as it was low to the ground and had an aerodynamic/fast look to it. At the same time, he was innerly speaking the words "he's fallen for the oldest trick in the book; he's like 80, she's like 30; what did he expect?: what did she expect?, how could he fall for that?" in a rapid, run-on series of sentences. He also had a sense of judging both of them, though it was not clear in interview whether this was implicit in the images and speaking, or whether this was somehow separate. All of these aspects of experience were layered and occurred very fast, possibly simultaneously, or in rapid succession.

Sample 2.6 Bradley was laying in bed with his girlfriend snuggled against him and his arm under her head. At the moment of the beep he was feeling pain in his arm where she was laying, and innerly speaking "how much longer is this going to go on for?, I just want to go to bed; when is she going to get used to sleeping on her side?" At the same time, he was innerly seeing his hand under her head and then moving her off of his arm, from his own perspective lying in bed. This was in motion, and he knew it to be a maneuver he had used to get her off of his arm in the past.

Sample 3.1 Bradley was putting socks on and thinking of the food options in the refrigerator that he could eat for lunch. At the moment of the beep, he was innerly seeing sweaty-with-condensation leftover taco meat in a clear Tupperware container with a red lid on it. He saw this in color and as clearly as he would see it in real life, out in front of him. It was as though he was zoomed-in on the taco meat. At the same time, he was separately innerly seeing the top of a plastic Oscar Meyer lunch meat container with a red lid that he knew to contain turkey and ham. He may have seen a bit of turkey, but mostly just the top of the container, and this was less detailed and less prominent than the taco meat, and also below the taco meat seeing. He was simultaneously and separately from the taco meat and Oscar Meyer container, innerly seeing the side of a big yogurt container (which he knew also to be in the refrigerator). He saw the less-detailed-than-in-reality logo on the side of the container. He may have been particularly drawn to the red of the Tupperware lid and Oscar Meyer lid. At the same time, Bradley was feeling a clenched stomach and bubbly gut feeling that started in his stomach and went up, deep inside his body, which he knew to be disgust. He was simultaneously innerly speaking "Nothing sounds good; that sounds disgusting; don't eat that" in a rapid, run-on series of sentences, in reference particularly to the disgustingness of the taco meat. The seeing of the taco meat was the most salient aspect of experience.

Sample 3.2 Bradley was getting ready to go to work. At the moment of the beep, he was innerly seeing his co-worker from head to toe, standing, leaning on the bar at work with her hands clasped and innerly hearing her telling him about her planned travels to Barcelona, Berlin, and Dublin. He knew this to be a replay of an actual conversation that happened previously. He was particularly hearing the high-pitched inflection of her voice. At the same time, he was innerly seeing two men wearing Barcelona soccer team colored scarves walking at night. This was in motion, and he knew the men to be drunk Barcelona soccer fans. He also innerly heard them speaking in Spanish. This inner

seeing began when he innerly heard his coworker say "Barcelona." Within rapid succession, when his imaginary coworker said "Berlin," Bradley innerly saw the German flag separately and behind the seeing of the drunk men, though the flag was less prominent than the inner seeing of the men in Barcelona, which was still ongoing. Then his coworker (in his imagination) said "Dublin" and both the flag and the Barcelona fans faded and he innerly saw an obelisk in a town square in the daytime that he knew to represent Dublin.

Sample 3.3 Several days prior to sampling, Bradley had a tetanus shot in his left shoulder. At the moment of the beep, he was innerly seeing his shoulder close up in isolation with a huge red welt on it (which was not there in real life). This was in color. At the same time, he innerly saw and physically felt himself doing his normal shoulder exercise and his shoulder failing at the gym. The seeing was from the perspective of looking at himself in the gym mirror in front of the machine (though the mirror was not in experience). The seeing and feeling were part of the same experience, not separate phenomenon. He simultaneously felt his stomach clench and his leg muscles clench, which he knew to be dread. He was also innerly speaking "Will this affect my shoulder routine?"

Sample 3.4 Bradley was washing dishes. At the moment of the beep, he was smelling the stink of the sponge. He was also innerly seeing a new, sealed package of four green sponges with a yellow scrubby layer that he knew to be under the sink where they keep the sponges (though there was no actual new pack of sponges there). He was particularly drawn to the color of the innerly seen sponges. The smell and the inner seeing were both equally in experience, and to a lesser degree, he was innerly speaking "This sponge smells."

Sample 4.1 Bradley was playing Old Maid with his daughter, who was dealing. At the moment of the beep, he was visually drawn to the dimples in her hand (at the first knuckles of her left pointer and middle fingers) that particularly stood out, (reflecting the chubbiness of her little hands).

Sample 4.2 Prior to the beep, Bradley was making chicken huts (baked croissants stuffed with chopped chicken and topped with butter and sesame seeds) for dinner with his daughter, and she had said to him "You get no chicken huts, they're all for Grandpa Greg" just before the beep. At the moment of the beep, Bradley innerly saw Grandpa Greg, eating (an unknown food—not chicken huts) voraciously. He was wearing a baseball cap and seen in detail and motion. At the same time but separately, Bradley saw a chicken hut with melted butter and sesame seeds on top of it. The sesame seeds particularly stood out to him. This seeing was still, and above or in a layer behind the moving seeing of Grandpa Greg, though clearly separate from it. The innerly seen Grandpa Greg was the most prominent aspect of experience, then an equal split between seeing the chicken hut and hearing his daughter speak.

Sample 4.3 Prior to the beep, Bradley's daughter had asked him what the beeper was for, and Bradley had started to explain by saying "Well…" when the beep sounded. At the moment of the beep, Bradley was innerly seeing Dio sitting at the DES lab conference table, explaining about the study, though there was no sound and there were no particular

words experienced (even though the seen Dio was seen to be speaking words). The seen Dio was clear and in motion. At the same time, Bradley innerly saw the beeper lying on his dining room table, at a three-quarter angle, so he saw most of the right side. The silver-ness of the silver headphone jack stood out to Bradley, and this seeing was not in motion. Neither his speaking/explanation nor his daughter were in experience at the moment.

Sample 4.4 Bradley was seeing a pine tree outside his window. At the moment of the beep, he was innerly seeing himself walking through tall grass in the wilderness that he knew to be near Reno, which he had visited several years ago. He saw the grass from his perspective walking through it, and also saw his black hoodie and jeans (as if he were looking down at the grass past his hoodie and jeans), though the grass was more salient. This seeing was in motion. At the same time, but separately, he innerly saw a pine cone, which he knew to be in his hand, though his hand was not seen. The scales (which in the interview he called "blades") of the pine cone particularly stood out. The grass inner seeing was more prominent in experience, and Bradley saw it in the front layer, with the pinecone seeing in the behind layer, though clearly a separate seeing, and neither were transparent.

Chris (Chapter 8)

Sample 1.1 [The first beep was from 10 days ago and Chris is entirely unsure about what was in experience at the moment of the beep.]

For the remaining beeps, we used the most recent, which were from two days ago.

Sample 1.2 Chris was at work and had just confiscated a fake ID card from an underage patron, which he held in his hand. At the moment of the beep, he may have been looking at the hologram, noticing its presence on the fake ID (as most fake IDs do not have holograms). At the same time, he may have had a thought with several components that included wondering where the guy got the ID and how he did the holograms. The thought was present without words or images.

Sample 1.3 Chris was walking to the restroom at work, hoping no one would stop him and ask him questions. At the moment of the beep, may have been innerly speaking the phrase "don't ask me any questions" in his own voice. Those may or may not have been the exact words.

Sample 1.4 Chris was telling one of his employees to take a break from work. At the moment of the beep, he may have been innerly hearing the employee's voice whining. No words were articulated, but Chris knew the complaining to be about not getting a break on time.

Sample 1.5 Chris's boss was telling him that he needed to cut four staff from the door of the bar. At the moment of the beep Chris was listening intently to his boss, paying close attention to the sentence his boss was saying.

Sample 2.1 Chris was looking for the answer to a question for his history mid-term, and had been flipping through the textbook for approximately 10 minutes in the search. At

the moment of the beep, Chris was innerly hearing his voice say "What am I doing wrong? What am I doing wrong?" repeatedly in succession. There were no words present, yet the meaning was somehow innerly transmitted in his own voice. There may have been a worried or concerned tone. The repeated hearing was a feeling of frustration, which was not present in any other way.

Sample 2.2 Chris had typed a sentence in his history homework, and was dissatisfied with one word of the sentence. At the moment of the beep, he was searching a few paragraphs in the textbook looking for the correct word to replace the undesired word. He did not know the word he was looking for, but was looking for a specific word and would know it when he saw it.

Sample 2.3 Prior to the beep, Chris had hit the "print" key on his computer, which sometimes required being clicked several times before it would print. At the moment of the beep, Chris was innerly speaking "How many times am I going to have to hit this fucking key?" in a frustrated/angry tone. This inner speaking was louder than his usual volume, perhaps as loud as a yell. The feeling of frustration/anger was not present in any other way than the frustrated/angry inner speaking.

Sample 2.4 Chris's 18-month-old daughter had awakened and started to cry. At the moment of the beep, Chris was innerly speaking "How long is this gonna take?" in his own voice with a tone somewhere between worry and frustration. The worry/frustration was present as a mental feeling (which was expressed entirely in the inner speaking) and as a bodily feeling of allover body tension and mild heart racing. The words were the most salient aspect of experience, the bodily tension and heart racing were less salient.

