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Examining the experience of recent war veterans who report posttraumatic stress disorder

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EXAMINING THE EXPERIENCE OF RECENT WAR VETERANS WHO REPORT
POSTTRAUMATIC STRESS DISORDER

By

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A dissertation submitted in partial fulfillment
of the requirements for the

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THE GRADUATE COLLEGE

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ABSTRACT

Examining the Experience of Recent War Veterans Who Report Posttraumatic Stress Disorder

by

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Posttraumatic stress disorder (PTSD), an anxiety disorder that develops following exposure to a traumatic event, has long been associated with military combat. Despite the well-documented negative effects of PTSD, careful, in-depth accounts of the experience of those suffering from PTSD are rare. The present study employed Descriptive Experience Sampling (DES) to explore the inner experience of seven Operation Iraqi Freedom (OIF) or Operation Enduring Freedom (OEF) veterans with combat-related PTSD. Potential participants completed the PTSD Checklist – Military Version to determine the presence and severity of PTSD symptomatology. Participants who reported significant symptoms of combat-related PTSD participated in DES. A description of the inner experience of each participant was prepared and these were examined as a group in an attempt to identify similarities or differences in the characteristics of inner experience among the participants. Results revealed veterans with PTSD had an unexpectedly low frequency of inner speaking and few instances of clearly experienced feelings. They had a high frequency of focused attention to the sensory aspects of the environment as well as to the inner sensations of the body (sensory awareness). They also had occasional experiences that can be described as vigilance and flashbacks; such experiences are rare among participants in other DES studies.

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TABLE OF CONTENTS

ABSTRACT.....	iii
LIST OF TABLES.....	vii
INTRODUCTION.....	1
CHAPTER 1 LITERATURE REVIEW.....	4
War and the History of Psychological Trauma.....	4
Diagnostic History.....	11
Current Conceptualization of PTSD.....	14
Impact of PTSD.....	22
Risk Factors.....	25
Theories of PTSD.....	26
CHAPTER 2 UNDERSTANDING AND ASSESSING PTSD.....	31
Personal Accounts of PTSD.....	31
Questionnaires.....	38
Structured Clinical Interviews.....	40
Methodological Issues in the Measurement of PTSD.....	42
Exploring Experience.....	51
The Present Study.....	57
CHAPTER 3 METHODOLOGY.....	59
Screening Phase.....	59
Sampling Phase.....	61
CHAPTER 4 IDIOGRAPHIC DISCUSSION OF “JACOB’S” EXPERIENCE.....	72
CHAPTER 5 IDIOGRAPHIC DISCUSSION OF “BRANDON’S” EXPERIENCE.....	94
CHAPTER 6 IDIOGRAPHIC DISCUSSION OF “LOUIS” EXPERIENCE.....	111
CHAPTER 7 IDIOGRAPHIC DISCUSSION OF “ANDREW’S” EXPERIENCE.....	123
CHAPTER 8 IDIOGRAPHIC DISCUSSION OF “PETER’S” EXPERIENCE.....	134
CHAPTER 9 IDIOGRAPHIC DISCUSSION OF “GEOFF’S” EXPERIENCE.....	160
CHAPTER 10 IDIOGRAPHIC DISCUSSION OF “MARK’S” EXPERIENCE.....	174
CHAPTER 11 ACROSS-PARTICIPANT RESULTS AND DISCUSSION.....	193
Vigilance.....	195
Concentrated Doing.....	196
Flashbacks.....	197

Inner Speaking, Unsymbolized Thinking and Inner Seeing.....	199
Sensory Awareness.....	200
Emotion Experience.....	201
Experiential Skill.....	203
Study Limitations and Suggestions for Future Research.....	210
APPENDIX A PARTICIPANT SAMPLES.....	213
Jacob (Chapter 4).....	213
Brandon (Chapter 5).....	219
Louis (Chapter 6).....	225
Andrew (Chapter 7).....	230
Peter (Chapter 8).....	236
Geoff (Chapter 9).....	243
Mark (Chapter 10).....	247
APPENDIX B PTSD CHECKLIST – MILITARY VERSION.....	255
REFERENCES.....	256
VITA.....	273

LIST OF TABLES

Table 1 Demographic Characteristics of Sample (N=7).....	62
Table 2 Number of Expositional Interview & Samples Collected.....	68
Table 3 Assessment Results for PCL-M, BDI-II and BAI (raw scores).....	69
Table 4 Frequency of Inner Experience Phenomena for Jacob (33 samples).....	74
Table 5 Frequency of Inner Experience Phenomena for Brandon (25 samples).....	95
Table 6 Frequency of Inner Experience Phenomena for Louis (28 samples).....	112
Table 7 Frequency of Inner Experience Phenomena for Andrew (32 samples).....	124
Table 8 Frequency of Inner Experience Phenomena for Peter (45 samples).....	135
Table 9 Frequency of Inner Experience Phenomena for Geoff (17 samples).....	161
Table 10 Frequency of Inner Experience Phenomena for Mark (41 samples).....	175
Table 11 Noteworthy Characteristics of Inner Experience Across Participants.....	194

INTRODUCTION

"War stories end when the battle is over or when the soldier comes home. In real life, there are no moments amid smoldering hilltops for tranquil introspection. When the war is over, you pick up your gear, walk down the hill and back into the world."

-- John Crawford, in *The Last True Story I'll Ever Tell*

"After wars end, soldiers once again become civilians and return to their families to try to pick up where they left off. It is this process of readjustment that has more often than not been ignored by society."

-- Major Robert H. Stretch, Ph.D, in *Textbook of Military Medicine: Vol. 6*

Operation Enduring Freedom and Operation Iraqi Freedom (OEF/OIF) began in 2001 and 2003, respectively. Since that time, over 1 million United States soldiers have been deployed to Afghanistan and/or Iraq (Tanielian, Jaycox, Schell, Marshall, Burnam, Eibner, et al., 2008). The war experience is often traumatic, as is evident by the high number of returning troops reporting symptoms of psychological trauma, including depression, posttraumatic stress disorder (PTSD), emotional turmoil, chronic pain and increased levels of suicidality (Litz, n.d.). Particularly high numbers of veterans are returning from Iraq and Afghanistan with symptoms of PTSD and traumatic brain injury (TBI); in fact, these two injuries have been referred to as the "signature wounds" of the current war (Tanielian et al., 2008, p. iii).

Posttraumatic stress disorder (PTSD), an anxiety disorder that develops following exposure to a traumatic event, has long been associated with military combat. Although PTSD did not officially appear in the American Psychiatric Association's Diagnostic and Statistical Manual until the third edition (DSM-III; APA, 1980), the constellation of symptoms that sometimes result from exposure to the trauma of war have long been affecting military combatants (Tanielian, et al., 2008). In addition to the trauma of war,

the cultural context within which the war takes place likely plays a role in the development and course of PTSD in combat veterans. It has been estimated that soldiers returning from the recent wars, which include Operation Iraqi Freedom (OIF) and Operation Enduring Freedom – Afghanistan (OEF), are especially at risk for developing PTSD in part due to the trauma of the war-zone, in part due to the stress of repeated deployments within a relatively short span of time (Litz, n.d.), and in part due to the volatile political and cultural climate surrounding the war within the United States.

The incidence of PTSD in servicemen and women returning from Iraq and Afghanistan is estimated to be between 11% and 18% (Hoge, Castro, Messer, McGurk, Cotting, & Koffman, 2004). The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2000) describes the criteria of PTSD as experiencing or witnessing a traumatic event that results in actual or possible death/serious injury and involves the emotions of intense fear, helplessness or horror; the event is persistently re-experienced; stimuli associated with the event are avoided; and persistent symptoms of increased arousal are present.

Despite the long-standing association between war and PTSD, and the well-documented negative effects of PTSD on social functioning (Kulka et al., 1988), in-depth accounts of the nature of the disorder are rare. Little research has examined the daily, lived experience of soldiers with combat-related PTSD. Two prominent features of PTSD are the occurrence of intrusive, trauma-related memories and hyperarousal (Brewin, 2007). These features are centrally concerned with inner experience. This study aims to shed light on the inner experience of those suffering from PTSD.

The current study used the *Descriptive Experience Sampling* method (DES; 1990, 1993) to explore the inner experience of recent war veterans with significant PTSD symptomatology. DES is a qualitative method aimed at obtaining faithful accounts of pristine inner experience. We used the DES method to randomly sample moments of inner experience of Iraq and Afghanistan war veterans with combat-related PTSD. We aimed to deepen the understanding of the nature of PTSD by exploring the phenomenology of individuals with symptoms of the disorder.

CHAPTER 1

Literature Review

War and the History of Psychological Trauma

Psychological trauma has long been associated with military combat. In fact, psychological symptoms following the trauma of battle have been described for centuries; even Shakespeare's *Henry IV* includes descriptors such as 'withdrawn' and 'melancholy' to describe the affect of Hotspur after returning from battle (Paulson & Krippner, 2007). There is a good deal of evidence to indicate that soldiers of all eras have been vulnerable to the development of posttrauma psychopathology. In the seventeenth century, many troops returning from battle were diagnosed with "nostalgia," a disorder consisting of "deep despair" and social withdrawal (Jones & Wessley, 2005, p. 3). In the early 1800s, the Vagrancy Act of Britain was introduced as a result of war veterans who were engaging in odd and out-of-character behaviors, including flashing of body parts in public, as well as exposing physical war wounds to strangers (Jones & Wessley, 2005). As psychology had not yet made its mark, physicians often put forth purely medical explanations for the symptoms they witnessed in veterans, a common explanation being exhaustion. In some cases, terms such as "windy contusions" (windy in this instance meaning lack of courage) were introduced to describe individuals who had no physical wounds but were experiencing symptoms of paralysis, tingling, and twitching (Jones & Wessley, 2005, p. 2). During the Crimean War, the term "Crimean Fever" was used to describe untreatable symptoms including "pain in all limbs, clammy sweats, parched tongue, irritable heart, dizziness, headache and diarrhea, while being utterly unnerved and agitated violently by the merest trifles" (Jones & Wessley, 2005, p. 4).

During the Civil War the term “soldier’s heart” was used to describe hyperarousal, social withdrawal and psychological turmoil evidenced in soldiers. Descriptions of soldiers with a combination of physiological and psychological conditions continued through WWI and WWII. During WWI, the terms “shell shock” and “combat neurosis” (Paulson & Krippner, 2007) were used to describe soldiers complaining of a combination of physical and psychological symptoms: fatigue, insomnia, nightmares, jumpiness, muscle pain, and so on (Jones & Wessley, 2005). During WWII new terms such as “battle fatigue” and “operational fatigue” were used to describe the constellation of symptoms similar to those described during WWI (Paulson & Krippner, 2007). Jones and Wessley (2005) include a quote from a prominent physician at the time, Captain Wilfrid Harris:

Men in this state may break down in tears if asked to describe their experiences at the front. This is especially true if the man’s regiment has been severely handled, and numbers of his comrades and brother officers have been killed (p. 23).

This description suggests, if nothing else, a strong stress reaction to the experience of war. Although there is not enough clear information available to determine whether “shell shocked” soldiers were in fact experiencing what we today term PTSD, the available information suggests it is likely. At the time, shell shock was believed to result from hemorrhaging in the brain that occurred following the shock waves of an explosion coming into contact with the head (Paulson & Krippner, 2007). However, as the war progressed, physicians realized that the majority of soldiers exhibiting symptoms of shell shock had not been in close enough proximity to explosions to have suffered physical damage. Transitions toward the recognition of shell shock as a combination of

psychological and physiological symptoms were beginning. Although these transitions were slow, those suffering from the stresses of war were not characterized as cowardly or malingering as often (Marlowe, 2001). The recognition of the psychological effects of combat stress are clearly described by Company Quartermaster Sergeant Gordon Fisher:

I went further along and looked into the next dugout and there was a guardsman in there. They talk about the psychology of fear. He was a perfect example. I can see that guardsman now! His face was yellow, he was shaking all over, and I said to him, "What the hell are you doing here?" He said, "I can't go. I can't do it. I daren't go!" Now, I was pretty ruthless in those days and I said to him, "Look, I'm going up the line and when I come back if you're still here I'll bloody shoot you!" ... when I came back, thank God, he'd gone. He was a Coldstream. A big chap six foot tall. He'd got genuine shell shock. We didn't realize that at the time. We used to think it was cowardice, but we learned later on that there was such a thing as shell shock. Poor chap, he couldn't help it. It could happen to anybody (Macdonald, 1995, p.467).

Futterman and Pumpian-Mindlin (1951) described the following characteristics in veterans seen for treatment at the Los Angeles Veterans Administration Hospital:

Intense anxiety, recurrent battle dreams, startle reaction to sudden or loud noises, tension, depression, guilt, and a tendency to sudden, explosive, aggressive reactions. Superimposed upon this picture are secondary symptoms resulting therefrom, such as a tendency to avoid people, fear of exposure to any type of criticism, difficulty making decisions and various types of sleep disturbances (as cited in Jones & Wessley, 2005, p. 179).

Prior to WWII, the focus of physicians and psychologists was on proximate combat stress casualties. However, focus shifted to post-combat casualties as increasing numbers of WWII and Vietnam veterans continued to exhibit PTSD-like symptoms even after returning from war. The effects of war on Vietnam era soldiers was termed “Vietnam Combat Reaction” and was defined as a psychophysiological reaction to war (Marlowe, 2001). This combat reaction was noted most frequently in those nearing the end of their tour of duty, and was said to be likely to have long-term consequences (Pettera, Johnson, & Zimmer, 1969). The symptoms of combat reaction appear to closely parallel the symptoms of PTSD:

The first symptoms of Vietnam combat reaction are either insomnia, anorexia, or both, later progressing to a full blown syndrome which typically ... includes: Insomnia, recurrent terrifying nightmares, which are usually a reliving of a severe psychic trauma (friends and fellow combatants severely injured, mutilated, or killed, the subject himself wounded close to a vital organ, or perhaps his unit overrun by the enemy with few survivors); anorexia progressing to nausea; vomiting (precipitated by enemy contact or explosions) and sometimes even watery diarrhea; depression, including guilt over not having saved his buddy’s life or perhaps not having grieved enough for him, as well as shame for having broken down when others in his unit maintained emotional control; and most prominent, severe anxiety with tremulousness, to such a degree as to make the soldier ineffective in combat ... Subjectively the soldier experiences a deep fear of combat or the thought of it, and notices increasing tremulousness beyond his

control when in the field, especially if actual enemy contact is made (Pettera, Johnson, & Zimmer, 1969, p.675).

Partially as a result of the research conducted with the high number of soldiers returning from the Vietnam War with severe combat-stress reactions, the diagnosis of PTSD came to be (Paulson & Krippner, 2007). The Gulf War, also known as Operation Desert Storm, occurred several years after the inclusion of PTSD in the DSM-III. Following the Gulf War in 1990-1991, the Department of Veteran's Affairs reported that approximately 9% of Operation Desert Storm veterans were positive on screenings of PTSD (Rundell & Ursano, 1996).

Veterans of war, regardless of their era, are at risk for developing psychological symptoms as a result of their experience. This is not to say that all, or even most, *will* develop these symptoms, or even that those who develop symptoms will experience significant dysfunction in their lives as a result. However, for those deployed to areas of active combat, the constant threat of death and the knowledge that one may have to kill another human being in order to survive is no doubt impactful, even if the experience does not lead to full-blown PTSD. However, in a significant minority of cases, these experiences do lead to PTSD (Adam, 2005). Additionally, many combatants develop subclinical symptoms of PTSD as a result of the constant potential of being killed or having to kill (Paulson & Krippner, 2007). For the significant minority who do develop PTSD following exposure to combat (or other trauma) the prognosis is sometimes poor. This poor prognosis was seen in the Harvard Study (1995), a follow-up study of male Harvard students who enlisted in the army during WWII. Only a small percentage (5 of 152) of the study veterans met criteria for what we now term PTSD. However, the

outcome for four of the five individuals was poor: one was murdered, two killed themselves, and one continued to have significant psychological symptomatology many years later (Lee, Vaillant, Torrey, & Elder, 1995).

Although it is important to be cautious of viewing psychological reactions to trauma across time as universal (Jones & Wessley, 2005), the idea that psychological reactions to trauma, and especially combat trauma, have been occurring since the dawn of battle does not appear to be unreasonable. As Peter Hayward (2005) writes:

If you are a soldier a large number of other soldiers are trying, by any means possible, to maim or kill you. In such a situation, it wouldn't be surprising to find varieties of anxiety and depression, mixed with the desire to escape death by any means possible (p. 532).

War presents a unique set of circumstances and characteristics that may lead to psychological trauma. Although every war does not present the same set of challenges and adversities to combatants, every war is similar in that it presents an immediate, and at times frequent, threat to one's life. As Paulson and Krippner (2007) state:

Physical combat is a massive, potentially traumatic stressor, because it exposes the combatant to situations that involve killing, as well as the constant possibility of being killed. It is not theoretical, nor can it be deferred into the future; the threat is now – a long, continuing, seemingly endless now (p.14).

Upon returning home, veterans must learn to readjust psychologically, from a place of constant vigilance and hyperarousal, to a place of “normalcy.” In many cases this is an exceedingly difficult task. Of course, factors such as cultural and societal values at the time of trauma likely moderate the manifestation of individual reactions to traumatic

events (Jones & Wessley, 2005). Soldiers returning from war to a society that views them as heroes may have different experiences than soldiers returning from battle only to be met with disdain, political unrest, and negative judgment. In the latter case, servicemen and women may be less likely to have opportunities to discuss their experience with others, or may be exposed to intensified feelings of guilt for the role they played in an unpopular war. As Linderman (1987) notes:

In the war, wounds had been suffered by some and not by others; the problems they created were thus the concerns of the individuals involved, not of society. The soldier had wished to rid himself of the effects of body wounds as rapidly as possible; the veteran would do everything he could to accelerate the disappearance of mind wounds. Disturbing memories were to be kept to oneself (p. 268).

Individuals who are not given the opportunity, or who choose not to discuss their traumatic experiences and the memories associated with those experiences, are at greater risk for developing mental disorders such as PTSD (Litz & Maguen, 2007). Vietnam veterans who became involved within their community were more protected against developing PTSD, whereas those who were uncomfortable in disclosing war-related experiences were at increased risk for developing PTSD (Litz & Maguen, 2007). Social support is therefore of importance for individuals who have experienced the trauma of combat, and yet many veterans are not given ample opportunity to share these experiences.

With the advancement of technology, and shifting political climates and intentions, the wars fought by soldiers may appear different from one era to the next and

yet the impact of the wars on those fighting them appears to remain steady – some soldiers return home and are able to adjust back to civilian life, and others return home scarred by their experience and suffering from a constellation of psychological symptoms as a result of the brutality of war. The wars may change, yet the symptoms of those affected by PTSD appear to stay the same (Stretch, 1995).

Diagnostic History

Although the term posttraumatic stress disorder was not coined until the third edition of the American Psychiatric Association’s DSM, the constellation of symptoms resulting from trauma, and specifically combat, have existed in the DSM since its first publication in 1952. With the end of WWII and the growth of the field of clinical psychology came an increasing recognition and awareness of the psychological toll that combat and unforeseen disaster takes on the individuals involved. At that time, this “toll” was described and categorized under the subsection “Transient Situational Personality Disorders” and was referred to as “Gross Stress Reaction” and described as follows:

Under conditions of great or unusual stress, a normal personality may utilize established patterns of reaction to deal with overwhelming fear. The patterns of such reactions differ from those of neurosis or psychosis chiefly with respect to clinical history, reversibility of reaction, and its transient character. When promptly and adequately treated, the condition may clear rapidly. It is also possible that the condition may progress to one of the neurotic reactions. If the reaction persists, this term is to be regarded as a temporary diagnosis to be used only until a more definitive diagnosis is established. This diagnosis is justified only in situations in which the individual has been exposed to severe physical demands or extreme

emotional stress, such as in combat or in civilian catastrophe (fire, earthquake, explosion, etc.). In many instances this diagnosis applies to previously more or less "normal" persons who have experienced intolerable stress. The particular stress involved will be specified as (1) combat or (2) civilian catastrophe (APA, 1952, p.40).

It is clear from this description that the "emotional stress" resulting from combat or disaster was recognized at the time but considered short-term in its duration.

Diagnosticians were advised to consider alternate diagnoses if the stress reaction was to persist for an unspecified period of time. Furthermore, the conceptualization was somewhat vague and undefined.

In 1968, the second publication of the APA's Diagnostic and Statistical Manual of Mental Health was released, and in some ways, took a step further away from the recognition of chronic psychological disturbance resulting from trauma. The label of "Gross Stress Reaction" was replaced with "Transient Situational Disturbance – Adjustment Reaction" and defined as follows:

This major category is reserved for more or less transient disorders of any severity (including those of psychotic proportions) that occur in individuals without any apparent underlying mental disorders and that represent an acute reaction to overwhelming environmental stress. A diagnosis in this category should specify the cause and manifestations of the disturbance so far as possible. If the patient has good adaptive capacity his symptoms usually recede as the stress diminishes. If, however, the symptoms persist after the stress is removed, the diagnosis of another mental disorder is indicated. Example[s of adjustment reaction in adult life]:

Resentment with depressive tone associated with an unwanted pregnancy and manifested by hostile complaints and suicidal gestures; fear associated with military combat and manifested by trembling, running and hiding; a Ganser syndrome associated with death sentence and manifested by incorrect but approximate answers to questions (APA, 1968, p.48).

This conceptualization was soon recognized as overly simplified and vague (Tomb, 1994), and did not account for the chronic symptomatology that was being seen in soldiers returning from the Vietnam War. As increasing numbers of veterans returning from Vietnam were exhibiting psychopathology of a severe nature, and with the prolific work of Horowitz and other prominent trauma researchers, the phenomenon of posttrauma psychopathology began gaining attention in the psychological literature (Tomb, 1994).

The official diagnosis of Posttraumatic Stress Disorder made its debut in the third publication of the DSM (APA, 1980), and was further refined in the DSM-III-R (APA, 1987). The DSM-III-R describes the essential feature of posttraumatic stress disorder as follows,

... the development of characteristic symptoms following a psychologically distressing event that is outside the range of usual human experience (i.e., outside the range of such common experiences as simple bereavement, chronic illness, business losses, and marital conflict). The stressor producing this syndrome would be markedly distressing to almost anyone, and is usually experienced with intense fear, terror, and helplessness. The characteristic symptoms involve reexperiencing the traumatic event, avoidance of stimuli associated with the event or numbing of

general responsiveness, and increased arousal (p. 247).

This definition includes a more detailed description of the manifestation of the disorder than did previous descriptions. However, in this conceptualization of PTSD, the traumatic incident, or stressor, is central to the diagnosis. In other words, the stressor in question is required to “be markedly distressing to almost anyone.” This conceptualization places the stressor itself at the heart of the diagnosis and tends to neglect the importance of the individual’s subjective experience in the development of PTSD.

Current Conceptualization of Posttraumatic Stress Disorder

The authors of the fourth edition of the DSM shifted their view to a more dualistic cause of PTSD symptomatology that includes shared importance of the severity of the traumatic event and the individual’s personal reaction to that event.

Diagnostic criteria.

The conceptualization of posttraumatic stress disorder has been once again refined in the latest versions of the DSM, the DSM-IV and the DSM-IV-TR (APA, 1994 & 2000, respectively). In the current revision of the American Psychiatric Association’s Diagnostic and Statistical Manual (DSM-IV-TR; APA, 2000), posttraumatic stress disorder is defined as:

The development of characteristic symptoms following exposure to an extreme traumatic stressor involving direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one’s physical integrity; or witnessing an event that involves death, injury or a threat to the physical integrity of another person; or learning about unexpected or violent death,

serious harm, or threat of death or injury experienced by a family member or other close associate (p. 463).

The DSM-IV conceptualization of PTSD differs from previous conceptualizations as the emphasis is no longer solely on the nature of the traumatic event but also includes an individual's reaction to that event (Tomb, 1994). To be given a diagnosis of PTSD, the response to the traumatic exposure must involve fear, helplessness or horror and must result in characteristic symptoms such as persistent re-experiencing of the traumatic event (flashbacks), persistent avoidance of trauma-associated stimuli, numbing of general emotional responsiveness, as well as persistent, increased physiological arousal (APA, 2000). Another change since the DSM-III-R is the requirement that individuals present with both avoidance symptoms and numbing of responsiveness, as opposed to either one or the other, as was previously the case. As in the DSM-III, symptoms must be present for at least one month to receive a diagnosis of PTSD (APA, 2000). The DSM-IV-TR includes the following list of potential experienced or observed traumas: military combat, violent personal assault, being kidnapped or taken hostage, terrorist attack, torture, incarceration as prisoner of war/concentration camp, natural or manmade disasters, severe motor vehicle accidents, or diagnosis with a life-threatening illness (pp. 463-464).

Symptomatology.

As mentioned previously, the major defining symptoms of PTSD are 1) persistent re-experiencing of the trauma, 2) persistent avoidance of stimuli associated with the trauma and numbing of responsiveness and, 3) persistent symptoms of increased arousal (APA, 2000). The re-experiencing component of PTSD may occur during wakefulness but may also manifest itself in nightmares when sleeping, or during periods of

dissociation (Paulson & Krippner, 2007). The re-experiencing can occur in the form of thoughts, images or perceptions and can include illusions, hallucinations and dissociative episodes. Furthermore, reactions of psychological distress and physiological reactivity resulting from internal or external cues that represent some aspect of the trauma may be present (APA, 2000).

In their efforts to avoid trauma-related stimuli, individuals may avoid thoughts, feelings, conversations, activities, people, or places that remind them of the trauma. Individuals may exhibit difficulty in recalling specific details of the trauma and may exhibit anhedonia and social isolation. Individuals may also demonstrate a restricted range of affect and a sense of a foreshortened future (APA, 2000). Finally, a variety of heightened physiological disturbances may be present, such as sleep dysregulation, decreased frustration tolerance and increased anger, hypervigilance, decreased concentration and an exaggerated startle response (APA, 2000). Individuals with PTSD may report feelings of guilt surrounding their survival of the trauma, may experience a sense of shame or personal judgment that they are experiencing symptoms and may engage in negative self-talk and social withdrawal (Paulson & Krippner, 2007). Individuals with PTSD may engage in self-destructive behaviors (e.g., substance abuse), have several somatic complaints, report feelings of hopelessness and despair, engage in impaired interpersonal relationships, feel constantly threatened and show general changes from previous personality characteristics (APA, 2000).

The DSM-IV-TR describes three specifiers to include when considering a diagnosis of PTSD. If the duration of the symptoms is less than three months, the acute specifier is used. If the duration of symptoms is three months or more, the condition is

considered chronic. Finally, if the initial onset of PTSD symptoms occurs at least 6 months after initial exposure to the trauma, it is considered to be PTSD with delayed onset. (APA, 2000).

PTSD can occur in children and adults. Symptoms oftentimes develop within the first few months following exposure to the stressor, but they can develop as late as several years after the trauma (APA, 2000). Approximately 50% of those suffering from PTSD recover completely within three months; others take much longer to recover. Symptoms can fluctuate with time. Exposure to new life stressors or other traumatic events can reactivate the original symptoms (APA, 2000).

According to the DSM-IV-TR, the three most important factors that play a role in the development of PTSD are the severity of the trauma, the duration of the trauma, and the proximity of the individual's exposure to the trauma (APA, 2000). In other words, the likelihood of developing PTSD increases with more intense stressors, stressors that are of longer duration (e.g., several tours of combat duty for soldiers), and as physical proximity to the stressor increases. Other factors affecting the development of PTSD include family history, social support, personality characteristics, childhood experiences, and preexisting mental disorders (APA, 2000). Factors determined to be stressors specific to war zone experiences, and that put individuals at risk for developing PTSD include combat events, perceived life threat, malevolent environment, battle aftermath, family concerns, harassment and toxic exposure (King, King, Keane, Foy & Fairbank, 1999).

In addition to the criteria laid out in the DSM-IV-TR, the World Health Organization's Classification of Mental and Health Disorders (1992) includes a category outlining the emergence of enduring personality changes that may follow a traumatic

experience. These changes include hostile or mistrustful attitudes toward the world, social withdrawal, feelings of emptiness/hopelessness, chronically feeling “on edge,” and estrangement (World Health Organization, 1992). These additional characteristics describing personality changes are important to recognize as many individuals with PTSD report significant changes in personality (Shay, 1994).

Neurological correlates.

Changes in brain chemistry and brain structure, particularly in the amygdala and hippocampus, may also occur in individuals with PTSD as a result of repeated exposure to high arousal and high anxiety situations. In some individuals with PTSD a process known as “stress sensitization” may occur in which stressors cause an increase in behavioral, physiological and biochemical responding to subsequent stressors of the same or lesser magnitude (Southwick et al., 2007). Stress sensitization is important in that it may be adaptive and allow appropriate response to future stressors. However, neurobiological systems that have become stress-sensitized may be maladaptive when they cause individuals to overreact to very minor stressors, resulting in the hypervigilance often seen in individuals with PTSD (Southwick et al., 2007).

Researchers have also found that a number of neurotransmitter and neuroendocrine systems are hyperreactive in individuals with PTSD, including increased activity in the noradrenergic system, which is responsible for excitatory changes during times of stress/danger. When an individual with PTSD is stressed and has developed an overresponsive noradrenergic system, the amygdala and hippocampus become flooded with norepinephrine. The amygdala and hippocampus are thought of as the fear and learning areas of the brain – too much norepinephrine in these areas can then enhance

fear conditioning and the consolidation of memories (McGaugh, 2002). This can then lead to the maintenance of the symptoms of PTSD. Of course, the neurochemical and neurobiological factors involved in PTSD are complex and a more elaborate discussion of these mechanisms is beyond the scope of this document.

Shay (1994), describes an example of a combat veteran with PTSD experiencing changes in his peripheral visual perception, “One veteran tells that after he returned home from Vietnam he shot rats he saw moving out of the corner of his eye. His bedroom wall was peppered with bullet holes – “but there were not rats!” (p. 172). Shay (1994) describes this veterans experience as resulting from the brain’s inability to effectively filter out unnecessary information from the environment due to chemical changes in the brain following long-term exposure to the trauma of war.

Prevalence and course.

Posttraumatic stress disorder occurs in approximately 8% of the adult United States population, and is found in both children and adults who have experienced trauma (APA, 2000). The prevalence of the disorder indicates that PTSD is more common than initially thought, and can result from traumas that range in severity from mild to extreme. Higher rates of PTSD are found in military combatants (as well as victims of rape, genocide and captivity; APA, 2000). In fact, military combatants as a subpopulation have one of the highest rates of PTSD (APA, 2000), approximately double that of the normal population (Hoge et al., 2004), indicating that soldiers appear to be at greater risk for developing PTSD.

Schlenger et al. (1992) found that fully 30% of Vietnam War veterans manifested combat-related psychological symptoms in their lifetime. Rates of PTSD in veterans of

the Persian Gulf War range between 8-16% (Wolfe, Erickson, Sharkansky, King, & King, 1999). Estimates of the prevalence of PTSD in combat troops returning from Iraq and Afghanistan have been found to be in the 11% - 13% range, with some estimates as high as 18% (Hoge et al., 2004). These numbers can be broken down further based on several factors including exposure to firefights, handling dead bodies, killing an enemy, and experiencing the death of a fellow combatant (Hoge et al., 2004). The rate of PTSD in combat veterans returning from Iraq escalated in a direct, linear manner with the number of firefights experienced during deployment (e.g., 4.5 % for no firefights versus 19.3% for more than five firefights; Hoge et al., 2004). In addition, the likelihood of developing PTSD tends to increase with extended duration of exposure to the stressor (APA, 2000). Therefore, troops deployed in war zones for extended periods of time may be more vulnerable to developing PTSD and other psychological disorders (Lapierre, Schwegler, & LaBauve, 2007). Lapierre et al. (2007) found that 44% of a sample of 4,089 soldiers returning from deployment in Iraq and Afghanistan self-reported symptoms of depression, posttraumatic stress disorder, or both. In their sample, males and females reported PTSD symptoms at similar rates, a finding not uncommon in military samples (Lapierre et al., 2007). Interestingly, Lapierre et al., (2007) also found that junior enlisted soldiers were more likely to report symptoms of PTSD than were officers or noncommissioned officers. The authors attributed this finding to a potential lack of sufficient training and information provided to junior enlisted soldiers regarding the nature of war, as well as the symptoms of posttraumatic psychopathology (Lapierre et al., 2007).

Comorbidity.

PTSD has been associated with increased rates of other comorbid psychological disorders, including major depressive disorder, substance related disorders, panic disorder, agoraphobia, obsessive-compulsive disorder, generalized anxiety disorder, social phobia, specific phobia, and bipolar disorder (APA, 2000). Major depression and dysthymia are two disorders frequently comorbid with PTSD in both men and women (Kimerling, et al., 2007). In the Epidemiological Catchment Area Study (Regier, et al., 1990), men and women with PTSD were significantly more likely to have a drug abuse or dependence problem. In the National Comorbidity Study, approximately 59% of men, and 43.6% of women with a diagnosis of PTSD had at least three additional diagnoses (Kessler et al., 1995). In male veterans, PTSD has been found to be comorbid with conduct disorder and major depression (Fu et al., 2007), as well as increased substance use.

Gender and cultural considerations.

Several studies have found elevated rates of PTSD in women as compared with men within the U.S. (Kimerling, Ouimette, & Weitlauf, 2007). The National Comorbidity Study (NCS; Kessler, Sonnega, Bromet, Hughes & Nelson, 1995) found that although men were more likely to encounter a traumatic event, women were more likely to develop PTSD as a result of experiencing a traumatic event in civilian settings. In general, according to general population and natural disaster research, women are at greater risk than men for PTSD (Kimerling et al., 2007). However, as mentioned previously, prevalence rates of PTSD in women and men appear to be equivalent in military populations. This may be due to the context of war – as the situation or the

context in which trauma occurs becomes more dire gender differences may disappear (Norris, Foster, & Weissharr, 2002).

There is a paucity of literature examining the occurrence of PTSD across non-Western cultures and ethnicities. Nevertheless, some evidence indicates that higher rates of PTSD exist in developing countries as compared with more industrialized countries (De Girolamo & McFarlane, 1996). Studies of minority, treatment-seeking refugees in the United States have found high prevalence rates of PTSD (14-93%; Osterman & de Jong, 2007). One study found prevalence rates of PTSD as high as 93% in a sample of Mein refugee patients at a United States clinic (Kinzie, Boehnlein, Leung, Moore, Riley, & Smith, 1990). A large epidemiological study of psychopathology in four post-war regions (Gaza, Ethiopia, Cambodia and Algeria) found PTSD prevalence rates ranging from 15.8% to 37.4% (de Jong, et al., 2001). A survey of displaced Senegalese refugees indicated a prevalence rate of PTSD of 10% (Tang & Fox, 2001), and another survey found a prevalence rate of 27% in Sri Lankan civilians living in a conflict zone (Somasundaram & Sivayokan, 1994). However, the role of culture in the process of developing PTSD is not yet clearly understood due to the variability across cultures in the appraisal of trauma, communication of trauma, risk and protective factors, and sociocultural context (Osterman & de Jong, 2007).