Sample 2.5 Chris was holding his 18-month-old daughter and swaying, rocking her to sleep. At the moment of the beep, Chris felt a warm, melty feeling deep inside his chest and throughout his entire body. The warmth (which felt like a temperature increase) somehow represented or connoted or reflected the context of his relationship with his daughter (that she was special, that he nearly lost his life in an accident and nearly did not have the chance to hold her), which was present as part of the warm, melty feeling. The warm feeling was his entire experience at the moment. He was somehow choosing a song to sing to her, but this was not in his experience.

Sample 2.6 Chris had just finished several hours of homework. At the moment of the beep, he was sighing a big sigh which expressed a feeling of satisfaction. The satisfaction was a relief and the beginning of relaxation at being done with his homework, and was only present to Chris as the sigh.

Sample 3.1 Chris was designing a flyer, and at the moment of the beep he was feeling a tightness in his chest and neck, which he knew to be stress that he was behind and the flyer was going to take forever.

Sample 3.2 Chris was working on blueprints for a new garage he was designing. At the moment of the beep, he was counting out loud the number of plugs he planned on the side wall ("1..2..3.."), and had just said "2." He was also seeing the blueprint at the moment of the beep.

Sample 3.3 Chris was grilling chicken on the outdoor grill, and was squeezing the chicken with the tongs to determine whether it was done cooking. At the moment of the beep, he was innerly speaking in his own voice "Is this chicken done?" in a matter-of-fact tone.

Sample 3.4 Chris was watching a home repair show in which someone was fixing a backsplash in a bathroom. At the moment of the beep, Chris was just seeing the task the workers were doing. He was saying aloud "Oh, I can do that," but this was not in his experience—the words were just rolling out at the moment of the beep.

Sample 3.5 Chris was sitting on the couch with his wife watching a home improvement show in which people were laying Spanish tile on a walkway. At the moment of the beep, he was seeing the finished tile design on the TV (but was not drawn to any particular aspect of the tiles). At the same time he was saying aloud "Those would look [beep] beautiful in front of our house." He was also feeling a happy/joyful feeling, which was a relaxed feeling in his entire body.

Sample 3.6 Chris was getting ready to go to bed and was trying to remember whether he had already taken the pain medication in the bottle he held in his hand. At the moment of the beep, he was innerly seeing a different pill bottle in his left hand, from the angle he would see it if he were holding it out in front of him reading the label. This inner seeing was as clear as it would be in real life. He saw the different medication name on the label in particular, and knew the inner seeing to indicate that he took this medication earlier in the day, not the medication currently in his hand in real life.

Sample 4.1 Chris was cutting sausage for the baby's spaghetti dinner. At the moment of the beep, he was making sure the sausage was cut in small enough pieces for the baby, which was somehow in experience. At the same time he was asking his wife "Hey babe, is the sausage small enough?" (or maybe simply "Is this small enough?") which was secondary in experience to the making sure.

Sample 4.2 Chris was describing the difference between the old RoboCop movie and the newer remake to his wife, and was trying to recall the old movie. At the moment of the beep, he was speaking aloud to his wife, describing the differences, but this speaking was just rolling out so that he did not really attend to the words he was speaking. His experience was dominated by innerly seeing high speed scenes from the old RoboCop movie going by, as though they were a VHS tape in fast forward (that is, with the motion within the scenes speeded up, not merely skipping from one scene to the next).

Sample 4.3 Chris was typing his answer to an essay question on an online exam. At the moment of the beep he was feeling a rushed/frustrated/stressed feeling that manifested as his heart thumping in his chest. At the same time, he was reading information on the pro-slavery movement of the 1800's on his desktop PC and simultaneously forming a summary of that information and typing it into his essay on his Mac. The feeling rushed/frustrated/stressed was 60% his experience, the reading was 20%, and the summarizing was 20%.

Sample 4.4 Chris was playing with his new English bulldog puppy, who was a gift from his family. At the moment of the beep, he was feeling happiness, which was a bodily warmth in his chest, arms, and heart. He was simultaneously feeling joy, which was a mental feeling that he did not have a care in the world. [The bulldog, which was the source of his feelings, was not in his experience at the moment of the beep.]

Sample 4.5 Chris was watching *Cupcake Wars* on TV with his daughter, and prior to the beep, the person on the show was making a cupcake that looked disgusting. At the moment of the beep, he felt disgusted, which was a churning deep in the middle of his stomach. He was also simultaneously telling his daughter that the cupcake sounded disgusting, though he could not recall the exact words in interview apparently because he was more occupied by the feeling..

Sample 4.6 Chris was watching *Cutthroat Kitchen* on TV with his wife, and at the moment of the beep he was saying "Man, these people are mean to each other," and was simultaneously just watching the TV show. His experience was 50% on speaking and 50% on being carried along by the show.

David (Chapter 9)

Sample 1.1 David was playing a Pixar Cars video game on the X-Box. At the moment of the beep, he was looking at the dirt of a particular patch of the road on the TV screen, which curved a few car lengths in front of his car. He was unsure whether the anticipation of the curve was in his awareness right at the moment, or whether he was just looking at that portion of the dirt.

Sample 1.2 David had just won a game of Call of Duty with a team. Just before the moment of the beep, he had seen the winning screen, with the word "Victory" at the top, and a list of player names and game statistics underneath it. At the moment of the beep, he was happy, which he felt as something like butterflies feeling deep inside his torso, from his shoulders to the bottom of his stomach. He also felt his face smiling—felt the musculature of it, and may have had a mental sense of success and accomplishment that was not present in words, images, or any other way.

Sample 1.3 Prior to the moment of the beep, David was sitting in his too-far-back recliner with a hot cup of coffee on his lap, setting aside his laptop and reaching for his X-Box controller while his two-year-old son grabbed onto his leg. At the moment of the beep, David felt frustrated, which he experienced as a mental wish that all those things weren't going on. He was mostly focused on wishing he had not set his coffee on his lap, but was aware of his son, the game controller, his laptop, and the uncomfortable recliner each individually and as a whole, frustrating situation. His frustration did not involve words or images.

Sample 1.4 Several minutes before the beep, David and his wife had discussed whether to buy their son a snowboard or a snow sled, and had decided on the sled. At the moment of the beep, David was innerly seeing the front half of a red snowboard sitting on white snow, as though it were about to go down a hill (though he did not have the sense he was on the snowboard). The snowboard was bright red against bright white snow, but he said

he was not drawn to the color or any other visual aspect of the inner seeing. Perhaps primarily he felt confused, which he likened to the feeling immediately after waking from a dream—not knowing where you are or what you are doing. He was also trying to get back a lost train of thought about whether to buy his son a snowboard or snow sled. He was also confused as to why he was innerly seeing a snowboard rather than a sled. This may have been a double featured confusion: feeling confused, and then being confused about why he would have such a thought.

Sample 2.1 David had just sat down to eat an omelet and at the moment of the beep, was innerly hearing the words "I should go get your computer," where "your" referred to his own computer. He was confident that the words of this inner sentence included the inconsistent pronouns "I" and "your," both of which referred to himself. He was confident that the experience was of hearing his voice rather than speaking it; he heard these words in his own voice, with a tone of mild urgency.

Sample 2.2 David was getting up from his chair in the kitchen, where he had his legs draped over another chair. At the moment of the beep, he was feeling, through his show, his feet dragging over the bump of the seam on the top of the chair. To a lesser degree he was feeling anxious and rushed, which he described as an emotional, not thinking or bodily, experience. [In interview he thought the feeling his feet drag across the seam was about 70% of his experience, and the anxiety/rushed feeling was about 30%.]

Sample 3.1 Prior to the beep, David thought the beeper might be broken, and reached down to check it by putting his thumb on the button. At the moment of the beep, David was feeling the cylindrical shape of the button, and, to a lesser degree, the pressure of his thumb pushing lightly on the button.

Sample 3.2 David was driving, and prior to the beep, was concerned that the beeper was not working, and was imagining telling Dr. Hurlburt that he had not completed the task of collecting beeps. At the moment of the beep, he was innerly saying "I hate to do this, but…" in his own voice, as though he were speaking to Dr. Hurlburt (though Dr. Hurlburt was not otherwise in his experience at the moment). The inner speaking was about 70% of his experience. The words after "but" were not in his experience at the moment, but the sentence would have continued were it not interrupted by the beep. At the moment, he had some sense that he had made a mistake or not completed a mission. This was about 30% of his experience; whether it was a feeling or a thought was not clear.

Sample 3.3 David was sitting in class and his leg had gone numb. At the moment of the beep, he was feeling a tingling sensation that was centered in his ankle and radiated out from there. Perhaps, and if present then present to a lesser degree, the numbness in the rest of his leg was also in his experience.

Sample 3.4 David was sitting in class. At the moment of the beep, he was noticing a tired/fatigued/pleasant/ "hollow" feeling in his entire body, uniformly head to toe. This was a pleasant sensation that his whole body was relaxed, like an empty, light space where particular feelings or sensations might take place but were not taking place at the moment of the beep.

Sample 3.5 Prior to the beep, David had just looked up at his instructor's movement (to get a bottle of water). At the moment of the beep, David was just seeing his instructor drink from a bottle of water. He may have been focused on the water flowing from the bottle into the instructor's mouth, but we were not certain.

Sample 3.6 Prior to the beep, David was sitting in class as the door across the room just out of his peripheral vision opened and a female classmate walked through. Before the beep, he had been assessing whether or not the noise of the door opening was a threat; then he recognized the classmate primarily from the highlights in her hair, upon which he determined that she was not a threat. Now, at the moment of the beep, that determination was in the process of fading from his experience (he said it remained about 25% of his experience). Most of his experience at the moment was of seeing the girl "break the threshold" of the door, by which he apparently meant enter into view. He recognized the highlights in her hair, but most of his experience at the moment was of seeing her whole person walk in the door.