Impact of Posttraumatic Stress Disorder

The extant literature provides clear documentation regarding the long-term psychological and psychosocial impact of PTSD on the lives of veterans of war and their families. Veterans with PTSD (and other mental health disorders) experience negative

impacts in the areas of relationships, health, employment, finances and family (Tanielian et al., 2008).

Studies examining the psychosocial characteristics of war veterans suffering from PTSD have found the following common threads in veterans from WWII, Korea, Vietnam, and the Gulf War: severe, persistent psychological symptoms; increased comorbidity of disorders such as depression and substance abuse; increased levels of suicidality; involvement in crime; social isolation; inability to gain employment; poverty and homelessness (Rosenheck & Fontana, 1996).

Several studies have found a correlation between increased suicidality and PTSD in veterans (Hudenko, n.d.). A recent study found that male veterans (with and without PTSD) in the United States general population were at higher risk for suicide than male nonveterans (Kaplan, Huguet, McFarland, Newsom, 2007). Additionally, impaired functioning (as a result of psychopathology) increased the risk of suicide completion in male veterans (Kaplan et al., 2007). This study used data collected from veterans of all eras, and unlike the majority of previous studies assessing suicide risk, derived data representative of all veterans in the general population, and not just those seeking care at the VA (Kaplan et al., 2007).

Another recent study examined the risk of suicide among veterans returning from the Iraq and Afghanistan wars and found that the overall risk of suicide among these veterans was similar to the risk found in the general population (Kang & Bullman, 2008). However, two subgroups of veterans were found to be more vulnerable to the risk of suicide: veterans who engaged in active combat and veterans with an identified mental disorder (depression, PTSD, acute stress disorder, substance dependence, adjustment

disorder and neurotic disorders; Kang & Bullman, 2008). This study highlights the idea that PTSD may elevate the risk of suicide in combat veterans, outside of the impact of the war itself.

Veterans with PTSD are also more likely to engage in unhealthy behaviors such as smoking and overeating; they may have higher rates of physical problems; they may tend to be less productive at work; and they are more likely to be unemployed or homeless (Tanielian, 2008).

In addition to the impact of PTSD on the individual, effects of the disorder on family and relationships have also been documented; PTSD is a mental health condition very commonly associated with intimacy and relationship problems (DeAngelis, 2008). The National Vietnam Veterans Readjustment Study (NVVRS) found that Vietnam veterans with PTSD had significantly higher divorce rates than veterans returning without PTSD (Kulka, et al., 1990). Veterans returning from war with PTSD also tend to have increased difficulty in forming intimate emotional relationships and exhibit decreased levels of emotional disclosure (Carroll, Rueger, Foy, & Donahoe, 1985). Two separate studies of Vietnam veterans with PTSD found that approximately 50% of veterans' wives reported having been battered by their husbands upon their return from the war (Matsakis, 1988; Williams, 1980). Studies of Vietnam veterans with PTSD have also found that the impact of the disorder extends to their children. Jordan et al. (1992) found that the children of veterans with PTSD were significantly more likely to have behavioral problems than children of veterans without PTSD. The same study found that veterans with PTSD reported significantly more problems with parenting and household, familial violence (Jordan et al., 1992). Interestingly, these authors found that exposure to combat

trauma and resulting PTSD were much more salient in leading to familial problems than any preexisting or predispositional variables (e.g., history of psychological issues; childhood adversity or abuse; familial drug or alcohol problems; Jordan et al., 1992).

Risk Factors

The consistent finding that not all individuals exposed to a traumatic event will develop PTSD has led researchers to explore potential vulnerabilities that put certain individuals at greater risk for the development of PTSD. Psychosocial risk factors for PTSD include features of the trauma itself, preexisting attributes of the individual, and posttrauma circumstances (Vogt, King, & King, 2007). In a meta-analysis of risk factors for PTSD, a positive relationship between trauma severity and PTSD was found (Brewin, Andrews, & Valentine, 2000). Researchers have found a greater association between traumas that involve injury, that are more grotesque, and that involve subjective distress or dissociation and the development of PTSD (Vogt et al., 2007). However, none of these characteristics of the traumatic event alone is a particularly potent predictor of PTSD, leading researchers to explore other possible risk factors (Vogt et al., 2007), such as preexisting attributes. In their meta-analysis of possible risk factors, Brewin and colleagues (2000) found that younger age, female gender, low SES, low education, and ethnic/minority status are risk factors for PTSD. Other researchers have pinpointed exposure to prior trauma and family psychiatric history as risk factors (Dougall, Herberman, Inslicht, Baum & Delahanty, 2000). Following exposure to trauma, individuals with less access to social support or exposure to additional life stressors are at greater risk for developing PTSD (Vogt et al., 2007). Again, it is currently difficult to say definitively whether any of these risk factors alone play a causal role in the development

of PTSD, as it is likely a complex interaction of various factors that lead to the development and maintenance of the disorder (Vogt et al., 2007).

Finally, researchers are examining the possibility that the factors involved in developing and maintaining PTSD may differ. In a sample of Vietnam veterans, development of PTSD was predicted by high levels of combat exposure, perceived negative homecoming reception, and increased levels of anger or depression. Additionally, comfort level in disclosing trauma memories and experiences predicted the development of PTSD in this sample, whereas the course of the disorder was predicted by level of community involvement and ethnic/minority status (Koenen, Stellman, Stellman, & Sommer, 2003).

Theories of Posttraumatic Stress Disorder

There are a variety of theories that attempt to explain why exposure to traumatic events leads to PTSD in some individuals but not others. Approaches to the conceptualization of PTSD include conditioning theories, cognitive theories, schema theories, and emotional processing theories. These theories will be briefly summarized in the following paragraphs.

In their conditioning theory, Keane, Zimering and Caddell (1985) apply Mowrer's (1960) learning theory of fear and anxiety to explain PTSD. They hypothesize that PTSD is a result of a specific chain of events, beginning with the traumatic event; this model uses the principles of classical and instrumental conditioning to explain the developing pathway of PTSD. The traumatic event is thought to lead to a conditioning effect for a variety of trauma-related stimuli (e.g., environmental cues) that, through the process of classical conditioning, lead to intense anxiety. Through higher ordered conditioning

processes, anxiety responses can then generalize to other, non-trauma related stimuli (Keane et al., 1985). Symptoms such as re-experiencing are thought to be part of the natural recovery process but they can become chronic and therefore harmful, particularly when experienced spontaneously and for brief periods of time (Keane et al., 1985). The anger and irritability seen in war veterans with PTSD are explained by Keane et al. (1985) as being a result of military training that encourages the acquisition of these behaviors. Upon returning to civilian life, anger is maintained through both positive and negative reinforcement; social withdrawal and lack of social involvement are explained in the same manner: wartime events can be particularly intensive; in contrast, civilian activities become less interesting or arousing (Keane et al., 1985).

Keane et al. (1985) use their theory to explain memory lapses for the traumatic event oftentimes seen in individuals with PTSD. First, the aversive nature of the trauma causes individuals to engage in avoidance of the trauma memories. Second, in men emotional expression is discouraged by society and therefore men, and particularly male war veterans, have fewer opportunities to discuss their trauma memories (Cahill & Foa, 2007).

Keane and Barlow proposed an etiological model of PTSD that builds upon conditioning theories (Barlow, 2002). The authors propose two vulnerabilities – psychological and biological – that can increase risk for PTSD. The psychological vulnerability includes a reduced sense of control, heightened anxious apprehension and cognitive biases toward threat anxiety that promote avoidance, intensify negative affect, and increase worry (Barlow, 2002). The biological vulnerability is thought to be primarily a genetically inherited trait to experience heightened negative affective states

(Cahill & Foa, 2007). At the time of the trauma, true alarms trigger intense emotions that then can lead to learned alarms, which occur during nonthreatening situations that may resemble the original trauma in some aspect. This can then lead to avoidance of a variety of situations and cues. Eventually this leads to a numbing of emotional response, which through the mediators of social support and coping style can lead to the development of PTSD (Keane, Marshall, & Taft, 2006).

Ehlers and Clark (2000) have proposed a cognitive model of PTSD that draws from prior social-cognitive theories in an attempt to explain why only a fraction of individuals exposed to traumatic events go on to develop chronic PTSD. Ehlers and Clark (2000) propose that individuals who process the traumatic event they experience in such a way that leads to a sense of continued, current threat are likely to develop PTSD. The authors go on to say that appraisals of the traumatic event and the level of integration of that event with other episodic memories are the key factors that result in a sense of current threat. Individuals who go on to develop PTSD tend to see the traumatic event as one with global, long-term negative effects and therefore appraise the event in a way that leads to the creation of a sense of ongoing internal or external current threat. Therefore, negative cognitions, lack of memory integration, and fractured, poorly elaborated trauma narratives are at the core of this cognitive theory (Cahill & Foa, 2007). In addition, there tends to be a significant shift in the general belief structures of individuals with PTSD; this shift is thought to be a critical component in the development and maintenance of PTSD (Rothbaum, Resick, Meadows, & Foy, 2000).

Schema theories focus on the idea that a traumatic event can lead to a significant shift in an individual's view of self, others and the world (Cahill & Foa, 2007). Traumatic

events are assumed to contrast with preexisting assumptions of the world and can result in a schematic shift that is generally in the direction of safety to threat (e.g., from believing the world is benign to believing the world is threatening). Specific schemas have been identified as being more relevant to the development of PTSD, including assumptions that the world is safe or benign, the self is worthy, and people are trustworthy (Epstein, 1991; Janoff-Bulman, 1992). Traumatic events disrupt these pre-held beliefs and require that individuals modify existing schemas, either through assimilation of the trauma with preexisting schemas, or through accommodation of the new experience (Cahill & Foa, 2007). In order to accomplish this, individuals must process trauma information (thought to occur through re-experiencing) and preexisting information in such a way that the two can co-exist or agree; this process can be hindered by the tendency to avoid distressing trauma memories, which can then maintain posttraumatic symptomatology (Horowitz, 1986). Schema theorists generally agree that reexperiencing of trauma and avoidance of trauma memories are central to the development and maintenance of PTSD symptomatology (Cahill & Foa, 2007).

Emotion processing theory (Foa & Kozak, 1986; Foa, Huppert, & Cahill, 2006) states that the development of PTSD is a result of pathological fear structures in memory which are activated when environmental information and structure information match and lead to spreading activation, resulting in anxiety (Cahill & Foa, 2007). The maladaptive fear structures seen in individuals with PTSD can result when “1) associations among stimulus elements do not accurately represent the world, 2) physiological and escape/avoidance responses are triggered by harmless stimuli, 3) excessive and easily triggered response elements interfere with adaptive behavior, and 4) harmless stimulus

and response elements are erroneously associated with threat meaning” (Cahill & Foa, 2007, p. 62). Individuals with PTSD appear to have fear structures that are defined by a large number of harmless stimuli that are erroneously associated with threat meaning and trigger physiological responses (Cahill & Foa, 2007). This maladaptive fear structure can then lead to a view of the world as dangerous, the self as incompetent, and others as untrustworthy, resulting in reinforced symptoms of PTSD (Cahill & Foa, 2007). Essentially, PTSD can develop when preexisting knowledge about the self (e.g., competence vs. incompetence) and world (e.g., safe vs. dangerous) is either violated or reinforced (Cahill & Foa, 2007). Finally, emotional processing theory posits that a lack of adequate processing of the trauma memory through avoidance, numbing and withdrawal leads to the maintenance of PTSD (Cahill & Foa, 2007).

The theories described above focus on the potential causes of the formation of psychopathology following a traumatic event. It appears that the development of PTSD is dependent upon individual experience and interpretation of the trauma, individual schema structure both prior to and following the trauma event, cognitive appraisals of the event, learning, the individual’s processing (or lack of processing) of the event both internally and externally, and a variety of risk factors. The extant theories, however, provide little information regarding the nature of the symptoms of PTSD as they manifest in day-to-day life. The next section will focus on the methods used to measure and better understand the manifestation of PTSD symptomatology.

CHAPTER 2

Understanding and Assessing Posttraumatic Stress Disorder

Since its inclusion in the DSM-III (APA, 1980), many efforts have been made to develop measures to understand and assess trauma symptoms and PTSD in adults (Keane et al., 2007). There are a number of ways in which researchers have attempted to understand the experience of PTSD, including personal accounts gathered through interviews, self-report measures (e.g., questionnaires), and structured clinical interviews.

Personal Accounts of PTSD

Personal accounts have been used by members of many disciplines, including psychology, in an attempt to gain access to the details of individual experience. These accounts provide a personal narrative of an individual's views, beliefs, expectations, etc. and are oftentimes generalized self-statements describing experience. Many personal accounts have been gathered from veterans across many wars and have been included in books and press articles. For example, in their book, *Haunted by Combat*, Paulson and Krippner (2007) provided personal accounts of the experience of PTSD from veterans of the wars in Iraq and Afghanistan. They described how the sense of extreme vigilance veterans developed while at war followed them home to the US and became intensified with time (Paulson & Krippner, 2007). This hypervigilance involved a sense of uneasiness, inner restlessness, physical symptoms, and a threat of a looming yet diffuse danger (Paulson & Krippner, 2007). The looming sense of danger was oftentimes projected onto previously unremarkable others and objects, and at times became so intense and overwhelming that individuals became increasingly socially isolated; eventually situations and persons who were at one point neutral became a source of

anxiety and triggered the symptoms of PTSD (Paulson & Krippner, 2007). Other veterans experienced intense, frequent nightmares of the traumas they had encountered during the war. An active duty Marine officer, upon returning from Iraq explained:

I am actually afraid to go to sleep at night. The nightmares are unbearable. My combat buddies died once in Iraq. But I have nightmares several times a week in which they are killed all over again. And I can still hear them screaming when I wake up. (Paulson & Krippner, 2007, p. 26)

Veterans described the difficult process of returning home from war. The initial relief of survival and returning home sometimes became overshadowed quickly by the memories, physical sensations and other factors of the war experience. Many veterans reported symptoms of restlessness, insomnia, and increased agitation upon returning to civilian life. Bob Page, a Chief Petty Officer in the United States Navy Reserves, and a veteran of Operation Iraqi Freedom was diagnosed with PTSD shortly after his return from Iraq following the incident he describes below:

I finally began to recognize that I was sleeping a couple of hours a night and that's it. Every noise, I was up - looking around. I was always checking the door locks. I was always checking my kids to make sure that they were breathing, and then my wife; that she was okay. I was always out checking the cars. I couldn't sleep. So my son, finally one night, I was so tired and I couldn't sleep and I was so frustrated; he came down the hallway crying and screaming – [this was] November. So I went down the hall and I grabbed him by his arms and I picked him up, and he's, you know, 2 years old and I'm...I've got him over my head and I'm giving him a little shake and I'm yelling, "Shut up! Shut up!" and I'm screaming at my son. And I

just said, “Oh my god!” And I took him back into his room and of course he’s screaming and my wife’s yelling, “Bob! Bob! Take it easy!” And I hadn’t shaken him more than just a quick little shudder; sat him down on his bed and I sat down next to him, which was an infant bed-I shouldn’t say an infant-a toddler bed, which promptly broke because I’m too big for it. And that made him even more upset but I began crying and I couldn’t believe that...I said, “Something’s wrong with me. This is my son. My son! What am I doing?” (Page, n.d.).

The day following this incident Page sought treatment for his symptoms and was diagnosed with PTSD.

Other veterans with PTSD have described the difficulty they have experienced in reintegrating into civilian life upon returning from war. A Vietnam Veteran diagnosed with PTSD described his difficulty in forming relationships with women:

How could I tell her about the horror I felt watching a dump truck taking the corpses of 17 of my friends to be embalmed? How could I tell her what I felt when I watched their blood drip and flow from the tailgate onto the ground? How could I tell her how deeply I hurt, of the agony I was in, and how gnawing my suffering was? How could I tell her that the pain and the guilt followed me like a beast tracking its prey? How could I tell her that the pain hounded me at night, during the day, and even while making love? What would she think of me if I told her? I feared that if any woman knew this about me, she would freak out, go into convulsions, vomit, and totally reject me for being such a disgusting human being. What was I to do? I did what seemed best: I drank and I drank and I drank. (Paulson & Krippner, 2007, p.29).

This veteran's description poignantly describes the intensity of the guilt and shame that many individuals with PTSD report; as well as the harsh personal judgment that oftentimes prevents them from sharing their experience with those around them. It also highlights the potential pathway that leads to the social isolation and substance abuse often observed in veterans with PTSD.

Of course, it is not just combat veterans with PTSD who express the guilt, shame and helplessness characteristic of this disorder. Sims and Sims (1998) explored the experience of 70 male and female police officers, 60 of whom were diagnosed with severe or moderate PTSD following a riot during a soccer game in Sheffield, England during which 95 people were killed. The police officers were on duty during the incident and were interviewed about their experience during and following the disaster. Many of the officers expressed feelings of fear and helplessness, "I've never felt as sick in my life, useless, helpless, desperate" (Sims & Sims, 1998, p. 100). Many expressed feelings of failure when reflecting upon the event at a later date, "We failed in our duty...I feel something for myself as well. I didn't save anyone. I didn't help anyone. I was useless. The bit of first aid I'd learned was useless" (p.103). Many of the officers reported persistent intrusive recollections of the day of the event, sometimes occurring so frequently as to disrupt daily functioning. These intrusive and spontaneous recollections included seeing faces compressed against a fence, dead bodies piled in a gymnasium, and smelling unpleasant odors associated with danger (Sims & Sims, 1998). One officer described the experience as, "[The memory of what happened] is like having a big screen in your head but at the top corner is a green body bag" (p. 104). However, 43 of the 70 officers interviewed reported complete or partial amnesia for experiences during or

following the event, “I have no idea what we were doing on Sunday. The following week is a complete blank. I cannot remember anything” (p.105). More than half of the officers reported distressing nightmares of the event that in some cases persisted for many years. These dreams usually were specific to the part of the disaster that the officer had witnessed, “They were faceless and I was peering down at a body. I saw people pressed through the fence like a potato peeler” (p.105). Persistent feelings of guilt were common, as were behavioral changes following the event. Some of the officers were unable to speak of the event, or even to watch television or read newspapers for fear of being reminded (Sims & Sims, 2008). Other changes included decreased caring for others, “I didn’t want to go to work...I didn’t want to wear my uniform. I’ve been tougher toward others, not so caring” (p. 108); increased social isolation; and excessive alcohol intake, “I’ll go and pig into something when my wife’s not there. I drink to get oblivion, to stop my mind working...I feel people are looking at me and want to hurt me” (p. 109).

Personal accounts of the sudden shift in worldview forced upon veterans following initial exposure to the brutalities of war are striking. In his book, *Achilles in Vietnam*, Shay (1994) describes the experience of Vietnam veterans with PTSD during and after the war. Shay (1994) indicates that the current diagnostic criteria for PTSD do not adequately cover the “devastation of mental life after severe combat trauma” as the criteria do not account for deep-rooted changes in personality that may result from prolonged exposure to intense trauma (p. 169). Shay (1994) interviewed veterans regarding their perceived loss of innocence and the loss of trust in themselves, the world and the very reality in which they exist. One veteran with PTSD was quoted as saying, “Nothing is what it seems. That mountain there – maybe it wasn’t there yesterday, and it

won't be there tomorrow. You get to the point where you're not even sure it *is* a mountain" (Shay, 1994, p. 170).

Shay (1994) describes soldiers who have entered what he refers to as "the berserk state." The berserk state occurs when a soldier experiences a particularly intense and traumatic event, such as being trapped by the enemy, surviving certain death, or witnessing the death of a comrade. Soldiers in the berserk state exhibit uncontrollable rage and violence, and intense hypervigilance (Shay, 1994). For some soldiers, this berserk state is a component in the development of PTSD. For example, a soldier who witnessed the death of a close comrade "went berserk." He described this state as an intense need for revenge coupled with violent outbursts. His berserk state began while at war, but did not dissipate when he returned home:

I carried this home with me. I lost all my friends, beat up my sister, went after my father. I mean, I just went after everybody and everything. Every three days I would totally explode, lose it for no reason at all. I'd be sitting there calm as could be, and this monster would come out of me with a fury that most people didn't want to be around. So it wasn't just over there. I brought it back with me. (Shay, 1994, p.95)

Many veterans bring the memory of their experiences back home with them, and many feel as though they do not have an outlet in which they can share these memories. One veteran with PTSD, of his experience with psychic pain and rage upon returning home said:

I felt that since I was a Marine, I *should not* have any pain ... this was hard because my combat veteran friends, as well as my family, advised me "not to

think about it,” “just be strong,” or “don’t let it bother you.” Yet I thought about my pain every minute of my waking day. I tried to be strong, but I felt so vulnerably weak, and it *did* bother me ... I became increasingly alienated from myself. I split myself into essentially two beings – what I *should* be versus what I *was*. (Paulson & Krippner, 2007, p.142)

Another veteran with PTSD describes the fear and anxiety he experienced on a regular basis, prior to receiving treatment for the disorder:

I can remember my own experience of the road to recovery. I would go out to picnics and outings but find myself very uneasy. I would imagine that the North Vietnamese were behind the trees, stalking me. I would imagine that lightning storms were incoming rockets and mortar attacks and that exploding firecrackers were rifle shots aimed at me ... This was very confusing for me. One part of me knew that nothing was wrong, but the other screamed “Under attack!” I would have periods when I could enjoy life without the fear of being killed, but they were always followed by a panic or anxiety period when I was not sure whether I was really in danger. (Paulson & Krippner, 2007, p. 144)

Veterans and others who have experienced trauma and have gone on to develop PTSD appear to exist in a world that waivers between living in the present and reliving the trauma of the past. As one Iraq veteran with PTSD stated:

In reality the war in Iraq is over for me, but emotionally the war will never end. There will be a sight or smell that will bring me back to the battlefield. There will be a picture or word that will bring me back to a conversation with [my fallen comrade]. (Odom, 2003)

Questionnaires

Questionnaires are used frequently to screen for and assess the symptoms of PTSD. The Impact of Event Scale (IES; Horowitz, Wilner, & Alvarez, 1979) was the first and remains one of the most widely used questionnaires for the assessment of psychological reactions to trauma. The IES was revised in 1997 (IES-R; Weiss & Marmar, 1997) to better match the description of PTSD in the DSM-IV. The scale consists of 22 items rated on Likert-type scales. It takes approximately 10 minutes to complete. Respondents are asked to think about the trauma they have experienced and then to rate “how distressed or bothered” they were during the past week by a list of symptoms such as emotional numbness (e.g., “My feelings about it were kind of numb”); hypervigilance (e.g., “I was jumpy and easily startled”); intrusive thoughts and images (e.g., “Pictures about it popped into my mind”), etc. Little psychometric information is available for the IES-R. Questions have been raised as to the validity of the original scale (IES), as it was developed before the diagnostic criteria were available in the DSM (Joseph, 2000). The revised IES parallels the DSM-IV more closely but some investigators consider some of the items limited in scope (Keane et al., 2007).

The Mississippi Scale for Combat-Related PTSD (Keane, Caddell, & Taylor, 1988) is a 35-item scale that is widely used to assess combat-related PTSD symptoms. Respondents are asked to rate the severity of each symptom “since the time of the event” on 5-point Likert-type scales. Questions on the scale assess symptoms of guilt (e.g., “I do not feel guilt over things I did in the military”); 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”); suicidality (e.g., “Lately I have felt like killing myself”); etc. The Mississippi Scale yields a score of symptom severity as well as diagnostic information. It takes approximately 5-10 minutes to administer. The mean score on the Mississippi Scale obtained by individuals with PTSD is 130 ($SD=18$), and the mean score for non-PTSD individuals is 76 ($SD=18$; Keane et al., 1988). The Mississippi Scale has excellent psychometric properties (Keane et al., 2007). The Mississippi Scale has been shown to have high internal consistency (.94) and test-retest reliability (.97) over a 1-week time interval in Vietnam era veterans (Keane et al., 2007). The Mississippi scale has good sensitivity (.93) and specificity (.89) with a cutoff score of 107 (Keane et al., 2007). The Mississippi Scale yields similar results for veterans with PTSD with and without substance use disorders, indicating that the scale assesses PTSD symptoms and not effects of alcohol or drug use (McFall, Smith, Mackay, & Tarver, 1990). Keane et al. (2007) indicate that the optimal cutoff threshold for a diagnosis of PTSD is 106.

The PTSD Checklist for the DSM-IV (PCL; Weathers, Litz, Huska, & Keane, 1994) is a widely used measure of PTSD developed by the National Center for PTSD. The PCL has three versions; the civilian version (PCL-C); the event specific version (PCL-S) and the military version (PCL-M). This 17-item self-report measure assesses the 17 diagnostic criteria outlined in the DSM-IV. Respondents are asked to indicate on a 5-point severity scale the extent to which they have been bothered in the past month by symptoms such as flashbacks (e.g., “Repeated, disturbing memories, thoughts of images of a stressful military experience”); nightmares (e.g., “Repeated disturbing dreams of a stressful military experience”); hypervigilance (e.g., “Being super alert or watchful or on

guard”); avoidance (e.g., “Avoiding thinking about or talking about a stressful military experience or avoiding having feelings related to it”); and so on (Norris & Hamblen, 2003). The PCL-M can be scored in two ways in order to yield either a continuous measure of symptom severity, or a dichotomous indicator of diagnostic status (Keane, Brief, Pratt, & Miller, 2007). Cutoff scores are provided by the authors, with a score of 44 and above in the general population, and 50 and above in the military population considered to be PTSD positive. The PCL has been used in both research and clinical settings and takes approximately 5-10 minutes to administer (Keane et al., 2007). The PCL-M was originally validated in a sample of Persian Gulf and Vietnam War veterans and was found to have strong psychometric properties (Keane et al., 2007). The PCL-M has high internal consistency for the total scale, and each subscale (.97 and .92-.93, respectively; Norris & Hamblen, 2003). The PCL-M has been shown to correlate highly with clinician-administered measures of PTSD (Norris & Hamblen, 2003). Test-retest reliability over a 2-3 day time interval is high (.96; Keane, et al., 2007).

Structured Clinical Interviews

Clinical interviews are frequently used in the assessment of PTSD, particularly in clinical research settings (Keane, Brief, Pratt & Miller, 2007). The interview method has the potential to overcome some of the methodological problems inherent in self-report assessments, as they are more thorough, allow for clarification of questions and responses, and give the sense of a more collaborative undertaking.

The Clinician Administered PTSD Scale (CAPS; Blake et al., 1990) is currently the most widely used interview for diagnosing PTSD. The CAPS has been used as the primary diagnostic tool in many empirical studies of PTSD; it has been used with a wide

variety of trauma-exposed populations (including combat veterans); and it has been translated into 12 languages (Keane et al., 2007). The CAPS is a flexible structured interview that assesses all the DSM-IV diagnostic criteria and symptoms of guilt and dissociation; the full interview takes approximately one hour but can be shorter when necessary (Keane et al., 2007). The CAPS provides structured prompts, explicit rating anchors and behavioral referents. The CAPS allows for ratings of the severity and frequency of symptoms, which when summed, create a severity score for each symptom (Keane et al., 2007). The CAPS has excellent psychometric properties. The interrater reliability over a 2-3 day interval is strong for symptom frequency, intensity and severity (.86 – .87; .86 – .92; and .88 – .91, respectively; Weathers, Ruscio, & Keane, 1999). Test-retest reliability is high (.89 – 1.00), as is internal consistency across the 17 core symptom items in both research and clinical samples. The CAPS correlates highly with other measures of PTSD, including the Mississippi Scale (.91), the SCID (.89) and the PTSD Checklist (.94; Weathers et al., 1999). In a study by Hovens, overall agreement between a clinician-rated diagnosis and CAPS diagnosis was 79%; sensitivity was .74, while specificity was .84 (Hovens, Van der Ploeg, Klaarenbeek, & Bramsen, 1994).

The Structured Clinical Interview for DSM – IV (SCID-IV; First, Spitzer, Williams, & Gibson, 2000) is a widely used method to assess psychological conditions on Axis I and Axis II of the DSM-IV. The interview is divided into specialized modules, and interviewers provide prompts and follow-up questions dependent upon the module in which they are working (Keane et al., 2007). Interviewee responses are coded on a 3-point scale based on the interviewer's evaluation. Due to the nature of the SCID, it is recommended for use by only clinicians and experienced interviewers. The PTSD-

specific module of the SCID has shown sound psychometric properties. Interrater reliability is good (.68; Keane, et al., 1998), and convergent validity is also strong (.65; Keane et al, 1998). The SCID determines whether PTSD is “present” or “absent” based upon the individual’s “worst trauma experience” (Keane et al., 2007). Unfortunately, the SCID is limited in that it does not place significance upon the effects of traumatic experiences not considered by the patient as “the worst” (Keane et al., 2007). Furthermore, the SCID does not include questions pertaining to the severity or frequency of symptomatology, nor does it allow for a dimensional view of PTSD (due to its dichotomous nature; Keane et al., 2007).

The Structured Interview for PTSD (SIP; Davidson, Smith, & Kudler, 1989) is a 19-item interview administered by appropriately trained individuals. The SIP includes items focusing on the DSM-IV criteria for PTSD, and items regarding survivor and behavior guilt (Keane et al., 2007). Interviewers rate individual responses on a Likert-type scale, with probe questions included. The scale takes approximately 10-30 minutes to administer. The SIP showed good interrater reliability (.97 – .99) in a sample of combat veterans (Davidson et al., 1989). The SIP has shown good validity, and correlates with other measures of PTSD (.49 – .67; Davidson et al., 1989). Test-retest reliability over a 2-week period was good (.71).

Methodological Issues in the Measurement of PTSD

There are several methodological difficulties with a reliance on traditional measurement procedures such as questionnaires and clinical interviews, including memory biases and distortions, cognitive processing biases, individual and affective

factors and self-presentation bias. Generally, these traditional measures tend to use a global, retrospective approach when assessing experience.

Traditional self-report measures, such as questionnaires and clinical interviews, rely primarily on an individual's beliefs about him/herself in general, as formed by accessible memory information. Therefore, a construct is measured accurately by self-report only to the extent that the individual has valid memory information available. However, accuracy issues arise when asking participants to make judgments about the nature and frequency of their cognitions (Hurlburt, Heavey, & Seibert, 2006). This is further complicated by the potential for distortions in semantic memory. Robinson and Clore (2002) provided a review differentiating between emotion (episodic, contextual) and beliefs about emotion (semantic, conceptual) to highlight the effect of time on memory retrieval. They found that contextual details of events can aid recall. However, as time lapses, recall of contextual details declines which may cause random and systematic retrospective biases. Once details are lost, the memory of an emotion shifts from episodic memory to semantic memory. As semantic memory takes over for an event, other retrospective biases may become involved, such as belief-consistent bias (e.g., the tendency to recall and report events consistent with one's own beliefs). Because a key feature of posttraumatic stress disorder is a general numbing in overall responsiveness, and sometimes heightened agitation and anger, relying on semantic memory may be problematic.

Responses to questionnaires may be distorted by multiple memory errors that occur during the encoding, storage, or retrieval stages (Tourangeau, 2000). During encoding, target information may not be adequately encoded due to interference from competing cognitive information or inattention, thereby reducing its likelihood to be

retrieved at a later time. Storage difficulties arise when already encoded information is distorted by incoming information or distorts already existing information, leading to self-report inaccuracies.

In the storage stage of memory, difficulties may arise due to memory capacity and decay. People have a limited amount of information that can be received, processed, and remembered. Miller (1956) found that regardless of the element (e.g., digits, letters or words) people retained around seven plus or minus two elements of information in their short term working memory. Since his study, other researchers have proposed retention levels of less than seven elements in short term memory (Cowan, 2001). Factors affecting the ability to encode, store, and recall new information include rehearsal (Atkinson & Shiffrin, 1968), processing (Craik & Lockhart, 1972) and lexical status of the content (Hulme, Roodenrys, & Brown, 1995). If items are not rehearsed and accurately processed, they do not move from working memory to long-term memory. This can result in deficiencies when attempting to recall information. In addition, factors such as the primacy and recency effects influence storage. The primacy effect involves information presented earlier in a series being more likely to be recalled than information presented later because the time available for rehearsal or processing of new material decreases as information continues to be presented. The recency effect involves information presented toward the end of a series being more likely to be recalled than information in the middle because less time has elapsed upon initial recall.

With regard to memory decay, studies have shown that people experience rapid loss of details following an event (Rubin & Wetzel, 1996). As the time between the event and the recall of the event increases, the accuracy of the recalled details deteriorates

(Bernard, Killworth, Kroenfeld, & Sailor, 1984). Tourangeau's (2000) attempt at providing a mathematical formula related to retention of information as a function of time led to the conclusion that forgetting increases monotonically over time, but it occurs rapidly at first then slows down. Additionally, Hurlburt (1984) concluded that when people rate their experiences after a delay, they tend to intensify their experiences by exaggerating their ratings of irritation, anger, vividness, and clarity. The evidence from this line of research indicates that the ability to recall information accurately decreases as a function of passed time. Problems with memory decay are especially relevant with PTSD, as memories are often centered around one (or sometimes multiple) point in time – the traumatic event. In order to minimize errors associated with memory decay, researchers should attempt to obtain details of experiences as soon after a given event as possible.

Another problem with questionnaires relates to mood-congruent memory retrieval (Ellis & Moore, 1999). In general, individuals are better able to recall or retrieve information that is of the same affective tone as the mood they are currently experiencing (Blaney, 1986). Therefore, it may be easier to retrieve information about positive activities when in a positive mood and information about negative activities when in a negative mood. Thus, if individuals are distressed while completing a questionnaire, they are more likely to remember mood congruent items, more likely to forget mood incongruent items, and more likely to rate items relating to negative affect as frequent and severe.

Procedural issues including demand characteristics, reactivity and ecological validity can also affect the accuracy of the information provided on self-report measures.

Demand characteristics consist of anything that may occur during an experimental situation that may give the participant cues as to what the researcher is looking for, or may elicit unnatural behaviors from the participants. Demand characteristics include things like evaluation apprehension, hypothesis guessing or suspiciousness, and so forth. The experimenter can unintentionally influence the participant's responses with his/her conduct, types of questions, demeanor, and even appearance.

Social desirability bias can be a problem for self-report measures as well. Social desirability refers to situations in which the participant responds to a question in what they believe is a socially acceptable manner (Fisher, 1993). Prior studies have found that social desirability can attenuate, inflate, or moderate statistical relationships (Zerbe & Paulhus, 1987); increase measurement error (Cote & Buckley, 1988); and affect variable means (Peterson & Kerin, 1981). Thus demand characteristics and social desirability are important to consider when conducting research that involves self-reports.