Sample 4.1 At the moment of the beep, David felt a coolness inside the front portion of his skull (behind his forehead area, inside his skull, but not down deep). In retrospect, he recognized this as a pleasant sensation that represented a lack of anxiety or a lack of "static," which is present when he is anxious, but at the moment, he was just sensing the coolness.

Sample 4.2 Prior to the beep, David was playing *Call of Duty*. In the game, prior to the beep, his man had taken bullet damage and run out of ammunition. David had pushed the controller button that caused the man to reload, and at the moment of the beep, David was waiting for the soldier on the game to push the magazine into his rifle. David was watching it happen, relatively dispassionately, as if he had issued the instruction to reload and was now waiting for that to be carried out so that then he could move forward in the game—that is, to cause his man to take cover. After the beep he noticed that he was excited—breathing heavily and animatedly—but that was not part of his experience at the moment of the beep. At the moment of the beep he was simply waiting and watching the man push the magazine into the rifle.

Sample 4.3 Prior to the moment of the beep, David was playing the video game *Call of Duty* and had shot an attacker in the head. At the moment of the beep, he was sensing the musculature on the right side of his mouth and face curl up. He also felt a sensation like butterflies inside his stomach and chest which radiated from his stomach upward into his chest. At the moment the mouth/face musculature was more salient in his experience than was the butterfly sensation. [In retrospect, he recognized the mouth/face musculature sensations as being the inner experience of a smile, but the smile itself was not experientially present at the moment of the beep. Also retrospectively, he said recognized himself to be happy—that the smile and the butterflies were part of a happy feeling, but that happiness was not directly in his experience at the moment of the beep.]

Sample 5.1 David was typing a report on Henry Box Brown. At the moment of the beep, he was innerly saying "abolitionist gladiator, abolitionist gladiator" over and over, in his own voice without any particular inflection. This speaking seemed to take place perhaps a foot in front of the real David's face. At the same time, he was innerly hearing

that speaking, as though the hearing part of himself was inside the real David's head hearing the words coming from the front. Simultaneously, he was typing, entirely on autopilot, a sentence that involved the abolitionist gladiator. Thus there were two separate verbal experiences and a simultaneous-but-outside-of-experience verbal processing. His eyes were aimed at the monitor on which the typed words were appearing, but that also was not in his experience at the moment of the beep.

Sample 5.2 At the moment of the beep, David was picking up the Xbox controller and felt the light weight of it in his hand (an example of sensory awareness). At the same time, he was mentally acknowledging or recognizing the weight of it in his hand. That is, he did not merely sense the weight; there was also a simultaneous thinking/acknowledging/recognizing of the weight. These were two parallel and related experiences; about 50/50 in terms of salience.

Sample 5.3 David was playing *Call of Duty* and his character on the game had taken a lot of bullet damage. At the moment of the beep, David was pushing hard on the joystick to move his character out of the firefight to reload his gun. He felt the pressure of his thumb against the joystick. David simultaneously felt that he was there in the firefight, in control of the character but at the same time at the mercy of the David controlling the character. Thus there were two simultaneous but separate centers of experience: David [in his living room] feeling the joystick and David [in the *Call of Duty* firefight] controlling his *Call of Duty* avatar. This in-the-firefight David was experientially both there with his avatar, controlling the avatar, moving with the avatar, but at the same time not in the firefight, not participating in the action. Thus experientially he was there in the game and also in control at the same time.

Sample 5.4 David was playing *Call of Duty*. At the moment of the beep, he felt a tired, dull pain behind his eyes. This was about 70% of his experience. The other 30% was a knowing that the reason for the tired feeling was that he had stayed up too late last night. This was a separate part of his experience, and not just implied by the dull pain.

Sample 5.5 David's son was sitting on his lap and quickly and enthusiastically drinking a bottle of formula. At the moment of the beep, David was recognizing that his son was enjoying his bottle. He had a cognitive sense that his son's enjoyment was a good thing [and after the beep concluded that he should feel good about it, but at the moment of the beep he did not feel anything].

Sample 6.1 David was reading a Facebook message, and at the moment of the beep, he felt a heaviness inside his head an inch or so behind his eyes, as though that part of the inside of his head were made out of a heavy material. [After the beep, he recognized the heavy feeling as tiredness, but that tiredness was not in his experience at the moment of the beep.]

Sample 6.2 David was playing *Call of Duty*, and before the beep, his player was reloading his gun. At the moment of the beep, David was thinking without words or images that the game was very unrealistic. This was more than just a noticing; it was an experienced thinking that the game was unrealistic.

Sample 6.3 David was playing *Call of Duty*, and before the beep, his player was being pursued by two enemies on the right and, he had just realized, one new enemy on the left. At the moment of the beep, he wanted to know where the left enemy was, and was innerly seeing a white van that he knew to be nearby and to the left of his player on the game, and that he knew he could use for cover (this knowledge was implicit in the seeing of the van). He saw the van from the perspective of the player crouching on the ground in the game, and saw only the van and the sky in the background. As far as he could tell, the van and sky looked as they would in the real game.

Sample 6.4 David was playing *Call of Duty*, and at the moment of the beep, moving his player forward about half the map and then laying him down and wait to ambush the enemy. He explained in the interview that he has done this maneuver many times on the game, and was very familiar with what he needed to do and where to go, and was not thinking about it.

Sample 6.5 David was playing *Call of Duty*, and before the beep, as his player passed a box on the screen, a little unfamiliar text box popped up on the screen. (In the interview, David explained that he has been playing *Call of Duty* for about 5 years, and hadn't seen that text box before). At the moment of the beep, David felt mentally confused. There were no words or images to this feeling, and David described it as though his thoughts weren't clear, like he wasn't in command of his thoughts for a moment.

Sample 6.6 At the moment of the beep, David was feeling heaviness behind his eyes (similar to 6.1), and soreness in his shoulders, arms, and the tops of his thighs. Afterward, he recognized the feelings as an indication that he was tired, though the tiredness was not in his experience at the moment.

Emily (Chapter 10)

Sample 1.1 At the moment of the beep, Emily felt disappointed/sad and lonely, which was a mostly mental feeling. Probably after the beep, Emily thought about wanting to make changes in her life and get out of a rut. She could not say more about how she experienced the sadness in the moment.

Sample 1.2 At the moment of the beep, Emily felt joy, which was a possibly physical joyful sensation deep in her chest, in her heart. In interview, she was unsure whether there was a mental feeling accompanying this physical joy.

Sample 1.3 [During our interview, Emily could not recall what was ongoing in this moment, and noted that she had written "curious" in her notes, but nothing else.]

Sample 1.4 Emily was looking online at a site for a specific link, and had been referencing notes about where to go for the link, but was not able to find it. At the moment of the beep, she was looking on the webpage for the link, and may also have felt confused, but it was not clear whether this was right at the moment of the beep or at some other time around the beep.

Sample 1.5 Emily was looking at a friend's post on Facebook, and at the moment of the beep, was amused and laughing. She was not sure whether the amusement, the post, or the laughter was more in her experience.

Sample 1.6 Emily was on the phone after receiving an unexpected call from a representative of Western University. At the moment of the beep, she felt anxiety, which was her heart pounding in her chest. She may have had some ongoing mental process that was also part of the anxiety, and that may have had a component of anxiety about not knowing what would happen, or about starting something new.

Sample 2.1 Emily had been watching a commercial, in which different female celebrities said the word "motherhood." At the moment of the beep, she was just waiting expectantly to find out what the topic of the commercial was.

Sample 2.2 Emily was twisting her daughter's hair into small knots for a hairstyle. At the moment of the beep, she may have been innerly speaking "this is not working" in her own voice, maybe with no particular tone.

Sample 2.3 Emily was doing her daughter's hair and at the moment of the beep was feeling a sharp pain in her left shoulder. She also may have been experientially wanting to hurry up and finish doing the hairstyle because of the pain in her shoulder. (It was not clear in our interview whether the pain and the wanting to hurry up were the same experience or somehow separate processes, or whether the wanting to hurry up was a retrospective gloss.)

Sample 2.4 Emily was getting out of her car at the store and at the moment of the beep, she may have been innerly saying something like "what do I need to get?" though Emily was unsure in our interview of the exact words. The list of needed groceries was not yet in her experience; she was at the beginning of the process of trying to remember the what she needed.

Sample 2.5 Emily was listening to the song "I'm Satisfied with Jesus in My Heart" and at the moment of the beep, the meaning of the words was somehow in her experience, and she may have had a feeling of satisfaction with her life (though this may have been prior to the beep).

Sample 2.6 Emily was watching TV and had been dozing on and off. At the moment of the beep, she was feeling sleepy. It is possible that somehow that sleepiness was experientially urging her to go to bed (though the need to go to bed was not in her experience in any way other than the sleepiness).

Sample 3.1 Emily was singing to her daughter and had gotten the words to the song wrong. At the moment of the beep, Emily was thinking that her daughter was thinking she (Emily) didn't know the words. This thinking took place without words or images, or any other experienced aspect. An alternative understanding: At the moment of the beep Emily was looking at and reacting to (with no experienced thought) the expression on her daughter's face, and after the beep interpreted that as an ongoing thought. The singing was not in her experience at the moment, even though Emily continued to sing.