There are a variety of other methodological difficulties that are potentially problematic when using questionnaires. At the most basic level, questionnaires may not take into account literacy and language abilities, or the degree to which current levels of psychopathology and/or distress may interfere with comprehension and response style (Kessler, Wittchen, Abelson, & Zhao, 2000). Respondents may not understand questions due to individual comprehension difficulties or unclearly phrased questions. For example, the PTSD Checklist – Military Version (PCL-M; Weathers, Litz, Huska, & Keane, 1994) asks respondents to rate the extent to which they have been “Feeling very upset when something reminded you of a stressful military experience.” Interpretation is necessary when determining the meaning of “very upset,” which may vary greatly among

individuals. Other questions may be unclear, or ambiguous such as the following question, taken from the Mississippi Scale for Combat-Related PTSD (Keane, Caddell, & Taylor, 1988), “I fall asleep, stay asleep and awaken only when the alarm goes off.” This question might be interpreted as meaning that one can *only* fall asleep, stay asleep, and awaken when the alarm goes off.

Finally, according to Schaeffer (2000), questions that are threatening to the individual are especially prone to self-presentation bias. Items that are perceived as threatening may evoke a sense of shame, guilt, or distress, such as the following question also drawn from the Mississippi Scale, “There have been times when I used alcohol (or other drugs) to help me sleep or to make me forget about the things that happened while I was in the service,” or “I have cried for no good reason.” The latter may be particularly threatening to male veterans due to the discouragement of expressed emotion in males in our society at large, and particularly in the military. Problems of self-presentation bias may be reduced through the use of anonymity or through the establishment of a trusting and collaborative working relationship.

Other problems with questionnaires include respondents potentially neglecting to read instructions fully, not paying attention to time-specific references, or misinterpreting rating scales. This is particularly true when the nature of the rating scale shifts within a self-report questionnaire. For example, some questions on the Mississippi Scale are rated from 1 (*never*) to 5 (*very much so*), whereas others are rated from 1 (*not at all true*) to 5 (*extremely true*) and yet others, 1 (*never*) to 5 (*very frequently*). The PCL-M asks respondents to indicate the extent to which they are *bothered* by the symptoms listed in the checklist, not the extent to which they *experience* the symptoms listed. This subtlety

may go unnoticed if the instructions are not read and clearly understood, and in most cases, the misinterpretation may go unnoticed by investigators.

Another issue faced when using self-report questionnaires is that of ecological validity. In order for an experiment to possess ecological validity, the methods, materials, and setting must approximate the real-life situation (Brewer, 2000). In general, achieving ecological validity is very difficult when using traditional experimental research methods. According to Hurlburt (1997), the traditional experiment will not be ecologically valid because it attempts to provide one condition that is identical across all participants. To maximize ecological validity, participants should be evaluated in their natural environments while engaging in their daily activities with as little disturbance as possible. Self-report questionnaires do not generally test people in their natural environments.

Structured interviews, despite their collaborative and in-depth nature, have drawbacks as well. Self-presentation bias may be more present in clinical interviews than with questionnaires. The anonymity that is sometimes available with questionnaires is lost in clinical interviewing. Interviews rely on retrospective memories and are therefore subject to the effects of mood-congruent memory. Furthermore, the high degree of guilt and shame that many individuals, particularly veterans, report associated with their perceived “failure” during the traumatic event may interfere with the willingness to respond openly. Veterans may be reluctant to divulge symptoms that indicate PTSD due to stigma within the military. This stigma has been found to prevent the divulgence of mental health symptoms and to increase reluctance to seek treatment. Hoge et al. (2004) found that of the soldiers and Marines scoring above the cutoff for a psychological condition, over 60% reported that they would not consider seeking help. A common

reason for this was the fear of being “perceived as weak” (Hoge et al, 2004). Many veterans choose not to openly discuss their PTSD symptoms in fear of negatively affecting their careers (Hoge et al., 2004). Nevertheless, structured interviews are a valuable method that, along with other methods that reduce measurement error and increase insight, can be useful in assessing PTSD.

As reviewed above, current retrospective PTSD assessment methods rely primarily on questionnaire and clinical interview data. While the information yielded by these methods is necessary and valuable, it is also vulnerable to bias. As Keane and Barlow (2002) state regarding the various measures used to assess PTSD, “All are imperfect and require clinical judgment in their use.” Combat veterans with PTSD sometimes misrepresent their responses to traditional assessment measures. This misrepresentation can occur due to stigma and guilt but may also occur due to self-presentation bias, memory errors, or cognitive processing errors. Furthermore, current assessments of PTSD are based upon a perceived understanding of the phenomenology of the disorder. However, few studies to date have systematically explored that phenomenology in such a way that provides a clear understanding of the daily experience of PTSD. Therefore, traditional assessment measures may be insufficient for gaining a clear understanding of PTSD phenomena.

What information regarding the individual experience of PTSD does exist comes mostly from personal accounts provided by veterans in autobiographical literature. Although personal accounts about the experience of PTSD are a step toward understanding the disorder and provide valuable information, these personal accounts do not adequately or systematically delve into the phenomenology of the disorder. As

Paulson and Krippner (2007) report, some of the recollections provided by Vietnam and other veterans appear almost “mythological” in their details. The authors indicated that part of the reason for this is that audience expectations, emotional biases, retellings of the incident, and self-talk all contribute to a sort of confabulation process that can then color the true memory over time and lead to distortions in the recollection of the experience (Paulson & Krippner, 2007).

Despite the wide range of measures available to assess the symptoms of PTSD, little systematic information is available about the individual experience of the disorder. A search of PsycINFO, the most widely used psychology research database, using the keywords “phenomenolog*,” “experiential*,” and “experience*” coupled with “posttraumatic stress disorder” reveals that only approximately 5% of the extant PTSD literature focuses on individual experiential phenomena of PTSD. Much of the literature that does exist on the phenomenology of the disorder tends to focus on the DSM-IV criteria, but does not reveal a great deal of information about the individual experience of PTSD (e.g., Tomb, 1994). For example, in their discussion of the current understanding of PTSD, Frueh, Elhai and Kaloupek (2004) warn that the field of psychology “[does] not understand the syndrome of PTSD as well as we need, in order to evaluate and diagnose as accurately and reliably as one might wish” (p.66). This is partially due to an only tentative understanding of the true phenomenology of PTSD (Frueh et al., 2004). For example, although it is clear that one common symptom of PTSD is emotional numbing, little is known about the nature of this emotional numbing – what does it consist of from individual to individual? Is the emotion present but unrecognized, or has the emotional world of the individual with PTSD become impoverished? Hypervigilance and

hyperarousal are also common symptoms of PTSD. Yet little is known about the individual experience of hypervigilance – is hypervigilance experienced differently among individuals? How does hypervigilance manifest itself in the day-to-day life of individuals with PTSD? It is possible that a better understanding of questions like these may inform existing theories of PTSD. In order to gain a clearer understanding of the phenomenology of posttraumatic stress disorder, a systematic and scientifically based introspective method must be applied; one that attempts to overcome the methodological shortcomings of retrospection, puts aside presuppositions and aims only to explore the daily experience of individuals with the disorder.

Exploring Experience

In an attempt to reduce the methodological errors associated with traditional measures (e.g., self-report) researchers have developed several alternative methods for exploring individual inner experience. Some of these methods focus on the reduction of the problems associated with retrospection while others attempt to increase ecological validity. These methods of examining inner experience include think-aloud (e.g., Davidson, Roins & Johnson, 1983; Yang, 2003), thought listing (e.g., Brock, 1967; Greenwald, 1968), and electronically cued checklists such as the Experience Sampling Method and Ecological Momentary Assessment (e.g., Csikszentmihalyi & Larsen, 1987; Shiffman & Stone, 1998). One particular method for exploring individual inner experience that appears to be well suited to the task of exploring the phenomenology of PTSD is Descriptive Experience Sampling (DES; Hurlburt, 1990, 1993). DES will be used over other methods to examine the experience of PTSD in this study for several reasons.

DES is a method developed for obtaining high-fidelity accounts of individual inner experience. The objective of DES is to describe the details of the experience at a given moment while minimizing the generalizations and pitfalls of other methods of exploring experience. Inner experience, for our purposes, refers to anything that is ongoing in an individual's consciousness/awareness at a particular moment. This might include tickles, sounds, sights, thoughts, feelings, images, or whatever else is present in experience at any given moment.

DES participants are provided with a device that emits a beep through an earphone at random intervals. Participants wear this 'beeper' in their natural environment as they go about their daily activities. Participants are instructed to pay attention to what is ongoing in their experience right at the moment of the beep. Participants jot down notes to help them recall their experience at the moment of the beep; specific instructions as to what to jot down are not given to avoid biasing the participant. Participants then repeat this procedure until they have collected six moments of their experience. Within 24 hours of collecting six moments of experience, the investigator conducts an "expositional" interview with the participant.

During the expositional interview, participant and investigator collaborate in an attempt to fully examine and understand each moment of that participant's experience. The interview focuses on the participant's experience by asking various versions of the question "What was ongoing in your experience in the moment before the beep disturbed your awareness?" The investigator attempts to suspend all presuppositions as to the nature of experience and aids the participant in doing likewise. The investigator does not assume she understands what the participant is conveying. Instead, the investigator

attempts to understand the participant's experience through a series of questions and discussion. In order to effectively avoid contamination from pre-held beliefs, the investigator begins the interview by asking very open-beginninged questions (Hurlburt & Akhter, 2006). Throughout the course of the interview, the questions become more specific but do not coincide with any pre-set agenda.

It is the duty of the investigator to ensure that the interview does not reach beyond the limits of the last moment before the beep disturbed the experience and that the conversation remains focused on that very narrow period of time. In addition to this, the interviewer must be very careful to avoid leading the participant in a particular direction. In other words, questions are not predetermined, nor are they leading. The interviewer (and participant alike) should be very careful to avoid being influenced by pre-held beliefs about the world and the nature of experience. In other words, the interviewer should bracket presuppositions and should not assume he/she understands the language or the meaning of the participant's descriptions without detailed exploration.

The investigator writes a description of what she takes the participant's experience at the moment of the beep to have been. Usually there is agreement between the investigator and participant, but that is not essential. There are times when the participant and investigator disagree (for example, when the participant is not able to suspend presuppositions). It is the investigator's responsibility to consider the participant's discrepant input but not blindly to be limited by it. These sample summaries can then be coded using the codebook developed by Hurlburt and Heavey (1999), can be coded for specific content, or both, or neither.

The period of experience sampling with each participant usually ranges in length from four to eight days, with about six sampled moments collected per day. In total, approximately 24 to 48 sampled moments are typically obtained. The first day of sampling is typically considered a training day for participants and thus samples collected on the first day are generally discarded. Participants appear to be able to better report on and understand their inner experience following the first sampling day, and continue to improve upon successive sampling days (Hurlburt & Akhter, 2006; Hurlburt 2009).

DES is an idiographic procedure that attempts to characterize one person's experience. Therefore, when sampling is complete, an idiographic summary highlighting individual salient characteristics of inner experience is written for each participant. Salient characteristics include characteristics that are frequently present across samples of an individual's inner experience. DES can also be used to examine the inner experiences of individuals who have similar externally observable characteristics (e.g., individuals with combat-related PTSD). When used in this manner, several individuals with a shared characteristic are sampled. Qualitative observations of individuals within each group are made, and qualitative observations of group similarities and differences are noted. This can allow for nomothetic characterizations of common experiences.

The primary difference between DES and other sampling methods is that DES asks participants to focus on *whatever is ongoing in their awareness* at the cued moment. In pursuit of this focus, DES uses open-beginninged and open-ended questions; it does not ask that participants note any chosen-in-advance aspect of their environment or experience. Therefore, the DES method allows not only for a reduction with the problems of memory bias and retrospection, and increased ecological validity, but it also provides

an unstructured, qualitative framework from which unanticipated phenomena can arise. Other experience sampling methods (e.g., electronically cued checklists) select in advance those aspects of awareness or experience, such as social or environmental context and activity, as the focus of investigation a priori. In addition, some methods ask participants to report on these dimensions using a structured format. DES is focused only on the participant's inner experience as it naturally occurs to the participant, without the use of checklists or rating scales. DES does not ask the participant to pay special attention to the environment or to physiological changes unless that is what the participant is paying attention to at the cued moment. Additionally, DES provides qualitative descriptions rather than quantitative analyses, thereby providing a picture of individual experience (Hurlburt, 1997).

DES may be able to address some of the methodological concerns relevant to understanding inner experience in a particularly comprehensive manner. Memory decay and the potentially biasing influence of situation- or mood-congruent memory are significantly reduced by the short interval between the event of interest and the examination of that event. DES targets episodic memory because it targets specific, clearly identified moments, thus reducing the likelihood of contamination of reports by semantic memory. For example, when discussing personal accounts of PTSD above, the following quote from a veteran was included:

...yet I thought about my pain every minute of my waking day. I tried to be strong, but I felt so vulnerably weak, and it *did* bother me ... I became increasingly alienated from myself. I split myself into essentially two beings –

what I *should* be versus what I *was* (Paulson & Krippner, 2007, p.142, italics in original).

This statement highlights the importance of carefully exploring experience that is ongoing at externally selected moments and the danger of relying upon semantic memory when assessing individual experience. Although it is possible that this veteran experienced pain during every moment of his waking day, it seems unlikely. And although it is possible that this veteran was intentionally exaggerating the frequency of thinking about his pain, this is unlikely as well. Instead, what may be possible is that this veteran was in fact experiencing a great deal of pain, so much so that in retrospect that pain is remembered as all consuming. However, by using the DES method to explore experience, we may be able to determine whether the veteran's statement is in fact accurate (e.g., were all his sampled moments pain-focused?) or if he sometimes has non-pain related experiences as well.

Errors associated with memory capacity are reduced because DES is interested in only brief, externally selected moments of ongoing experience. Participant reactivity is minimized because the method does not try to invoke processes that go beyond the capture and scope of the experience, and also allows the participant to report the experience without restrictions. Reactivity is also likely to be diminished by the repeated nature of the sampling process spread across a number of days. Ecological validity is maximized in the DES procedure because participants are sampled in their natural environments. Demand characteristics are minimized by training DES interviewers to bracket their presuppositions and to ask open-beginninged, open-ended, unbiased questions. Additionally, DES participants are assured that there are no a priori

conceptions of right or wrong content and that they are co-investigators in the process of understanding their inner experience, thus reducing some of the pressures associated with being in an experimental situation. DES is a procedure that may be able to minimize errors associated with retrospective self-reports. The DES method is primarily an exploratory method in which the objective is to obtain a faithful account of an individual's inner experience. There is no other pre-determined task of the DES method.

Although DES aims to obtain high-fidelity accounts of inner experience, and investigators are trained in the method, there is no guarantee that this aim will be met. DES strives to minimize the problems with retrospective forms of self-report, increasing the likelihood of gaining faithful, unbiased reports of inner experience. However, the effectiveness of the method also depends upon the skill and training of the investigator and how well they implement DES in any specific investigation. Ultimately, DES is only as good as the investigator using it in that instance.

The Present Study

The present study employed Descriptive Experience Sampling (DES) to explore the inner experience of veterans with combat-related PTSD. PTSD is essentially a disorder of inner experience and thus a clearer view of the actual experience of those suffering from PTSD may be valuable for the science and treatment of PTSD.

The study involved two phases: screening and sampling. During the screening phase, volunteers from within the UNLV community, as well as the community at large, were recruited via on-campus and community-wide advertisements. Respondents were given a PTSD screening measure. Seven participants who reported significant symptoms

of combat-related PTSD were asked to participate in the sampling phase of the study. During the sampling phase participants took part in DES for five to nine days.

The data were examined as follows: the investigator reviewed the pristine experiences for each participant and described any salient characteristics or patterns of inner experience. The investigator then created a detailed, idiographic description for each participant, noting evident aspects of the form, content and nature of the moments of experience. The investigator then examined the extent to which there appeared differences or commonalities in the nature of the inner experience of the participants and the extent to which identified commonalities and differences corresponded with other characteristics of the individuals, such as severity of PTSD symptoms, depressive symptoms or anxiety symptoms.

CHAPTER 3

Methodology

This study proceeded in two phases; the screening phase and the sampling phase. The screening phase was used to identify and recruit participants. During the sampling phase, inner experience was explored.

Screening Phase

Participants.

Twenty-three veterans from the UNLV campus and greater Las Vegas community completed the Posttraumatic Stress Disorder Checklist, Military Version (PCL-M; Weathers, Litz, Huska & Keane, 1994). Participants were recruited through the use of flyers and online advertisements during the Fall 2009 and Spring 2010 semesters. Screening continued until seven individuals qualified for the sampling phase of the study.

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 indicate how frequently they have been bothered by each symptom (e.g., hypervigilance, nightmares, flashbacks, avoidance, social isolation, etc.) in the past month on a 5-point severity scale ranging from 1 (*not at all*) to 5 (*extremely*) with higher scores indicating greater symptom severity. Examples of items 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 in two ways in order to yield either a continuous measure of symptom severity, or a dichotomous indicator of diagnostic status (Keane, Brief, Pratt, & Miller, 2007). Cutoff scores are provided by Weathers et al. (1994) with a score of 44 and above in the general population, and 50 and above in the military population, considered to be PTSD positive. The PCL-M has been used in both research and clinical settings and takes approximately 5-10 minutes to administer (Keane et al., 2007). The PCL-M was originally validated in a sample of Persian Gulf and Vietnam War veterans and was found to have strong psychometric properties (Keane et al., 2007). The PCL-M has high internal consistency for the total scale and each subscale (.97 and .92-.93, respectively; Norris & Hamblen, 2003). The PCL-M has been shown to correlate highly with clinician-administered measures of PTSD (Norris & Hamblen, 2003). Test-retest reliability over a 2-3 day time interval is high (.96; Keane, et al., 2007).

A demographic questionnaire was used to collect information concerning participant name, address, phone number, age, sex, race/ethnicity, marital status and education level. The demographic questionnaire also included questions regarding the dates of military deployment to Iraq or Afghanistan and whether or not the respondent saw active combat while deployed to a combat zone.

Procedure.

The investigator posted University IRB-approved flyers with study information throughout the UNLV campus. Various military organizations were contacted, including the UNLV Student Veterans Organization, the Army Reserves and the Las Vegas

Veterans Administration, who agreed to distribute information regarding this study to their constituents. Recruitment flyers were also mailed electronically through the UNLV Today email system. The investigator provided information to interested parties over the telephone, and arranged individual meetings with potential participants during the Fall 2009 and Spring 2010 semesters.

Volunteers completed the screening battery (PTSD Checklist – Military Version, and demographic form) in the Experience Sampling Lab at UNLV, which took approximately 15 minutes. Prior to completing the measures, informed consent was explained and obtained. All participants who completed the screening phase were provided with a list of community resources in the event they wished to seek counseling services for possible PTSD symptoms or other psychological symptoms. The screening measures were then collected and scored while the participant waited. Participants with a qualifying score on the PCL-M (50 or greater) were then invited to participate in the sampling phase of the study. Participants who did not have a qualifying score on the PCL-M were debriefed and thanked for their time.

Sampling Phase

Participants.

Of the 23 participants screened, eight had scores above the cut-off for PTSD (50) on the PCL-M. All eight were invited to participate in this phase of the study and all eight agreed to do so. All were veterans of the Iraq and Afghanistan wars. However, one participant dropped out of the study following the first sampling day citing a busy schedule; he is not included in this report. Of the remaining seven participants who completed the study, six were veterans of the Iraq war, Operation Iraqi Freedom (OIF),

and two were veterans of the Afghanistan war, Operation Enduring Freedom (OEF); it should be noted that one participant deployed to both Iraq and Afghanistan. The demographic information for participants from this phase of the study is included in Table 1. The mean age of the sample was 26 years. Each participant in this phase received \$10 for every expositional interview.

Table 1

Demographic Characteristics of Sample (N=7)

Characteristic	Participants	
	n	%
Sex		
Female	0	0
Male	7	100
War		
Iraq	6	86
Afghanistan	2	28
Ethnicity		
African American	0	0
Pacific Islander	1	14
Caucasian	4	57
Hispanic	2	29

Measures.

The Beck Depression Inventory-Second Edition (BDI-II; Beck, Steer, & Brown, 1996) is currently the most widely used measure for assessing the severity of depression. The BDI-II is a 21-item self-report measure for use with individuals over 13 years of age. The BDI-II takes approximately 10 minutes to administer. The BDI-II uses DSM-IV diagnostic criteria to assess for depressive symptoms over the preceding 2 weeks.

Symptom intensity is measured on a 4-point scale ranging from 0-3; higher scores indicate more severe symptoms. Scores falling in the 0-13 range indicate little to no depression; scores in the 14-19 range indicate mild depression; scores in the 20-28 range indicate moderate depression and scores in the 29-63 range indicate severe depression. Overall the BDI-II has been shown to have excellent test-retest reliability over a period of seven days (.93; Beck et al., 1996) and excellent internal consistency (.93; Dozois, Dobson, & Ahnberg, 1998).

The Beck Anxiety Inventory (BAI; Beck & Steer, 1993) is a measure of anxiety that is widely used in both clinical and research settings. The BAI is a 21-item self-report measure for use with individuals over 17 years of age. The BAI takes approximately 10 minutes to administer. The BAI assesses for anxiety symptoms over the preceding week. Symptom intensity is assessed on a 4-point scale with higher scores indicating higher subjective levels of anxiety. The BAI total scores range from 0 to 63, with scores above 26 indicating severe anxiety, scores in the 16-25 range indicating moderate anxiety, scores in the 8-15 range indicating mild anxiety, and scores in the 0-7 range indicating minimal anxiety. The items measured on the BAI include anxiety-related physical sensations such as numbness and shakiness and affective anxiety-related experiences including fear and inability to relax. The BAI has excellent psychometric properties including .92 internal consistency and .75 test-retest reliability over a period of seven days (Steer & Beck, 1997).

Apparatus.

In order to sample random moments of inner experience, this study employed a pocket-sized beeping device developed by Hurlburt. The beeper is a rectangular device

that generates a 700-Hz tone at random intervals. The time at which a beep occurs is random with a mean duration between signals of 30 minutes and a range of 0 to 60 minutes. The beep is delivered by an earphone that is used to provide a signal with rapid rise time and one that does not disturb the external environment. The volume of the beep is adjustable to accommodate different situations and ambient noise levels. Participants terminate the beep and reset the beeper by pressing a button on the top of the beeper. Participants in this study were provided with an earpiece and a pocket-sized notebook in which to write notes about their experience at the moment of the beep.

Procedure.

Participants from the screening phase who qualified for the sampling phase of the study were asked to participate in the sampling phase of the study. Individuals who agreed to participate in the sampling phase were provided with an initial introductory session during which informed consent for the sampling phase of the study was obtained, confidentiality was explained, the BDI-II and the BAI were completed, and participants were advised that they could discontinue participation in the study at any point and for any reason with no penalty.

The nature of the DES method and procedure were then explained in detail to the participants. Participants were shown the operation of the beeper device, how to turn the beeper on and off, how to adjust the volume of the beep, and how to reset the beeper. Participants were provided with a small notebook and instructed to jot down notes about their experience at the moment of the beep.

In DES, the participant is considered a partner or co-investigator and is encouraged to be open and honest about his inner experience. In addition, the participant

is given the right to refuse discussion of any sensitive material of his choosing and the investigator explicitly agrees to respect the participant's privacy at all times. If the participant does not wish to discuss any aspect of his experience, the participant is asked to indicate explicitly that this is the case and the discussion of the entire experience is omitted. The participants in this study were made aware of their co-investigator status and their right to privacy.

Participants were asked to collect six consecutive samples of inner experience during a block of time of their choosing, usually about three hours. The moment of the beep was explained to the participants as the last fraction of a second before their inner experience was disturbed by the beep. Participants were not provided with detailed instructions regarding what to jot down or what to pay attention to at the moment of the beep; this was left up to the discretion of each participant, in order to gain the purest account of the unique inner experience possible. In order to maintain keep the participant's focus on the experience and not on what he wrote about the experience, the particulars of what the participants wrote in their notebooks were never seen by the investigator unless the participant explicitly asked to share this information.

An hour-long "expositional interview" was then scheduled to take place within 24 hours of each sampling day. This was done in order to reduce the decay of the memories of the moments of experience. During these expositional interviews, the investigator and the participant discussed the six sampled moments in great detail with the aim of reaching a shared understanding of the participant's inner experience at each moment. These interviews all took place in the Experience Sampling Lab and were videotaped with the participant's consent. Only one participant did not consent to videotaping, and was

instead audio-taped. The investigator conducted all of the interviews with the participation of Dr. Heavey, Dr. Hurlburt, or usually, both. During the expositional interview the investigators and participant discussed each sampled moment until the investigators each, singly, believed that the point of diminishing returns had been reached in the deepening of the apprehension of the sampled experience. This investigator took extensive notes during each discussion and following the interview wrote a summary of each moment of experience. All sample summaries were then thoroughly discussed and examined by both Dr. Heavey and Dr. Hurlburt as part of the faithful apprehension process.

The process of collecting six moments of inner experience and meeting within 24 hours for an expositional interview was repeated for a total of five to nine sessions per participant. A breakdown of the number of expositional interviews and moments of experience collected per participant is provided in Table 2. After the DES process was completed for each participant, the investigator conducted a thorough exit interview with each participant. During this exit interview, the participant was asked questions regarding the nature of the traumatic event(s) experienced, and was given the opportunity to share other relevant information and to ask questions. Finally, following the completion of sampling with all participants a series of meetings were conducted by this investigator and Drs. Heavey and Hurlburt. During these meetings, the sample summaries were used to awaken, as much as possible, the original pristine experience of participants. When it was felt necessary, original videotapes were reviewed in order to enliven the reconstruction of the original pristine experience. The goal of these meetings was the emergence of salient characteristics across samples in order to obtain a “big picture” view

of each participant, and thus each sample summary was used as a tool toward that end. At times, an individual sample may have been left incompletely understood or conflictingly understood; at other times older samples were revisited in light of an emerging salience that was not grasped at the time of the original discussion. Throughout these meetings we raised alternatives, raised questions, disagreed, debated and so forth. Ultimately, we strove to say something, individually and collectively, about the emerging salient characteristics of our participants' experiences.

Following the above-described discussions, the investigator developed a final description of the nature of each individual's inner experience, highlighting prominent characteristics and conveying as well as possible the true nature of each individual's experience. The investigator then examined the extent to which there existed similarities or differences in the nature of the inner experience of the participants and the extent to which any identified similarities or differences corresponded with any identifiable characteristic of the individuals, for example, with severity of reported depressive or anxiety symptoms. Finally, the investigator compared each participant's qualitative results to his or her results on the PCL-M questionnaire in order to determine whether there existed any patterns or correlations between scores on the PCL-M and patterns of inner experience.

Table 2

Number of Expositional Interviews & Samples Collected

Participants	Sampling Information	
	Expositional Interviews	Samples Collected
Jacob	7	33 (39)
Brandon	5	25 (29)
Louis	6	28 (34)
Andrew	7	32 (38)
Peter	9	42 (45)
Geoff	6	27 (31)
Mark	8	41 (46)

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.

Sample Characteristics.

The seven participants who started and completed the second phase of the study were assessed for the possibility of comorbid 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

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

Participant	PCL-M	BDI-II	BAI
Jacob	62	17	12
Brandon	56	21	6
Louis	59	12	3
Andrew	53	15	13
Peter	43	23	13
Geoff	79	26	20
Mark	60	11	11
Mean	58.86	17.86	11.14
S.D.	10.88	5.67	5.46

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 individuals who participated in the second (sampling) phase of the study. The PCL-M is widely used in clinical practice as a screening tool for PTSD symptoms. The BDI-II and BAI are among the most widely used instruments for assessing depressive and anxiety symptoms in clinical practice. In examining Table 3, the PCL-M scores range from 43 to 79 across participants (M = 58.86, SD = 10.88). The cutoff score determined by the developers of the PCL-M is 50, with scores above this cutoff indicating significant PTSD symptoms. All participants in the study with the exception of one met this cutoff score. This indicates that 86% of the participants met criteria for PTSD according to this screening tool. One participant (Peter) obtained a score below the cutoff suggested by the authors of this measure. However, he was included in this study as he described significant PTSD symptoms that

had been ongoing for an extended period of time. He reported that because his symptoms were ongoing for such an extended period of time, he had almost “habituated” to his symptoms to the extent that although still distressing, he’d become used to the level of distress.

The BDI-II scores ranged from 11 to 26 across participants ($M = 17.86$, $SD = 5.67$). Of the seven participants in the present study, two (28%; Mark and Louis) endorsed symptoms consistent with minimal comorbid depression; two (28%; Jacob and Andrew) endorsed symptoms consistent with mild comorbid depression; three (43%; Brandon, Peter and Geoff) endorsed symptoms consistent with moderate comorbid depression; and none of the participants endorsed symptoms consistent with severe levels of depression as measured by the BDI-II. Thus, there was wide variability in the relative presence of comorbid depressive symptoms across participants, with 57% of the participants endorsing only minimal to mild levels of depression and 43% endorsing moderate levels of depression. Despite the heterogeneity of comorbid depressive symptoms among these seven participants, we did not detect substantial differences in DES results among participants with minimal/mild versus moderate levels of comorbid depression.

The BAI scores ranged from 3 to 20 across participants ($M = 11.14$, $SD = 5.46$). Of the seven participants in the present study, two (28%; Brandon and Louis) endorsed symptoms consistent with minimal comorbid anxiety; four (57%; Jacob, Andrew, Peter and Mark) endorsed symptoms consistent with mild comorbid anxiety; one (14%; Geoff) endorsed symptoms consistent with moderate comorbid anxiety; and none of the participants endorsed symptoms consistent with severe levels of comorbid anxiety as

measured by the BAI. Thus, there was less variability in the relative presence of comorbid anxiety symptoms across participants, with 86% of the participants endorsing only minimal to mild levels of anxiety and 14% (one participant) endorsing moderate levels of anxiety. We did not detect differences in DES results among participants with minimal/mild versus moderate levels of comorbid anxiety.

In summary, Table 3 demonstrates there was a range of comorbid depression and anxiety across participants as measured by the BDI-II and BAI, with the majority of participants reporting minimal to mild depressive and anxiety symptoms. Despite this range of comorbid symptomatology, there were no significant differences in individual DES results between those with low versus high comorbid depressive or anxious symptoms. This is consistent with the extant literature regarding PTSD, in which heterogeneity in the frequency of comorbid depression and anxiety (and other psychiatric disorders including substance abuse) is the norm.

CHAPTER 4

Idiographic Description of Jacob's Experience

The following sections discuss the data on two levels: idiographically, or per individual subject, and collectively, or across all participants. Chapters 4 through 10 are idiographic descriptions of each individual participant's inner experience as discovered by DES, and Chapter 11 describes the patterns and salient characteristics of inner experience discovered across all seven participants. The chapters are presented in chronological order, in other words, we sampled with Jacob first, therefore, his chapter is presented first; we sampled with Brandon second and his chapter is presented second, and so on. This and the next six chapters will illustrate the nature of inner experience in each of the seven sampling phase participants. After these seven individual chapters, Chapter 11 will provide the results of the study by summarizing the commonalities and differences in experience across participants. Chapter 11 will also provide a discussion of results and implications for future research.

Jacob was a 27 year-old Caucasian male who sampled with us during November and December 2009. Jacob met the criteria for significant PTSD symptomatology on the PCL-M and considered himself to have symptoms of PTSD following his deployment to Afghanistan. Jacob also received a diagnosis of PTSD from a local health clinic in the past year. Jacob was not in treatment for PTSD at the time of sampling. Jacob was in the Marine Corps for a total of five years and was deployed to Afghanistan once for nine months, from late 2005 to early 2006. Jacob described seeing many of his friends die while in Afghanistan, leading him to ultimately to decide to leave the military. He reported that his time in Afghanistan lead him to learn to "become emotionless." He said

that if he let himself experience emotion, he would not have been able to handle the things he saw there. Jacob said that this lack of emotionality continues currently in his personal relationships and throughout his current life. However, Jacob went on to say that he has also noticed that he has become an increasingly angry person and tends to lose his temper more frequently than prior to his Afghanistan deployment; he said that at times he gets so angry “that I want to hurt people.” Jacob reported to us that it was his personal belief that his entire experience in Afghanistan, and not just one event, lead to his PTSD symptoms.

Jacob collected a total of 39 samples over seven sampling days and attended an expositional interview within 24 hours of each sampling day. Samples collected on his first sampling day were considered training samples and will not be discussed in-depth unless they aid in clarifying explanations of subsequent samples. After discarding the samples from the first day of sampling, we were left with 33 samples.

As shown in Table 4, a salient phenomenon in Jacob’s inner experience was unsymbolized thinking with eight of Jacob’s 33 samples (24%) involving unsymbolized thinking. Jacob also experienced inner seeing in eight of his 33 samples (24%). Five of his 33 samples (15%) involved sensory awareness. In five of his 33 samples (15%) Jacob was simply engaged in a task with little in his awareness – this phenomenon is termed just doing. Three of Jacob’s 33 samples (9%) involved instances of “concentrated doing.” Jacob experienced direct feelings in one sample (3%) and he did not experience inner speaking in any of the samples collected.

Table 4

Frequency of Inner Experience Phenomena for Jacob (33 samples)

	Number of Samples	Frequency (%)
Unsymbolized Thinking	8	24
Inner Seeing	8	24
Sensory Awareness	5	15
Just Doing	5	15
Concentrated Doing	3	9
Feeling	1	3
Amusement	2	6
Inner Speaking	0	0

Note: All totals in the table are approximations.

Unsymbolized thinking.

Unsymbolized thinking is the experience of thinking a clear and specific thought without accompanying words, images, or any other symbols (Hurlburt & Akhter, 2006). Unsymbolized thinking occurred in eight of Jacob’s 33 samples (24%). The following are two examples of unsymbolized thinking, one taken from early on in sampling and the other toward the end of sampling.

Sample 2.1: Jacob had just said the word “treat” to his dog who had responded by becoming excited. At the moment of the beep Jacob is wondering whether his dog really understands him or whether the dog’s reaction is habit. Jacob does not experience words, images, or any other symbols as part of this wondering.

Sample 6.5: He was on the computer, reading the names of dentists on his insurance provider's website. At the moment of the beep, he is both reading the name, "Nancy Nguyen" and wondering why so many of the dentists have Vietnamese last names, and why there are so many Vietnamese dentists. This wondering has no characteristics (no words, images). Mostly he is wondering why there are so many Vietnamese dentists; the reading is pretty close to just happening on autopilot.

In both these samples Jacob was confident that the wondering was a directly experienced thought even though there were no words or other symbols. The thought content was clear and differentiated. These samples are representative of the unsymbolized thoughts Jacob described over the course of sampling, and similar to unsymbolized thoughts described by other participants.

Inner seeing.