Sample 3.2 Emily had just noticed that her daughter had taken off her shoes, though they were getting ready to leave the house. At the moment of the beep, Emily was thinking that her daughter needed to put her shoes back on or was wishing that her daughter would put her shoes back on. This thinking was present without words, images, or any other experienced aspect. An alternative understanding: At the moment of the beep Emily was looking at and reacting to her daughter's feet, and after the beep interpreted that as an ongoing thought.

Sample 3.3 Emily had received an email from a new employer returning some paperwork Emily had completed, presumably because there was something incorrect about it. At the moment of the beep, Emily was thinking that she had messed up the paperwork, which would cause a delay in starting employment. This thinking was present without words or images, or any other experienced way. An alternative understanding: At the moment of the beep Emily was looking at and reacting to the paperwork, and after the beep interpreted that as an ongoing thought. Emily may or may not have been feeling disappointment at the moment of the beep [she was not at all confident about this in interview].

Sample 3.4 Emily was on the phone with a girlfriend, who was talking about putting in job applications for work overseas. At the moment of the beep, Emily was thinking without words, images, or any other experienced way, that she would also like to go work overseas. In interview, Emily noted that this thinking about working overseas was 50% of her experience, and listening to her friend was the other 50%, though we were not sure whether the listening was actually in experience at the moment, or whether Emily stated this based on a presupposition that she must have been listening because she was understanding and following the conversation. An alternative understanding: At the moment of the beep Emily was listening to her friend, and after the beep interpreted that she had an ongoing thought.

Sample 3.5 Emily's daughter (age 2) had just finished saying something very clearly, so that every word could be understood. At the moment of the beep, Emily may have been thinking without words or images that her daughter had spoken very clearly and she understood every word. At the same time, Emily may have felt amused/happy, which was perhaps a mental feeling.

Sample 3.6 Emily was looking in the mirror and putting on eyeliner. At the moment of the beep, she was innerly speaking "Why do I have to keep my mouth open?" in her own voice (she knew herself to be asking why she kept her mouth open while applying eyeliner, though there was no mention of the eyeliner in her inner speaking). At the same time, there may have been a thought that she should put the eyeliner on thicker, present without words or images.

Sample 4.1 Emily was deciding whether to keep or get rid of a gray sweater, and at the moment of the beep, she was somehow in the process of deciding, though this process was not in experience.

Sample 4.2 At the moment of the beep, Emily was opening a drawer to put pants into it. There was nothing particular in her experience at the moment.

Sample 4.3 Emily was holding her daughter, patting her, and saying "calm down" repeatedly to her. At the moment of the beep, none of these were in her experience, and Emily could not say whether there was anything else ongoing in experience.

Sample 4.4 Emily was cleaning sand from her daughter's hair while her daughter would not sit still. At the moment of the beep, she was just cleaning the sand. In response to direct question, she said she was frustrated, but this was perhaps not in her experience. It was also not clear whether the cleaning the sand was in experience.

Sample 4.5 Emily was playing a game where she was matching like fruits, and at the moment of the beep, she was deciding her next move. This may or may not have been visual, and may or may not have been in her experience at the moment.

Sample 4.6 Emily was looking at information for an HR course on her computer. At the moment of the beep, she may have been thinking without words, images, or any other experienced way, something in the ballpark that the course would be a refresher for her, that she knew the material, that maybe she could take a different course.

Sample 5.1 Emily was watching a kids show with her daughter. At the moment of the beep, she was just watching the show and singing along. There was nothing particular in her experience at this moment.

Sample 5.2 Emily was hot gluing a project, and at the moment of the beep, she was intently, carefully avoiding burning her finger as she glued. The project itself was not in her experience, nor was any cognitive injunction to be careful.

Sample 5.3 Emily wanted to know what day of the week August 18 would be, and therefore was looking at the calendar on her cell phone, and was about to swipe from the month of July to August. At the moment of the beep was in the action of searching for August 18, which she would know when she saw it. No representation of the date itself was in her experience.

Sample 5.4 Emily was watching her daughter play with play-doh. At the moment of the beep, Emily was watching her use different colors of play-doh. She was noting that her daughter was using multiple colors, but this was not a cognitive experience, and the particular colors themselves did not especially draw her experience.

Sample 5.5 Emily was on the phone with a friend. At the moment of the beep there was nothing, including her friend's talk, in her experience. Her eyes were aimed at the couch, but that was not in experience either.

Sample 5.6 Emily was still on the phone with the same friend. At the moment of the beep, she was hearing what her friend was saying, and was innerly speaking "Whaaaat?" in a surprised tone (in reaction to what her friend was saying).

Sample 6.1 Emily was talking on the phone with a co-worker and had her calendar open to look at dates. At the moment of the beep, she was just saying aloud "Natalie is out this week." Nothing else was present in experience.

Sample 6.2 Emily was on the phone with a co-worker, who was giving her directions. At the moment of the beep, Emily was innerly seeing a white building and the sidewalk outside of it, from left of the building. She knew this building to be the one her co-worker was describing in her directions. The inner seeing was in color, and there was nothing other than the building and sidewalk (no background, etc.), which were about as clear as she would see them in reality. Her friend's speaking was in experience as well. [This was a very explicit description of ongoing inner experience, one of two today (see 6.6), one of the few such things in the Emily interviews.]

Sample 6.3 Emily was on the phone, but had tuned out the conversation and was making a to-do list. At the moment of the beep, she was waiting for things to come to her mind to add to the list. She had just written "nails" on the list to indicate that she planned to get her nails done, though neither the writing nor the concept of getting her nails done were in experience.

Sample 6.4 Emily was walking to the laundry room. At the moment of the beep, there was nothing in experience (not the walking, not the laundry room, or anything else).

Sample 6.5 Emily was typing a letter on the computer, and at the moment of the beep, was trying to figure out how to say what she wanted to say in a nice way. She was just waiting for the right words to come to her. She was physically typing "is doing a" at the moment, but this was not in her experience.

Sample 6.6 Emily was watching TV and had heard someone say that it was National Cheesecake Day. At the moment of the beep, Emily was wondering whether there would be a special price on cheesecake that week. This was a clear notion present without words, visual phenomenon, or any other representation.

Franklin (Chapter 11)

Sample 1.1 Franklin was at work at the Vet Center and had looked at a calendar listing an upcoming veteran stand down event. At the moment of the beep, he was somehow thinking about the "SMEAC" of the event (a military acronym intended to assist in planning and meeting goals that stands for Situation, Mission, Execution, Administration, Command). Franklin was not sure in interview how the SMEAC was present in his experience, but believed his experience was more focused on the SMEAC than the event itself.

Sample 1.2 Franklin was reading a textbook chapter about the K'iche' creation story, the Popol Vuh. At the moment of the beep, he may have been concentrating on understanding the Popol Vuh, or he may have somehow been comparing the story of Genesis in the Christian Bible to the Popol Vuh.

Sample 1.3 Before the beep, a Vietnam vet who recently lost his wife had come in to the Vet Center accompanied by his son. Franklin was reading the chapter on the Popol Vuh at the front desk, where he works. At the moment of the beep, Franklin was smelling the strong disgusting cigarette smoke reek coming from the man. He was fairly sure toward the end of the interview that the smelling of the smoke was foremost in his experience. The knowledge that the man's wife had died may also have been somehow in Franklin's

experience at the moment, though he could not say exactly how. The reading was maybe not in his experience at all at the moment, or maybe it was a very minor part of his experience.

Sample 2.1 Prior to the beep, Franklin had been looking at a funny photo depicting POGs (People Other than Grunts, in military slang) going to the field (in nice, sunny weather) alongside a photo of Grunts going to the field (in bad, rainy weather). At the moment of the beep, Franklin was innerly seeing a panoramic view of mountains clearly and in color, as though he were standing in the mountains and could see all around. He knew this to represent his experiences being in the field when he was in the military, though the mountains he saw were a general mountain scene, not any specific mountains he had been to before. He knew the scene to be cold, though he did not feel cold at the moment. At the moment, he was also giggling at the humor of the picture, but it was not clear whether this was in his experience.

Sample 2.2 Before the beep, Franklin had received an email from Steph, who was attempting to fix his payroll paperwork after another employee had made a mistake in filing it. He had responded to the email and wondered whether Steph was doing her job and whether she was responding to him. He had also thought about how his wife would react when he told her he was not getting paid properly. At the moment of the beep, he was innerly seeing someone typing. He knew this to be Steph responding to him (though he has never actually seen her) and could not see any of the person's characteristics clearly. Also at the moment of the beep, he may have felt mad, which may have been present in experience as churning/butterflies in his stomach (though he made it clear in the interview that he *usually* felt butterflies in his stomach when he was angry, and was not sure whether this was the case at this particular moment).

Sample 2.3 Prior to the moment of the beep, Franklin was in class and heard his teacher mention the articles they would look at, then started searching on his computer tablet for the correct article. At the moment of the beep, he was just swiping his computer screen for the article, watching pages go by on his screen, and would know the correct article when he saw it.

Sample 2.4 Franklin was in class and his teacher was discussing differences between the Old and New Testaments. At the moment of the beep, he was just hearing and comprehending what his teacher was talking about. A few moments later, he asked a question, so believes he was processing the information in some way, but this was not in his experience at the moment.

Sample 2.5 Before the beep, Franklin was in class listening to a discussion about Job in the Bible, and had thought about his philosophy that the universe requires balance (e.g., between good and evil, God and Satan). At the moment of the beep, Franklin was seeing the universe, as if he were above Earth, looking out at the universe, which he was innerly seeing as the black sky of space with stars and one spiral arm of the Milky Way, as though he were looking out from inside a galaxy.

Sample 3.1 Franklin's daughter had just asked to start her math homework, and at the moment of the beep, Franklin was feeling hopeful that she would eventually understand

and improve at doing subtraction problems. The hopefulness was a mental feeling that consumed most of Franklin's experience at the moment. He was also feeling a small amount of annoyance (about 20% of his experience) that he needed to study for a test, and that annoyance was physically located behind his head.

Sample 3.2 Franklin was answering a question from his mother to his brother-in-law, while translating for them between Spanish and English. At the moment of the beep, he was feeling annoyed, which included a churning/butterflies feeling in his stomach. The annoyed feeling was about 95% of his experience, and his saying the words "no, no es hacer" to his mother was about 5% of his experience.

Sample 3.3 Franklin was walking his brother-in-law out of the house on dimly lit steps. At the moment of the beep, he was looking down at the step where he would need to put his foot. This was about 90% of his experience, and the other 10% may have been a feeling of becoming calmer/relieved that he would have the time to study for his exam later that night.

Sample 3.4 Franklin was watching his daughter complete a timed subtraction worksheet. Prior to the beep, he had explained to her that she could use her fingers to count backwards when subtracting, and she was not doing this while working on the problems. At the moment of the beep, he was innerly yelling at her "just count backwards!" in his own voice. At the same time, he felt frustration that she was not using the method he taught her, and to a much lesser degree (possibly at the moment and possibly later) he felt hopeful that she would get it eventually, and understanding that she was in the process of learning.

Sample 3.5 Before the beep, Franklin had been studying for a test and felt tired of trying to study, knew he still had to give his daughter a shower, and knew he was not going to get much more studying in that night. At the moment of the beep, he heard his father's voice speaking (though he did not distinguish the words), heard his daughter's Garfield cartoon playing on her tablet, saw his tablet with notes on the screen, and saw his textbook. All of these things were simultaneously on the periphery of his experience, but nothing was central.

Sample 3.6 Franklin was playing Uno with his daughter, and prior to the beep, was annoyed that they both kept getting more cards, because the game was lasting longer than he thought. At the moment of the beep, he was feeling mentally and physically drained, and innerly thinking of the list of things that he had done that day that made him tired, including going to the gym, helping his daughter with her homework, and studying, among other things. This was a cognitive type process. At the same time, he felt irritation at how long the card game was taking.

Sample 4.1 Franklin was driving to school and saw a sign for a Mexican butcher shop that read "Carneceria." At the moment of the beep, he was drawn to the red, white, and green color of the sign. Simultaneously he was seeing the word on the sign *carneceria* somehow broken into two separate pieces; "carne" and "ceria." It was almost as if the parts of the word were visually separated, but Franklin was not confident about that. The colors and the aspects of the word were equally in his experience.

Sample 4.2 Franklin was listening to an NPR interview with a Sochi Olympic freestyle skiing gold medalist. The host had introduced the athlete as having a wife and child, and had mentioned the less-than-desirable conditions of the Sochi Olympics, including slushy snow. The interview continued afterward, but at the moment of the beep, Franklin was innerly seeing mud and muddy water like that from an obstacle in a military training course, which he knew to represent the difficult conditions he dealt with while in the military. This inner seeing was part of a negatively tinged comparison between the athlete's characterization of slushy snow as being less-than-desirable and Franklin's own experience in deep mud as being less-than-desirable while deployed. Simultaneously, Franklin was comparing or noting the similarity or reflecting on the difficulty of his own attending college while balancing having a wife and daughter with the skier's family situation. This was present without words or images. Both of these thought processes were ongoing at the moment of the beep, and were intertwined as part of Franklin's comparison between his own life and the athlete's life. At the same time, Franklin was feeling a bit irritated at the athlete's complaint about the conditions in Sochi, which he felt as butterflies/churning in his stomach. Simultaneously (or perhaps slightly later), Franklin felt unhappy with himself (this may have been a mental feeling) that he was irritated at the athlete, as he was somehow aware that the athlete must have worked hard to get to the Olympics. Franklin was clear that the inner seeing of the mud was most salient in his experience; the thought of his wife and daughter was next in salience; and the irritation and self-directed unhappiness with the irritation were least salient.

Sample 4.3 Franklin was in a lecture on the apocalypse for his Bible as Literature course. At the moment of the beep, he felt a mental curiosity about the meaning of *apocalypse*, both the word and the event. After the beep, he resolved a complex, deep, and longstanding thought process about several aspects of the apocalypse and the Bible and its literary significance. In our interview, he concluded that process was probably ongoing somewhere deep at the moment of the beep, but this was not in his experience at the moment.

Sample 5.1 Prior to the beep, Franklin had been watching a YouTube video of a reporter talking about and showing pictures from the OIF war. The reporter had shown a picture of the battle of Fallujah just before the beep sounded. At the moment of the beep, Franklin was thinking/feeling guilt and regret. These were experienced as mental, and encompassed feeling guilty that he was not there, wondering what would have happened if he had been there, a sense that he had missed out, a knowledge that he could have gone there, remembering a conversation with his gunner, and numerous other ideas related to the Marine battle in Fallujah. None of these were specific thoughts directly in experience at the moment of the beep, but all taken together comprised the feeling of guilt and regret.

Sample 5.2 Franklin was walking on campus, and while he walked he was rehearsing what he would say to his new Veteran Court mentee. At the moment of the beep, Franklin was innerly seeing his mentee's face as Franklin innerly said to him "You need to call your public defender 'cause he needs to know [beep sounds] who I am." He saw his mentee's face only (no body), as though they were speaking face to face, and his inner seeing was clear but perhaps not quite as clear as if he were seeing him in real life. He was also watching his mentee's reaction to his [inner] speaking, looking for confusion or

disbelief on his face. Franklin was also somewhat (approximately 30%) aware of his surroundings on campus (not specifically aware of the details but also not oblivious to them), but the inner seeing and inner speech rehearsal was about 70% of his experience.

Sample 5.3 Franklin was in class, and a girl in his class was discussing the tradition of veiling women in Islamic culture. Prior to the beep, Franklin had innerly seen a woman in a veil that he had seen in a video the day before, seeing particularly her beautiful eyes. At the moment of the beep, Franklin was feeling angry/irate, confused, and disbelieving at the veiling of women. This was a powerful mental feeling (*not* in his body as in previous beeps where he had experienced butterflies, etc.), and his experience at the moment was entirely the anger/irate/confusion/disbelief. He was "into his own anger"—the girl in the class was still talking but he did not hear it.

Sample 5.4 Franklin was in class during a discussion of the Koran. A few days prior to the beep, Franklin had read some of the Koran and was strongly frustrated by the numerous extreme and contradictory beliefs he noticed. At the moment of the beep, all the contradictions were somehow present to him powerfully, simultaneously, compiled so no particular contradiction was directly in experience. This was indistinguishably a thinking/feeling. He was also somehow actively resisting listening to the conversation his class was involved in about their own opinions of what they had read in the Koran. It was as if he did not want to hear it, that there was no possibility that what his classmate was saying about the Koran could assuage his feelings about it. Franklin was clear that this was not a passive shutting out of the discussion, but instead an intentional non-attending to the discussion.

Sample 5.5 Prior to the beep, Franklin had been reading an article about UNLV research and was debating whether he should stay at UNLV for graduate school or go to a school in Arizona he had planned on applying to. At the moment of the beep, Franklin was innerly seeing the Pida Plaza area of the UNLV campus, facing the direction of a sculpture at one end of the campus. He saw the area just as he would if he were standing there, and somehow knew the inner seeing to represent what the campus would look like if he were a graduate student.

Gabe (Chapter 12)

Sample 1.1 Before the beep, Gabe was finishing a lab notebook for class, and was looking for a picture of a sponge. He knew the picture was attached to an email from a classmate named Daniel, and just before the moment of the beep, knew he needed to do a search for the email. At the moment of the beep, there may have been nothing in Gabe's experience, or he may have been about to search for the name "on autopilot." or there may have been many things going on of which nothing was particularly focused, or he didn't really understand the task.

Sample 1.2 Gabe was looking through pictures one after another on google images, scanning for an image that he needed. There may have been nothing in his experience at the moment of the beep. He may have been merely performing the task with no experience, or was in between tasks.

Sample 1.3 Gabe was looking for a picture of a sporocyst that a classmate had emailed to him. At the moment of the beep, he may have been looking at the picture on his computer screen and may have had a sense that it was the wrong picture. This was not present in words or images.

Sample 1.4 Gabe was trying to find an answer to a question and could not find it. Prior to the beep, he was frustrated and confused, and thought he should have done this assignment earlier. It was unclear whether there was anything in his experience at the moment of the beep, or whether there were multiple things all rather undifferentiated.

Sample 1.5 Gabe was reading a handout about starfish, and at the moment of the beep, there was something about his experience that was different from the previous beeps, perhaps that there was nothing in experience [though we were not confident about this]. He noted that after the beep, he recognized that the reading experience was more calm and "easier" than the experience of trying to multi-task, as he had been earlier that day.

Sample 1.6 Gabe was reading during this beep, and stated that it was exactly the same as the previous beep. [But we did not interview him in detail about this experience.]