Similarly to his reports of unsymbolized thought, Jacob reported inner seeing with relative consistency throughout the course of sampling (e.g., one to two reports per sampling day on days two through seven). Inner seeing is the experience of seeing something that is known to be not actually present (Hurlburt & Heavey, 1999). Jacob reported inner seeing in eight of his 33 samples (24%). Two of his inner seeings were heavily tied to emotion and appeared somehow to represent emotion that was not directly experienced. These two instances of inner seeing (Sample 4.4 and Sample 6.1) will be discussed later, in the feelings subsection. The remaining six instances of inner seeing are all compelling from various standpoints, including complex inner seeing, sensorily-

focused inner seeing, and imageless seeing. In the following inner seeing, Jacob's awareness was sensorily focused:

Sample 7.4: Jacob was on the phone with his uncle, who had just asked Jacob how to get from the South Point hotel to the Las Vegas airport. At the moment of the beep Jacob is innerly seeing the South Point hotel and the intersection in front of it, from the perspective of diagonally across the street, looking up at the hotel. He innerly sees the intersection, the hotel, and an empty parking lot, but mostly he is drawn to the goldness of the innerly seen hotel's windows.

Note that Jacob is drawn particularly to the innerly seen goldness of the windows even though his task, figuring out directions from the hotel to the airport, has nothing at all to do with the goldness. Also, in retrospect, Jacob was surprised that he had been seeing an empty parking lot, where in his real experience that parking lot was always occupied with cars. This surprise was not part of his experience at the moment of the beep.

Sample 3.4: At the moment of the beep Jacob is hoping that it is not going to be breezy the next night when he is working outside. This hoping is innerly seeing three palm trees as if he were standing on the roof of the parking garage where he works. The palm trees are swaying to the left from a strong breeze coming from the right.

Note that in this sample, Jacob's hoping is somehow represented by innerly seeing palm trees swaying in the wind. The inner seeing and the hoping are apparently one thing (but see sample 6.4, discussed in the sensory awareness subsection below).

One of Jacob's eight inner seeing samples involved the experience of seeing without the simultaneous experience of the thing seen. Hurlburt and Heavey (1999) called this phenomenon "imageless seeing."

Sample 6.3: At the moment of the beep Jacob is innerly seeing money and a ring, except that the money and the ring themselves are not being seen. That is, Jacob is confident that he is innerly seeing and that the inner seeing is of money and a ring, but equally confident that the money and ring themselves are not innerly experienced at the moment of the beep.

The timing of one inner seeing seemed to us to be noteworthy.

Sample 5.4: He was texting his best friend about the UFC fight between Jon Jones and Matt Hamil, which had taken place the previous night. At the moment of the beep, he innerly sees Jones "12 to 6" elbowing Hamil in the face. He sees Jones' back and right side from a slight right angle, sitting on top of Hamil who is lying on his back. He sees Jones' elbow come straight down and hit Hamil in the face. He apparently sees this just as he had seen it on TV. At the same time he is texting his friend regarding the "12 to 6" elbow assault on Hamil, but this is not in his awareness at the moment.

It seemed to Jacob that at the moment of the beep he was innerly seeing the match as a continuous unfolding stream from beginning to end, just as he had seen it on TV; that is, it seemed to Jacob that the beep *just happened* to catch the elbow assault. However, if that was indeed so, it seems quite coincidental that he just happens to be seeing the elbow assault and texting about the elbow assault at the same time. We don't know how this occurs; perhaps his seeing was slowed down but the slowness not recognized; perhaps

this scene was being repeated several or many times but the fact of the repetition was not recognized; perhaps the scene was really frozen but included the intimation of temporal unfolding. This was the only one of Jacob's samples where we recognized this type of coordination of the timing of two events.

The inner seeing described below was unusual in its level of detail, and interesting in that it paralleled Jacob's actual actions at the moment while adding a certain level of surrealism.

Sample 2.2: Jacob was walking toward the refrigerator to get a glass of fresh orange juice. At the moment of the beep Jacob is innerly seeing himself from a third-person perspective from his right, opening the refrigerator door with his left hand and reaching into the refrigerator with his right hand. The refrigerator is "see-through" as though its walls are made of glass. He is innerly seeing himself reaching all the way into the back of the refrigerator with his hand come out the back of the refrigerator into an orange orchard. Another hand is reaching out of a tree towards Jacob's hand, handing him a clear glass full of orange juice.

Jacob noted during our interview that he had wanted a glass of orange juice and had decided to go to the kitchen to get one when the beep went off. This and other examples indicated that when Jacob created inner seeings they were often rich visual representations of what he was thinking about at the time.

The experience of emotion.

A feeling is an emotional experience, including sadness, happiness, humor, anxiety, joy, fear, nervousness, anger, embarrassment, and so on (Hurlburt & Heavey, 2002). Jacob reported one instance of directly experienced feeling, presented below:

Sample 3.3: Jacob was walking his dog in the park in his neighborhood. His dog had just pooped and he had picked it up and was throwing it away. At the beep he was looking at a pile of dog poop on the grass, wondering why people don't pick up their dog's poop. This wondering was occurring without any words or images. He was also feeling moderately irritated. The irritation did not have any location, sensations or other experiential details.

In the above sample, Jacob was feeling irritated. Jacob was unable to provide additional information regarding his feeling of irritation beyond the simple one-worded descriptor.

In another sample, Jacob had the experience of the *absence* of feeling:

Sample 3.2: Jacob was at home watching a football game with his roommate. The Cowboys had just scored a touchdown to get ahead in the game and Jacob had just given his roommate a hard high-five as part of a ritual they perform after each Cowboys touchdown. At the moment of the beep he is feeling a pleasant *lack of tension* throughout his body. The lack of tension is spread evenly and diffusely throughout his body, possibly including his head.

In this sample Jacob called something a feeling that was apparently not felt. He reported that his experience was one of feeling (feeling a lack of tension), however, this experience was certainly different from most feeling reports from other participants, which include the presence of experience and not the absence of any experience as Jacob described. The feeling of "lack of tension" described by Jacob may be representative of Jacob's lack of integration of feeling experience; he was able to recognize a component of a feeling (the lack of tension component), but was unable to integrate the other feeling components skillfully

The following instance of inner seeing was apparently heavily tied to ongoing emotion without feeling:

Sample 6.1: Jacob was on the computer, looking at the UFC website and reading a Twitter posted by Diego Sanchez that read, “Bringing the storm from San Diego to Memphis.” This quote reminded Jacob of the arrogant, cocky nature of Diego Sanchez. At the moment of the beep Jacob innerly sees Diego Sanchez doing his post-fight commentary/interview. He sees Sanchez from the chest up, facing forward, speaking into a microphone, however there is no sound as part of or accompanying this seeing. He is focused on Sanchez’s face, on his “little, arrogant smile” in particular. Whereas he clearly *is* critical of Sanchez, he does not *feel* critical at the moment of the beep.

This sample illustrates ongoing emotional experience without feeling. During the expositional interview, every time Jacob mentioned Sanchez his face and shoulders screwed up in evidently powerful disgust; furthermore, Jacob repeatedly said he was disgusted or otherwise extremely negatively disposed towards Sanchez’s arrogance. However, despite focusing on the arrogance of Sanchez’s “little cocky smile,” Jacob was insistent that he was not experiencing dislike, disgust, or any feeling at the moment of the beep. It is likely that Jacob was indeed disgusted at the moment of the beep, but that disgust was his state, and not experienced as a feeling. In other words, it is possible that emotion was present and ongoing but *outside* of experience. We see the presence of outside-of-experience or ongoing emotion without directly experienced feeling again in the following sample.

Sample 4.3: Jacob had been watching football on TV and a commercial for the Marines had come on. As he watched, the commercial tell the story of young men who had enlisted in the Marines, gone through boot camp, and then to the Silent Drill Team, a chill had overcome him—a wave of goosebumps had suddenly tingled across the surface of his entire body, head to toe. The chill was not of coldness, but was a good feeling. He was much more aware of the tingly goosebumpiness than of the commercial, though he was still paying attention to the commercial.

In this sample, we understood Jacob’s experience to be primarily of tingly goosebumps. It is a fact of the universe that Jacob is proud of his own Marine service, proud of having done what the men in the commercial had done. We accept as fact that the goosebumps were related to the pride: he metaphorically referred to this good feeling as a sense of pride, like “standing up tall” or “being 10 feet tall.” What is unclear here is whether he experienced goosebumps (a sensory experience), which he, on reflection, could say were part of pride; or whether he experienced pride (a feeling), which on reflection he could say manifested itself in part by the goosebumps. This is a close call, depending on the understanding and interpretation of the details of what Jacob said during the interview, but our best understanding is the former: the goosebumps were immediately experienced as a bodily sensation that were later interpreted as being pride. Another example of state versus experience is provided below:

Sample 4.4: He had installed the new version of iTunes on his computer and it was not working. He had clicked four times on the place where his music was supposed to be, but it kept telling him it was not there. At the moment of the beep

he intensely wants to break his computer. He innerly sees himself throw his computer, a laptop, out the window near where he is sitting. From a first-person perspective he sees his right arm draw back with his computer in his hand and then throw the computer like a Frisbee through one of the three small kitchen windows in front of him. He sees the window shatter as the computer goes through it. He is confident that even though the inner seeing expresses the desire to break the computer, he also has, apart from the inner seeing, a strong urge to break the computer. It is impossible for him to put this break-the-computer urge into words other than to say it is clearly apprehended as ongoing at the moment of the beep, and that it exists in parallel with the inner seeing. [He noted that he often has the desire to break something when he is angry and that he has a sense that if he does break something, he feels better, though this was not in his awareness at the moment of the beep].

Notably, there was no experienced feeling of anger or frustration at the moment of this beep. It appeared unquestionable that Jacob *was* in fact in an emotional state of intense anger/frustration – he even says that he was angry and when he is angry he wants to break things; however this anger/frustration was not directly present to Jacob at the moment of the beep. The urge to break the computer, and the inner seeing of himself break the computer, appeared somehow to be experiences that were related to an ongoing but outside-of-experience emotion of anger/frustration. Again, in this example, as in the goosebumps example, Jacob's emotional state (e.g., pride, anger, disgust) was ongoing, without the direct and integrated apprehension of the feelings associated with the state. In

other words, the emotion, though ongoing, was not fully experienced by Jacob at the moment of the beep.

Although we have indicated that samples collected on the first day of sampling are considered unreliable, we feel that a discussion of Jacob's emotion-sample is important. Specifically, the fact that Jacob showed the ability and desire to describe in detail an instance of emotional experience indicates that he was not lacking the verbal ability to do so. In other words, the infrequency of his reports of clear feeling experience discussed above are not necessarily attributable to a deficit in his ability to describe emotional experiences, as evidenced by this sample from the first sampling day:

Sample 1.3: Jacob was at the park, taking his dog for a walk. His dog was not on a leash and was running around with another dog that was not on a leash. The two dogs had just run up to a man whose dogs were on a leash, and a second or so before the beep the man had angrily and arrogantly said, as if to no one but obviously aimed at Jacob, "People should really keep their fucking dogs on a leash!!" At the moment of the beep anger explodes through Jacob's body, an intense heat that instantaneously spreads throughout his entire body—trunk, arms, legs, head, everywhere. The heat is intense, like being outside in the Las Vegas desert sun, but the heat is mostly inside his body, not particularly on the surface. (This heat occurs instantly and reaches full intensity immediately, and causes Jacob to break out in a sweat, but none of that is in his experience at the moment of the beep.) Jacob also feels his heart racing. At the same time, he is seeing the man, head-to-toe, but instead of seeing the fully detailed man (as he had been

seeing him before the incident), he is seeing only the outline of the man, as if the man existed as “a target” standing in front of him.

What can be drawn from this report of feeling is that Jacob has the vocabulary and willingness to describe feelings. Jacob was able to articulately use words that described the experience of rage. Whether he actually *experienced* rage at the moment of the beep, or whether he was in a *state* of ongoing rage that was not directly experienced is unclear. However, the fact that Jacob had the vocabulary to clearly describe feelings greatly decreases the likelihood that his infrequency of clear feeling experience or the sparseness of detail in feeling samples as sampling progressed was simply a result of an inability or unwillingness to report feelings.

The experience of emotion was for Jacob a complex phenomenon. Jacob straddled a space between “lack of directly experienced feelings” and “presence of directly experienced feelings” albeit his feelings were particularly unskilled or simplistic in manner. What we have learned in our course of sampling with Jacob is that we cannot definitively state that he did or did not have feeling experience. We can however describe his feeling experience as less skilled than what we have seen in other individuals, with messier, blurrier boundaries between ongoing emotional states and the experiential aspects of those ongoing emotions.

There are a number of possibilities for why this may be. For example, in sample 3.3 (presented above) perhaps Jacob was unable to elaborate because did not have the right words to describe the feeling of irritation; perhaps he knew what irritation felt like, but just did not have the vocabulary to transmit that information to us. This explanation is highly unlikely, as we have already seen that Jacob clearly has feeling vocabulary.

Another explanation is that Jacob was in fact feeling irritation, but that his level of “feeling” skill is low – he was able to apprehend that a feeling was present, but was unable to integrate the components of the feeling to such a degree that he experienced a “full-fledged” feeling. Instead, he experienced something he labeled as irritation, but was unskilled at experiencing that irritation. Jacob also appeared to have emotional states *without* corresponding feelings, lending more evidence to the theory that he may be an unskilled “feeler” with little integration among the various components of his emotions. It is also possible that as Jacob became better able to tell the difference between general state-of-being and directly apprehended experience over the course of sampling, he discovered that there was little or no feeling experience to report.

What is at stake here is the understanding of Jacob’s emotional processes and how (or if) they are felt. This again brings us back to Jacob’s level of “skill” at experiencing and feeling emotional processes. We begin with the belief that feeling is a skill; like all skills, some people are more proficient, some less. On this view, proficiency in feeling requires the coordination or integration of disparate elements (heart rate, stomach contractions, hair on the back of the neck, pupillary dilation, erection of the skin’s papillae, and so on) while also determining which are and which are not relevant to any particular feeling. In a person who is highly skilled at feeling proud, for example (see sample 4.3) the first hint of the papillae erection, along with the slight stomach contraction, along with the slight straightening of the body, and so on, would be immediately felt as the appearance of pride. Someone who is less skilled at feeling proud might not quickly integrate those disparate events, and instead might experience the goosebumps, failing to note the corresponding stomach contraction and straightening, and

so on. On retrospection, with the luxury of time to integrate and interpret, individuals of either skill level would recognize that the goosebumps were a part of pride. So the question is, was Jacob's experience consonant with the immediate at-the-moment-of-the-beep experience of pride, or consonant with the immediate at-the-moment-of-the-beep experience of goosebumps? That determination is based on the interpretation of the entire interview, what was said and not said, how it was said, what was asked and not asked, and so on. Our best judgment, made with due skepticism, was that Jacob was experiencing goosebumps, not necessarily pride, at the moment of the beep.

We accept that Jacob may have had a way of describing the goosebumps that led us inadvertently to this conclusion—that is, that he felt proud at the moment of the beep, but for whatever reason stressed the goosebumpiness. We tried to tease those options apart, but we accept we might be mistaken.

This understanding applies also to Jacob's focus on Sanchez's cocky smile in sample 6.1: that focus seemed to have been a part of or was triggered by an ongoing but not experienced emotion (disgust), but that emotion itself was outside of experience.

Finally, two of Jacob's 33 samples (6%) involved what we have termed amusement or laughter:

Sample 7.2: Jacob was holding the dog's leash, getting ready to take the dog out on a walk. At the moment of the beep Jacob is watching his dog jump up and down in anticipation of going outside. There is amusement that is associated with seeing his dog jump up and down. It is unclear, however, whether that amusement is in Jacob's awareness at the moment of the beep or whether he became aware of

the amusement after the beep, when assessing what was happening at the moment of the beep.

Sample 7.6: Jacob was watching *The Office* with his roommate. Michael, a character on the show, had just said, “Football is like rock and roll, basketball is like jazz.” Jacob found this a funny and stupid thing to say. At the moment of the beep Jacob is laughing. His laughing has a “[Michael’s]-an-idiot” quality to it, but Jacob is not aware of this at the moment of the beep.

In the two above samples Jacob did not describe the amusement as a feeling, nor did he describe it as a thought. Instead, he said that he was simply laughing and amused. This difficulty with describing the experience of laughter/amusement is encountered repeatedly with other participants in this study and other DES studies.

Sensory awareness.

Jacob experienced sensory awareness in five of his 33 samples (15%). A *sensory awareness* is a sensory or perceptual experience (itch, hotness, pressure, visual taking-in, hearing) that is itself a primary theme or focus for the subject. Sensory awareness may be bodily (itch, tingle, pain, pressure, hotness, coldness, shiver, stiffness, etc.) or external (noting the color of a flower, smelling gasoline, taking in the characteristics of a sunrise, hearing the scratching of the cat at the door, etc.; Hurlburt & Heavey, 2002; Hurlburt, Heavey, & Bensaheb, 2009). Jacob’s sensory awarenesses were varied, with two instances focused on taste, one instance focused on the visual characteristics of what he was seeing and one instance with multiple sensory aspects (visual and textural). In one instance, Jacob’s sensory awareness was bodily, the goosebumps sample (4.3) described in the feelings subsection above. In two of his sensory awareness experiences Jacob was

tasting something he was eating. In the first of these two taste experiences (sample 3.5), Jacob was eating Spam and tasting the salty, ham-like taste of Spam and simultaneously wondering to himself what was in Spam (an unsymbolized thought). In his second taste experience Jacob was tasting the pizza in his mouth (sample 5.3). Both these examples are straightforward instances of sensory awareness. Jacob's third instance of sensory awareness was somewhat more complex.

Sample 6.4: Jacob was in the bathroom looking in the mirror. At the moment of the beep he is looking at the shape of a chip in a tooth in the bottom row of his teeth. His way of looking at this tooth somehow represents to him that he should go to the dentist.