Sample 2.1 Gabe was in a bar watching a hockey game with friends. He was making a funny comment, and at the moment of the beep, he was trying to make sure it was funny/trying to make sure it matched what he had thought a moment before/gauging his friend's expression to see if the joke was taking off. This was not experienced in words nor images, and Gabe could not say more about how this was experienced. It was clearly a trying—that is, he was not merely speaking. In fact, the speaking itself was barely if at all in his experience. Perhaps the center of Gabe's experience was the seeing of the friend's face and the noticing whether the words Gabe was uttering was having the desired effect; perhaps the center of Gabe's experience was the *trying* to say things in a way that would make his friend's face react in the desired way.

Sample 2.2 Gabe was holding a chicken wing in the bar. At the moment of the beep, he was seeing the chicken wing in his hand and trying to dip it into the too-small ranch dip bowl. He experienced chaos (noise from the TVs, people talking, etc) assaulting his hearing from off to his left, though this was less in his experience than the trying to dip the wing.

Sample 2.3 Gabe was at the bar eating. At the moment of the beep, he was thinking, which occupied about 80% of his experience. He was also seeing the chicken wing in his hand, which was about 20% of his experience. At this moment, the noise and chaos of the bar was not at all in his experience [which in retrospect rather surprised him].

Sample 2.4 Prior to the beep, Gabe was watching the hockey game on TV in the bar. At the moment of the beep the watching-of-hockey was "collapsing" or fading from his experience. Rising in his experience was the swinging of attention from left to the right, to the waitress who was checking on him and his friends. This rising experience had numerous aspects: he wanted to answer the waitress quickly and get back to watching the hockey game, he wanted effectively to convey that he was ok, he knew his friends liked the waitress and wanted to chat with her. At the same time the chaotic bar noise

flooded into his experience at the moment, and the wanting to convey his "okayness" to the waitress was in the middle of that. There were no words in any aspect of this experience.

Sample 2.5 Gabe was watching a YouTube video that showed repeatedly a school bus going over some bumps, causing a child to fly up out of his seat; at the moment of the beep he was watching the third or fourth replay of this scene. This seeing was astonished or in awe; that is, he was watching in an astonished/awestruck way. However, whether or to what extent he felt astonishment or awe was not clear. He said that he may have felt it in his head, but neither Gabe nor we could not ascertain whether he meant that descriptively or metaphorically.

Sample 2.6 Gabe was looking at a view of the Las Vegas strip with his friend. At the moment of the beep, he was just absorbed into the view. There was no emotion or thought present, just absorption into the view. [Gabe stated that this was just like the previous beep, but it was not obvious to us or to him why this was so. The best we could do is that 2.5 and 2.6 are similar in that Gabe was focused, had ruled out the aural chaos of the situation].

Sample 3.1 Gabe was sitting on the couch with his girlfriend Jane, her daughter Sarah, and her girlfriend's friend. Gabe and Jane had just resolved an argument. Gabe was typing a text message as a favor to Jane. At the moment of the beep, Gabe was relieved that the fight was over. Relief was not felt directly, but instead was a lack of feeling tight everywhere (as if he had felt tightness everywhere before but no longer felt it). However, Gabe and we could not be confident that we knew what "everywhere" meant: whether this was bodily, mental, both, or neither. He used the metaphor of a spring: it had been coiled before, but now it was not. The tightness had apparently pervaded all of Gabe's aspects, not particularly the bodily. Now, there was no pervasive tightness. He also wanted to do something nice for his Jane (now that they were no longer fighting) [which was why he was sending the text, though the text itself was not in his experience at the moment]. However, while he was confident in interview that Gabe desired to do something nice, it was not clear how that desire presented itself. At the same time he was hearing Sarah laughing and playing with the dog.

Sample 3.2 Gabe was rubbing Jane's feet while they sat on the couch watching TV. At the moment of the beep he was somehow planning how/where he was going to rub her foot, though this was not present verbally, visually, or any other way. That is, the rubbing of her foot (sensations, actions) was itself not particularly in his experience; instead, he was in some way planning how he should rub her foot in the upcoming seconds. Simultaneously, he was thinking a thought at the moment, but could not recall what it was after the beep. That is, he was confident that he was thinking, and also confident that he did not know what he was thinking about even one second after the beep. He was simultaneously impacted by the colors on the TV. He also may have felt a relaxed, pleasant feeling, but was not sure whether it was in his experience or the beep had just made him notice it retrospectively.

Sample 3.3 Gabe was sitting on the couch with Jane watching TV. Jane's daughter , Sarah, was calling the dog from her room at the end of the hallway off the living room,

and the dog was sitting in the living room ignoring her. At the moment of the beep, he was seeing the dog in the living room, and simultaneously innerly seeing Sarah walking into the room from his right at an angle (as she would actually enter the room from the hallway). The inner seeing was in motion, like a movie of what would happen. In his inner seeing, he was saying to her "I don't know why the dog's not listening to you." This was spoken in his own voice. He was fairly sure he was particularly drawn to the colorful polka dot-ness of her dress in the inner seeing. The inner seeing was located in the upper right area of his head. To a lesser degree, he was also feeling pulled away from the TV, but this was not as salient in his experience as the inner seeing. There was also a background radiation of good feelings as in 3.1

Sample 3.4 Gabe and his girlfriend, Jane, were sitting on the couch watching a nature program on TV. Prior to the beep, Jane had said "Oh, a water buffalo," as the TV showed a group of zebras and one water buffalo silhouetted by the setting sun. At the moment of the beep, Gabe was drawn to the water buffalo's silhouette—drawn to the shape and the color as it stood out from the other animals. He also had a vague notion that Jane had been in Africa before, and that was cool. This notion was not present in words, images, or otherwise, and was clearly present though not very clearly articulated in his experience. There was also something about the sensation of Jane's legs across his lap that was somehow in his experience.

Sample 3.5 Gabe was at Starbucks typing an email to his friends about an upcoming camping trip that it might be too hot in Zion. At the moment of the beep, he was innerly seeing the Zion campground from a trip to Zion in 2010. He saw the red dirt, two tents, and his own green backpack sitting on the ground. He also saw the trees in the background. He knew his friends to be present in the inner seeing, though he did not see them. He understood this seeing to convey that he had camped in Zion in August previously and it wasn't too hot then, but how or whether that idea was present at the moment of the beep was not clear. At the moment, he also felt the keys of his laptop, felt by his fingertips.

Sample 3.6 Gabe was sitting in Starbucks typing an email to friends. At the moment of the beep he was trying to figure out how to type the next couple of words. There were numerous aspects of this experience; he was trying to figure out whether the bold type was on, he was somehow noting the finger position of Ctrl-B, he was trying to go fast and get it done, he was trying to get the right words, and he was trying to figure out what he wanted to say. All of this jumble was present without words or images.

Sample 3.7 Gabe was still typing at Starbucks. At the moment of the beep, he was trying to come up with the correct words to convince two particular friends to come on the camping trip. He had the sense that he was trying to convince them, or appeal to them. This was not present in words or images. He was simultaneously innerly seeing what he understood to be those two friends standing in Brian Head campground. He saw the mountains and trees in the background clearly, and he saw two very vague outlines of two people, who he knew to be his friends, with the white friend on the right and brown friend on the left. There were no details (including probably color), and an outsider would not have known the shapes were even people, but Gabe knew the outlines/shapes to represent his friends.

Sample 4.1 Gabe was at Starbucks listening to a podcast through headphones. Just before the beep, someone on the podcast had said something about Viagra and condoms being sold as a package, and now at the moment of the beep Gabe was hearing either a sentence including or just the word "Viagra." Simultaneously he was watching a woman walk into the coffee shop. She was partially obscured by a bookcase, so that he could see only parts of her through openings in the shelves as she walked. At the moment of the beep, he saw her waist area and part of her leg through a square opening of a display case as she walked behind the case. Apparently Gabe was somehow assembling the pieces of the woman as they sequentially appeared, in a process that would eventually result in a sense of the woman's attractiveness. At the same time he heard the click of the walking woman's high heels on the floor, as well as the voices (but not the specific words) of two women conversing on the couch near him. The heel clicks and voices were part of Gabe's experience at the moment of the beep but were less prominent than the watching the woman walk and the hearing of "Viagra."

Sample 4.2 Gabe was sitting in Starbucks. Before the beep, he had listened to the hosts of the podcast talk about an online video of John Lennon and Chuck Berry singing together and Yoko Ono's reaction to it. The podcast hosts had said this was one of the funniest videos of all time, and now Gabe was watching that video on his laptop. At the moment of the beep, he was seeing John Lennon and Chuck Berry singing into a microphone, and feeling a "keyed up" physical/mental expectation—the video was not funny yet, so the funny part must be coming soon. The expectation was primarily physical, felt all over his body but in no particular part of his body, something like a moving ahead or a wrapping into the upcoming video. Gabe was confident that the experience was bodily, but it was difficult or impossible to put the experience into words other than to say it was as if his whole body wanted to move, to see what was coming.

Sample 4.3 Gabe was at Starbucks plugged into a podcast on his laptop, but the podcast itself was not in his experience. Instead, he was experiencing three separate but simultaneous experiences that related to leaving Starbucks [it was time that he leave for his next appointment]. The most salient was an imagined experience of driving his truck, as if he were inside the truck. He felt his left hand on the steering wheel, and was imaginarily moving his right hand on the stick shift [but was not sure exactly what the movement was]. He also felt in his torso the movement/bounce of the truck as it would move while driving. He saw the windshield, the dash, and the steering wheel, but they were seen sketchily or not completely; Gabe understood them to be the windshield, wheel, and dash even though the details were not seen.

Simultaneously, Gabe experienced himself as walking toward the bathroom. He physically felt himself moving forward, felt his body being translated toward the bathroom. At the same time he saw a still view of himself from the right side walking toward the bathroom, seeing details such as his backpack and the brown walls of the Starbucks.

Simultaneously, Gabe was also imaginarily feeling himself closing his laptop and putting it into his backpack, a hint of bodily sensations as if opening the case and sliding the laptop inside. This was less in his experience than the driving and the bathroom, but still present.

Sample 4.4 Gabe was driving through an intersection. At the moment of the beep, he was seeing the light (which was green), the sky (which was blue), and the trees along the road out of the front of his windshield. He was listening to the song "Smooth Criminal" by Michael Jackson, and, drawn by the music, was purposefully or pointedly hearing or listening to the words of the song.

Sample 4.5 Gabe was at a restaurant listening to his dad talk about the remodeling going on at his house (where Gabe used to live with his dad). At the moment of the beep, he was innerly seeing the family room, the chairs in the room, the dogs that live there, and so on. As his dad's description unfolded, Gabe was actively trying to incorporate the new details (remodeling dust/workers/etc.) into his inner seeing. That is, Gabe was not merely updating the imagery as his dad's description developed; he was purposefully trying to update the imagery. He was also seeing in reality his dad's face and hearing him as he talked.

Sample 5.1 Gabe was standing at the counter at the entrance of the gym asking for a piece of paper from the girl at the front desk. At the moment of the beep, he was looking at her too-long, out-of-place fake eyelashes. To a small degree, he also knew he was about to go work out, which he did not want to do. The girl was asking him whether a certain piece of paper would be ok, but that was not in his experience.

Sample 5.2 Gabe was walking down the stairs in the library from the 3rd or 4th floor to the first floor. At the moment of the beep, he was feeling the pain in his right knee and ankle. He also felt both of his feet specifically: how they felt in his shoes and hitting the stairs. He was deliberately walking down the stairs in a way that exacerbated the pain, just different enough from his normal walk to feel the pain in his right knee and ankle. He may have felt that his legs were physically big, but he was not sure about that.

Sample 5.3 Gabe was in the tank room of his biology research lab on campus with his friend Vanessa. He was putting his fingers into an aquarium full of cold water in order to feed a crab. At the moment of the beep, most of his experience was centered on the coldness of the water on his fingers. He was also trying to drop the food in just the right way so it would fall directly onto the crab. Simultaneously, he wondered vaguely about the crab's wellbeing (without words or images); this seemed like a jumble of thoughts, though he retrospectively did not know exactly what those thoughts were. He also heard his friend Vanessa's voice talking, but was not attending to the words. At the same time, the sounds of the aquarium pumps and water buckets being filled was in his experience a little bit. Vanessa's voice was somewhat distinct from the other noises in the room, but he was not listening to the content of her speech.

Sample 5.4 Gabe was in the tank room in his lab with Vanessa. Prior to the beep, he had asked whether she would like to get together with a group of friends for the weekend, and she had declined because she had a wedding to attend. At the moment, of the beep he was looking at Vanessa's face specifically to see what effect this speaking was having on her/how she was reacting. Gabe was speaking, but what he was speaking was not in his experience, which was absorbed mostly in her face. Factually, he was saying "I'm more important than your friend's wedding," but that was no more experiential than a hand

gesture or a shift in posture. The aquarium pump noise and the sounds of buckets being filled with water were a small part of his experience.

Sample 5.5 Gabe was sitting outside on a bench in the sun staring at the math tutoring clinic. Several minutes before, he had talked to his dad about his (Gabe's) relationship with his girlfriend Jane, who had expressed a desire that Gabe go to therapy. At the moment of the beep, he was feeling the warmth of the day and the warmth of the bench, which were pleasant. Simultaneously and strongly, there was a bodily revulsion and frustration that felt like a hollowed-out numbness and/or a heavy weight to his entire body, but it was not clear the extent to which this was actually experienced bodily. He also had the sense that he did not want to put the effort of going to therapy into his relationship, though this was not present in words or images. It was not clear in interview whether this sense was separable from the bodily revulsion/frustration, or whether it was merely a way of describing the numbness/frustration. Simultaneously, he was innerly seeing Jane laying on his left in bed along with the canopy over the bed. These were undetailed and not fully developed, but they were immediately recognized by Gabe. That is, there was no question that he innerly saw Jane, but there were not many or any details available to the seeing. At the same time, it was not the case that he was seeing an undeveloped Jane—he was seeing Jane, but the seeing itself was undetailed. The same was true for the canopy. He was seeing both simultaneously, as though he were looking straight up at the canopy while laying in bed, and also looking to the side at Jane--that is, he was innerly seeing in two directions at once. He understood this scene to be the specific conversation about her wanting him to go to therapy, though there was no motion or sound to the inner seeing.

Sample 6.1 Gabe was at his computer with his email open. Prior to the beep, he had received a text message from his friend George and read it; now he was turning his attention to a new email message to his friend Sam that was open, ready to compose. At the moment of the beep, he had a sense of his other friend, Joe, who had sent him an email. He saw the subject line of Joe's email among the list in his inbox, and simultaneously had a vague sense of Joe. There was nothing specific about this sense and yet something about Joe was present to Gabe: it was something like the hint of an affective take on Joe, more or less like a hint of the way Gabe would be if he were with Joe. He simultaneously had a sense of George, similar to his take on Joe in that it was a hint of an affective take on George, but different because the on-George-affective-take was different from the on-Joe-affective-take. He also had a separate affective take of Sam (to whom he was composing the email)—three simultaneous but separate affective takes of three different friends. At the same time Gabe had a sense that he was thinking something, and while he was confident that he had a thinking experience, he could not grasp what the content of that thinking involved. At the same time, Gabe was trying to form what he was going to say in response to the text to George, and what he was going to write in his email to Joe, but it was not clear to Gabe or to the interviewers the extent or whether these were in experience.

Sample 6.2 Gabe had just measured a piece of equipment in the lab. At the moment of the beep, he was innerly seeing the grid square held up against a plastic ruler through a microscope. The grid square was the length of three black millimeter bars on the ruler.

He saw this as a black circle against which was a bright field, in color, just as he would if he were looking through a microscope. It seemed an accurate portrayal—the millimeter bars were wide under the microscope just as they would be in a real seeing. At the same time he was innerly saying "300 millimicrons…3 millimeters" as though he were saying a sentence in a conversation with a lab mate, though the sentence was not fully articulated and included only the measurements. That is, the entire sentence was somehow present to Gabe, yet the only portion of the sentence that was innerly spoken was the measurements. He also had a visual sense of the lab mate, not at all fully articulated.

Sample 6.3 Gabe was leaving the lab to get lunch, and had just turned off the light switch. At the moment of the beep he was very slowly walking across the now-very-dark lab. He saw lighted outline of the door, and dimly saw the chair. He was walking very slowly and carefully, trying not to stumble on the other clutter of the lab. He was walking fearfully, but he did not experience fear at the moment of the beep. [He explained that when he was in Iraq he was walking in the dark and fell into a 6-foot deep hole. Since then, he has a bodily fear reaction to walking in the dark that causes him to walk very slowly and carefully. At this moment, the fear was not in his experience, but in retrospect, he knew the very slow walking to be a product of the conditioned fear response.]

Sample 6.4 Gabe was at lunch at Raising Cane's with his girlfriend Jane. Prior to the beep, she had asked him a question he did not want to talk about. At the moment of the beep, he was reaching for a napkin and intently saw the napkin hyperclearly, so that everything else faded away and he was completely focused on the color of the napkin, the writing on it, the color of the food it was sitting on, and the grease stain on it. At the same time, he felt a tightening up of his torso along with frustration and the onset of anxiety, and a feeling of discord, like part of him wanted to talk about it and part of him didn't.

Sample 6.5 Gabe was walking down the hall toward the biology learning center and had just seen the blank pegboard that reminded him that the semester was over. At the moment of the beep, he was innerly seeing the orange door with the blue, green, purple, etc. colorful schedule posted on it. He was drawn to the colors of the schedule. He was also wondering whether he would see that schedule on the door (which was a few feet down the hall). The wondering was maybe partially in words, but Gabe was not sure about that. To a lesser degree, Gabe was also seeing the hallway in front of him and the empty pegboard hanging on the wall.

Sample 6.6 Gabe was peeling parafilm off of its backing and thinking again about the measurement conversion of the grid square (see sample 6.2). At the moment of the beep, he was very aware physically and visually of what his fingers were doing, as he was struggling just a bit to get the film off of its backing. He was also innerly describing the measurements of the grid square, imagining a conversation similar to the one in sample 6.2.

Henry (Chapter 13)

Sample 1.1 Henry was working on a paper for a class in which he, as the team leader, collected sections of a business plan from each group member and consolidated them into one cohesive business plan. He was using the find-and-replace function of Word to change the name of the product. At the moment of the beep, he may have been somehow concerned that others may not have made the change in their sections of the paper, and may have felt frustrated that he was going to have to deal with their mistakes. He was not sure how this frustration was in his experience. (It was also not clear that this was distinctly the moment of the beep, nor that these descriptions were not just generalities).

Sample 1.2 Henry was still working on the paper, and at the moment of the beep, was aggravated that he could not get one group member, George, to do his part of the paper properly. He was not able to say more about how the aggravation was in his experience. It was unclear whether this was the exact moment of the beep.

Sample 1.3 Henry was still working on the paper, and at the moment of the beep was perhaps feeling frustrated at George for letting the group down. He may also have been worried about what the instructor would think, worried about how he (Henry) was going to pull anything useful out of what George had submitted, and worried about getting to his DES appointment on time. In the interview, Henry thought all of those concerns were present to him at once, as one big worry. Again, it was unclear whether he was talking about the moment of the beep specifically.

Sample 1.4 Henry was still working on the paper, but had moved on to someone else's (besides George) submission. He may have been thinking how this guy's work was good, and he didn't have to worry about it. It was unclear whether this was the moment of the beep.

Sample 2.1 At the moment of the beep, Henry was feeling the intense pain in his upper groin area. In interview, he was fairly certain that he was just feeling the pain. He thought the pain was about 80% in his experience, and the other 20% of his experience was maybe about the possibility that he would miss class due to the pain. He was not sure how that was in his experience. [As best we could understand, the possibility that he would miss class was no separate thinking; it was that the pain could be understood as feeling to some extent that he would miss class.]

Sample 2.2 Prior to the moment of the beep, Henry was typing a sentence that he had just memorized from a textbook. At the moment of the beep, he was innerly seeing the sentence he had memorized, highlighted in yellow, on the page from the book. He saw only the sentence clearly; the rest of the page was not clear. Only the sentence itself was highlighted (though it was not highlighted in the real life textbook). [There is reason for skepticism about this description, because it did not appear until late in the interview.] It is possible (perhaps likely) that he was typing without any particular aspect being in experience. There may have been some aspect of his experience that was an effort to remember the exact words of the sentence [or perhaps the entire inner seeing was that effort, but see the skepticism above]. He also was not sure whether he was hearing the music playing in the background at the moment of the beep.

Sample 2.3 At the moment of the beep, Henry was feeling what he knew to be the onset of anxiety, which he felt as a tingling/electrical sensation in his arms, just below the skin where the neurons are, and also perhaps to a lesser extent in his chest, and also perhaps in his head. He also experienced what he called a lightheadedness [it was difficult for the interviewers to grasp what that meant]. He may also have had a general sense that he should do something to beat the anxiety, but Henry was not sure in interview how this was present. If it was present, it was not as a separable cognitive/thought phenomenon, but perhaps as part of the tingly sensation itself.

Sample 2.4 Prior to the moment of the beep, Henry was sitting on the couch with his girlfriend as she laid down to take a nap. At the moment of the beep, he was looking at her, perhaps mostly noticing her head (she was laying with her feet toward him), and perhaps noticing (or perhaps intending to notice) that she was (or to discover whether she was) asleep. He was not sure how or whether the intention to see if she was asleep was in his experience. He may have been noticing that the light was too bright for her to sleep, but he was not sure how or whether that was in his experience.

Sample 3.1 Before the moment of the beep, Henry had been reading an article about increasing acid levels in the ocean. At the moment of the beep, he was innerly seeing the ocean floor, including the sand, seaweed, coral, and a couple of (maybe two) fish. It was as though he were there in the scene [though he did not feel this physically or in any other way that he could articulate], standing on the ocean floor, seeing the scene [without goggles or a mask]. At the moment of the beep, he was also helpless to do anything for the ocean animals, which could not save themselves from the acid levels, though he was not sure how this was present to him.

Sample 3.2 Henry had been reading an email from his Marine Reserve officer in charge, which stated that some of the people in his jurisdiction were not doing an adequate job. At the moment of the beep, Henry may have been innerly hearing himself say "that's not me" or something similar (he was not sure in interview of the exact words) with a tone of disbelief. He was simultaneously moving toward opening Internet Explorer to login to his work site and check to make sure or prove that he was not one of the people being reprimanded in the email. The intention to prove it was not present in words, but was somehow attached to the words "that's not me."

Sample 3.3 Henry was watching the Andy Griffith show. At the moment of the beep, he was innerly seeing the box of a product Opie was trying to sell on the show. He saw the product box as it was displayed on an old 1960's style television, all in black and white. He saw only part of the edges of the TV around the screen, and the inner seeing was still. He was simultaneously thinking (somehow) that the product packaging was crappy. At the same time, he thought without words that the same principles of entrepreneurship applied in the 1960's as today, and that a good salesman can sell anything. These parts of his experience (the inner seeing, thinking about the principles of entrepreneurship, and thinking about a good salesman) were in layers of experience all going on at the same time. The image was the largest part of his experience, or the top layer.

Sample 3.4 Henry's friend had texted asking whether Henry would like to go get some food together. At the moment of the beep, Henry was innerly seeing the Cosmo buffet,

from the perspective of the entrance line (though he did not feel as though he were there). He saw the buffet like a still panoramic scene--as it actually is in real life, in accurate colors, with all the food, and with people, but nothing was moving except his perspective: it was rather like he was turning his head to see the whole buffet while the whole still life remained fixed. At the same time, he was mentally formulating the words to text back to his friend, suggesting they go to the Cosmo buffet. No words were present yet, but the experience of forming something to say was present to him.

APPENDIX B

PCL-M

INSTRUCTIONS: Below is a list of problems and complaints that veterans sometimes have in response to stressful military experiences. Please read each one carefully, then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Repeated, disturbing *memories, thoughts,* or *images* of a stressful military experience?	1	2	3	4	5
2. Repeated, disturbing *dreams* of a stressful military experience?	1	2	3	4	5
3. Suddenly *acting* or *feeling* as if a stressful military experience *were happening again* (as if you were reliving it)?	1	2	3	4	5
4. Feeling *very upset* when *something reminded you* of a stressful military experience?	1	2	3	4	5
5. Having *physical reactions* (e.g., heart pounding, trouble breathing, sweating) when *something reminded you* of a stressful military experience?	1	2	3	4	5
6. Avoiding *thinking about* or *talking about* a stressful military experience or avoiding *having feelings* related to it?	1	2	3	4	5
7. Avoiding *activities* or *situations* because *they reminded you* of a stressful military experience?	1	2	3	4	5
8. Trouble *remembering important parts* of a stressful military experience?	1	2	3	4	5
9. *Loss of interest* in activities that you used to enjoy?	1	2	3	4	5
10. Feeling *distant* or *cut off* from other people?	1	2	3	4	5
11. Feeling *emotionally numb* or being unable to have loving feelings for those close to you?	1	2	3	4	5
12. Feeling as if your *future* will somehow be *cut short*?	1	2	3	4	5
13. Trouble *falling* or *staying asleep*?	1	2	3	4	5
14. Feeling *irritable* or having *angry outbursts*?	1	2	3	4	5
15. Having *difficulty concentrating*?	1	2	3	4	5
16. Being "*super-alert*" or watchful or on guard?	1	2	3	4	5
17. Feeling *jumpy* or easily startled?	1	2	3	4	5

PCL-M for DSM-IV (11/1/94) Weathers, Litz, Huska, & Keane National Center for PTSD - Behavioral Science Division

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Zerbe, W. J., & Paulhus, D. L. (1987). Socially desirable responding in organizational behavior: A reconception. *Academy of Management Review*, *12*, 250-264.

Stacy Lynne Reger

Curriculum Vitae

EDUCATION

December 2014	Doctor of Philosophy, Clinical Psychology *University of Nevada, Las Vegas (UNLV)* Major Advisor: Russell T. Hurlburt, Ph.D. Dissertation Title: "Exploring the inner experience of veterans with posttraumatic stress disorder"
May 2011	Master of Arts, Clinical Psychology *University of Nevada, Las Vegas (UNLV)* Major Advisor: Russell T. Hurlburt, Ph.D. Thesis Title: "Descriptive experience sampling interactive multi-media training tool for subjunctification and illustrative interviews"
May 2008	Master of Arts, Clinical Psychology (With Honors) *California State University, Northridge (CSUN)* Major Advisor: Luciana Laganà, Ph.D. Thesis Title: "Stress and PTSD symptomatology in ethnically diverse elderly women."
June 2005	Bachelor of Arts, Psychology (Magna Cum Laude) *Pepperdine University, Malibu, CA*

PEER-REVIEWED PUBLICATIONS

Thaler, N. S., **Reger, S. L.,** Ringdahl, E. N., Mayfield, J., Goldstein, G., & Allen, D. N. (2012). Neuropsychological profiles of children with ischemic or hypoxemic anoxic brain injury: six case reports. *Child Neuropsychology, 18 (5),* 512-519.

Laganà, L., & **Reger, S.** (2009). A pilot study on perceived stress and PTSD symptomatology in relation to four dimensions of older women's physical health. *Aging & Mental Health, 13* (6), 885-893.

BOOOK CHAPTERS

Thaler, N. S., Kang, J., & **Reger, S. L.** (2014). IQ testing and the Asian American client. In L. Benuto, N. S. Thaler, & B. Leany (Eds.), *Guide to Psychological Assessment with Asian Americans.* New York, NY: Springer Publishing.

AWARDS AND HONORS

2011 Poster Presentation Award, Third Place, Nevada Psychological Association 2011 Annual Conference
2011 Poster Presentation Award, Fourth Place, 3rd Annual Meeting of the American College of Professional Neuropsychology
2010 Elected Member, The Honor Society of *Phi Kappa Phi*
2008 Robert V. Rainey Memorial Award: Outstanding Psychology Graduate Student, California State University Northridge
2008 Student Travel Award, California State University Northridge, $500
2007 Selected for Teaching Intern Program, California State University, Northridge
2004 Elected Member, Golden Key International Honor Society
2004 Elected Member, *Alpha Chi* Honor Society
2003 Elected Member, *Psi Chi* Honor Society