Jacob referred to this as a “visual thought” but was adamant that there was no separable cognitive experience (e.g., no inner speaking, no unsymbolized thinking, etc.). This instance appeared to be more complex than a straightforward, purely sensorily-focused moment of experience. Instead, there appeared to be an embedded recognition (the need to go to the dentist) accompanying the sensory awareness (looking at the shape of the chip in the tooth). Because we only encountered this phenomenon in one sample, we are unable to say anything definitive about it, other than it is interesting to note as it is outside the realm of garden-variety sensory awareness. This sample is reminiscent of sample 3.4 described above in the inner seeing subsection. In that sample, Jacob's inner seeing consisted of swaying palm trees which somehow represented hope that it would not be breezy the next night.

Another instance of sensory awareness included two separate but possibly related experiences of sensory awareness, and is referred to as a multiple awareness. In general,

multiple awarenesses consist of two or more separate, mostly unrelated processes ongoing simultaneously (Hurlburt & Heavey, 1999).

Sample 7.1: Jacob was doing the dishes and his hands were submerged in warm, soapy water. At the moment of the beep Jacob feels the sensation of the warm dishwater on his hands and the texture of the sponge in his hand. He is also seeing the bubbles in the water.

This is an example of the weakest form of multiple awareness. In general multiple awarenesses include the simultaneous presence of one or more separate experiences occurring within the same modality (e.g., sensorily, thought, etc.) at the moment of the beep. In this example Jacob is focused on both the textural sensations of the water and the sponge, and separately, visually on the bubbles forming in the water. These are two distinct experiences of sensory awareness that are occurring simultaneously but are tied together by a common thread (the process of doing the dishes).

Jacob had one additional sensory awareness sample which has been presented and discussed above (Sample 7.4).

Just doing.

In five of his 33 samples (15%), Jacob was simply engaged in a task, without any accompanying inner experience. Two of these instances were described earlier. Other examples of Jacob's "just doing" include reading and chasing his dog.

Concentrated doing.

Jacob experienced the phenomenon we have termed concentrated doing in three of his 33 samples (9%). Concentrated doing involves an intensely focused, attentive concentration on apparently minute or small aspects of his environment. Concentrated

doing differs from simply ‘doing’ in that concentrated doing involves a higher level of attention and focus, almost a ‘zeroing in’ on the specific task at hand, as opposed to simply doing a task without particular attention being paid.

Sample 3.1: Jacob was at home painting his toenails while waiting for a football game to start. At the beep he is concentrating on what he is doing by visually focusing on what he is painting and being careful not to get paint on anything but his toenail. His being careful is not a separate thought process; he is carefully painting including paying attention to what he is seeing. He is seeing his hand from just above his knuckles down to where he is holding the paint brush in his fingers and he is seeing his right big toe from just above the joint to the end. He is not seeing anything else nor is he aware of anything else in his surroundings.

Jacob was painting his toenails in a careful, attentive way; his attentional resources were zeroed in on the careful painting of the toenails, to the exclusion of other aspects of his environment. There were no thoughts or other cognitive or bodily aspects of his experience – he was very carefully, concentratedly painting his toenail, being careful to put the paint only where he wanted it to be. He was not mindlessly painting, nor was he on auto-pilot.

Sample 5.2: He was sitting at his house waxing the underside of his snowboard, which involves melting wax onto the snowboard, and then smoothing the wax out when it is at the right consistency. He was holding the wax up to a hot iron, melting it onto his snowboard. The wax was dripping from the hot iron down onto his snowboard. At the moment of the beep he is paying attention both to the wax as it melts next to the iron and to the wax that has dripped onto the board. He is

paying close or rapt or concentrated attention to the consistency/appearance of the wax as it relates to the “spreadableness” of the wax (so that it is not lumpy, too watery or too cold).

In this example Jacob was waxing his snowboard and paying attention both to the wax as it was melting next to the iron and to the wax that had dripped onto the board. He was paying rapt attention to the consistency of the wax as it related to the ‘spreadableness’ of the wax (so that it was not too lumpy nor too watery). In this example, had Jacob simply been focused on the appearance of the wax, we would have called this a sensory awareness. Had he just been thinking about the spreadableness of the wax, we might have called it an unsymbolized thought. Had he just been waxing his snowboard without much attention to it we would have called it “just doing.” However, Jacob was concentrated on the appearance of the wax *as it related to the spreadableness of the wax*. His way of going about the task was carefully attentive and purposeful.

Jacob’s final instance of concentrated doing involved the typing of a VIN number on a computer screen.

Sample 6.2: He was on the computer, looking up new insurance for his motorcycle on Geico’s website. At the moment of the beep he is typing his VIN number into an empty cell on the screen. He is very carefully concentrating on the numbers and letters of his VIN number on the screen as he is typing them in, in order to type them correctly. Also present in his experience, although to a much lesser degree, are the Geico gecko at the top right corner of the screen, and the other blank cells that he has yet to fill out.

Again, Jacob was raptly focused on the task of typing each individual number – the level of attention or concentration on this task, as seen with the tasks mentioned above, was significantly heightened as compared to instances in which Jacob was “just” engaged in a task. For example, sample 5.1 caught Jacob as he was taking off his work clothes. At the moment of the beep, Jacob was simply removing his pants, almost automatically, without paying particular attention to the task in which he was engaged. Similarly, sample 2.6 caught Jacob as he was reading words on a TV screen. At the moment of the beep Jacob was simply reading, not paying particular attention to any aspect of the task, or the task itself. Both the ‘just doing’ and the ‘concentrated doing’ involve doing, or going about a task; concentrated doing involves a higher level of attention and focus on the task itself, or on some aspect of the task as it relates to the overall task.

Inner speaking.

As mentioned previously, Jacob did not experience inner speaking in any of his samples. Previous DES studies have found inner speaking with a frequency of approximately 25% across participants (Heavey & Hurlburt, 2008). Inner speaking is a form of experience that involves the production of clearly spoken words, oftentimes just as they would be spoken out loud, only with no sound.

Discussion

About half of Jacob’s samples contained unsymbolized thinking (24%) or inner seeing (24%). Inner speaking was absent, and well-integrated feelings were rare in Jacob’s samples. In the realm of feelings, it appeared that Jacob did undergo emotions but that they were unclear, such that only pieces or parts of an ongoing emotional process were present to and experienced by Jacob at any given moment. Though these emotions

were represented by aspects of his ongoing experience, such as visualizing himself throwing his computer when he was frustrated with it, the emotions did not appear to be directly felt, or were felt in ‘bits and pieces’ but not as integrated wholes. It is possible to theorize one step further based upon the data. If emotion was to be viewed as a skill that one acquires or does not acquire over time, it is possible that Jacob’s emotion-skill is underdeveloped and he is thereby unable to clearly differentiate emotion-experience from other experience. Alternately it is possible that Jacob was not experiencing standard emotion (e.g., anger, disgust, etc.) at any of the sampled moments. It is possible that he was simply experiencing a bodily sensation (e.g., chill) or a thought (e.g., Sanchez’s cocky, arrogant smile) independent of any existing emotion. Then, upon further reflection perhaps Jacob was able to come to the conclusion that the chills, for example “must have” represented pride. It is difficult to tease apart the two possibilities (e.g., whether Jacob is unsophisticated at emotion-experience or whether Jacob simply does not have emotion experience) without further sampling with Jacob. However, both these possibilities are viable. In both cases, it can be said that Jacob’s experience of feeling (or lack there of) is complex and unlike standard reports of feeling experience.

CHAPTER 5

Idiographic Description of Brandon's Experience

Brandon was a 28 year-old Caucasian male who sampled with us during November and December 2009. Brandon was a member of the Air Force, deployed to Iraq for 12 months, from late 2007 to late 2008. His Military Occupational Specialty involved interrogation analysis operations. Brandon described his deployment to Iraq as generally stressful, punctuated by periods of hypervigilance, boredom, anger and frustration as a result of his various experiences. Brandon shared with us that those emotions, especially the anger and frustration, increased across time and lingered upon returning from Iraq. He described symptoms of disturbed sleep and increased anger for which he finally sought medical attention and was started on a course of SSRI antidepressant medication. Brandon met the criteria for significant PTSD symptomatology on the PCL-M. Brandon approached the task of sampling in a particularly disciplined manner and was very punctual to all expositional interviews. When discussing his samples he was very specific, detailed and articulate.

Brandon collected a total of 29 samples over five sampling days and attended an expositional interview within 24 hours of each sampling day. After discarding the samples from the first day of sampling, we were left with 25 samples. Please refer to Table 5 for a breakdown of the frequency of phenomena experienced by Brandon over four sampling days.

Table 5

Frequency of Inner Experience Phenomena for Brandon (25 samples)

	Number of Samples	Frequency (%)
Unsymbolized Thinking	2	8
Inner Seeing	10	40
Sensory Awareness	9	36
Flashback	2	8
Concentrated Doing	2	8
Feeling	0	0
Vigilance	2	8
Inner Hearing	2	8
Worded Thinking	1	4
Inner Speaking	0	0

Note: All totals in the table are approximations.

As mentioned previously, Brandon appeared to be a particularly disciplined DES participant. He was very precise in his descriptions and chose his words with great care. At times, Brandon’s high degree of precision tended toward concreteness and rigidity. Brandon’s inner experience was similar to his external presentation – very precise, orderly and specific.

Brandon’s reports of inner experience changed rather substantially following the first day of sampling. On the first day, Brandon reported two instances of feeling (pride and a combination of vigilance and boredom). These were the only feeling experiences

Brandon reported. After the first day of sampling his inner experience consisted of primarily inner seeing and sensory awareness. In fact, over half of his total reported instances of sensory awareness (5 of 9, or 55%) occurred on the second day of sampling. Fifty percent (5 of 10) of his inner seeing samples also occurred on the second day of sampling. On the final day of sampling there were two flashbacks, as well as two samples that appeared to represent the focused, thoughtful doing of an activity, but were ultimately difficult for Brandon to describe and difficult for us to apprehend.

The Prominence of Inner Seeing and Sensory Awareness

Inner seeing.

Forty percent of Brandon's samples involved inner seeing. Brandon's inner seeing samples were often complex and highly detailed.

Sample 3.6: Brandon was at work discussing with a coworker the oddness of duck-billed platypuses and how they don't really fit into any category. At the moment of the beep Brandon is innerly seeing God standing at a workbench, putting together a duck-billed platypus. Brandon is seeing God about 2-3 yards away and slightly to the right. Brandon is seeing God standing at his workbench, which is a "standard" workbench with four legs. God is human-like in form, an older man [in his 60s or 70s] with a long white beard, long white hair, and a long white robe. The pieces of the platypus are laid out in front of God, on his workbench. The head of the platypus is in God's left hand, and the "furry kiwi" body of the platypus in his right, and he is assembling these two pieces. The tail and 2 legs of the platypus are lying on God's workbench. Brandon hears God chuckle to himself as he's assembling the platypus, chuckling in a self-amused,

inside joke kind of way; his chuckle sounds like an older man's voice, but is not familiar to Brandon. The coworker is speaking, and Brandon is tracking it, but it occupies only a minor part of his awareness.

In addition to the creative nature of Brandon's inner seeing of God creating the platypus, the perspective of his seeing of God was also unique and precise. During our sampling interview Brandon had a particularly difficult time describing his perspective of God. Instead of saying that God was ahead of him and to his right in relation to where Brandon was in the interview room, Brandon let the seen God occupy the center of the described space and therefore had to move himself around to the side of the interview room in order to achieve the perspective of how he had seen God at the moment of the beep. It is almost as if the seen God were fixed with respect to the interview room, and that placing God at any other location didn't "feel" or appear correct for Brandon.

The complexity of Brandon's inner seeing is again illustrated in the following sample. Of note in this sample is the hyper-clarity that Brandon describes:

Sample 4.2: Brandon was reaching for a pair of scissors as part of the task of making a leather belt buckle. The reaching for the scissors was happening on autopilot, not part of his experience at the moment of the beep. At the moment of the beep Brandon is innerly seeing an expanded or zoomed-in version of the way he is going to stitch the buckle he is planning on making. He is seeing the buckle, with its holes arranged in an arch and the lacing (the leather string) woven in and out of each hole. The lacing is loosely woven through each hole, an exaggeration of the way it appears before it has been tightened, so that he can clearly see the pattern that he must make to execute this stitching. [Brandon has never used this

particular stitch pattern. Prior to the beep he had looked in a book at a picture/diagram of how to execute this particular pattern. Now, at the moment of the beep, he is innerly seeing how that pattern is applied to the particular belt he is making]. The inner seeing is similar in structure to the book’s picture—a zoomed-in or expanded view of a loose stitching, but the innerly seen leather of the buckle is a tan-brown color and the lacing is a dark brown color, rather than black and white as in the book, and the innerly seen holes are arranged in an arch rather than straight as in the book. This seeing is clear, like a snapshot, and is located in front of Brandon, someplace “above the horizon”; that is, he is innerly looking up at the imaginary buckle, while his actual eyes are aimed down at the scissors.

Brandon noted that this seeing was *more* clear and trustworthy than the actual picture of the buckle in the physical book or any seeing in reality. Brandon reported that because this inner seeing was his own creation, it was more trustworthy and clear than reality. Also evident in this sample is the unusual location in space of Brandon’s inner seeing. The seeing is located “above the horizon” requiring that Brandon innerly “look up” at the belt while simultaneously looking down at the “real life” picture of the belt in the book he is using.

We see this unusual location-in-space phenomenon again in a similar sample:

Sample 3.3: Brandon was sitting down, reading a book of leather tooling patterns, trying to find a pattern for the belt he was making. He was looking at a leaf pattern for tooling. At the moment of the beep Brandon is innerly seeing the belt he is currently making, as if he had tooled the leaf pattern repeatedly along the

entire belt. He sees the belt stretched out in front of him, and slightly above him, such that he is looking up to see it [he's not actually looking up, but his 'inner eyes' are looking up]. The place where the buckle should go is on his left [however there is no buckle, only the hole and 2 snaps where the buckle will go]. He does not see the entire left end of the belt; there is an additional hole and two snaps, but they are "faded into irrelevance." The leaf tooling pattern repeats, and runs across the length of the belt, from the right of where the buckle should be, and has a 1/8 inch border along the top and bottom of the length of the belt, where there is no tooling pattern. At the same time, Brandon is physically looking down at the book in front of him, but this is not as salient in his awareness as his inner seeing (about a 70-30 attentional split).

In another sample, Brandon stated that he experienced surprise at the content of his inner seeing. This is unusual in that the inner seeing was Brandon's own creation, yet he was surprised at what he innerly saw, as though the inner seeing was somehow out of his control despite it being "his."

Sample 5.1: Brandon was reading the instructions on a box of leather dye. At the moment of the beep Brandon is innerly seeing black, leather shoes. He is seeing the shoes directly in front of him and at eye level; the toes of the shoes are pointed to the left. The shoes are side-by-side and he is seeing them from a profile view, such that he can see most of the left side of the left shoe, and only bits and pieces of the right shoe. This seeing is clear, but not as clear as "real life seeing" – about 80-85% as clear as real life. Brandon is also aware of reading the instructions on the leather dye box, but this awareness is much less salient than the seeing (about

30% versus 70%). The leather dye in the box that he is reading is red, and Brandon is a bit surprised that he is innerly seeing black shoes.

The four samples discussed above highlight the complex nature of Brandon's inner experience. Not only are these inner seeings unusually detailed, they are also directly tied to or representative of the task in which he is engaged. For example, when he is seeing the stitching pattern that he is about to undertake, we get a sense of Brandon as both a craftsman with careful attention to detail and process and a strong visual thinker. These inner seeings also illustrate the precision we see globally with Brandon – in his self-presentation, his choice of words and speaking style and his inner experience.

Sensory awareness.

Brandon's inner experience was also highly sensory, with 9 of his 25 samples (36%) involving sensory awareness. Brandon's sensory awareness ranged from simple instances of bodily sensations to more complex, differentiated instances of sensation. Of these complex instances, two involved sensory awareness in imagination.

Sample 3.5: Brandon was eating a banana, his eyes aimed at the yellow peel of the banana. As he was eating/seeing the banana, Brandon was trying to imagine what the color yellow tastes like. At the moment of the beep Brandon is tasting the color yellow. He is experiencing a vivid, imagined taste, one that is much more vivid than the taste of the actual banana in his mouth. This taste, however, does not seem to be the 'right' taste in that it does not taste the way yellow 'should' taste. The shade of yellow Brandon is unsuccessfully attempting to taste is a bright, sunshine yellow, different from the yellow of the banana and the banana peel. The yellow taste Brandon is actually tasting is slightly more sweet

than sour, more salty than not, and really, really very light and airy [lighter than whipped cream], but difficult to capture with words, and not the yellow he is trying to taste. Although Brandon is chewing an actual, unimagined banana at the time of beep, he is fully engrossed in his imagined tasting, and is not tasting the real banana.

This sample is compelling from several perspectives. First, Brandon's attempt to taste color is highly unusual and involves a mixing of the senses – using the sense of taste to apprehend something that is, we assume, usually apprehended visually. Second, Brandon's attempt to taste color in imagination is successful in that he is in fact tasting “yellow” – a very specific, yet difficult to describe shade of yellow. Third, and perhaps most compelling however, is that he has failed to taste the yellow he *desired* to taste. Brandon apparently had a preconceived belief of what “bright, sunshine yellow” *should* taste like, and is unable to conjure that taste, despite his efforts.

In another instance Brandon is having a multi-sensory experience in imagination:

Sample 4.5: Brandon was telling his wife he would be late for dinner but would definitely be home for dinner, but that is happening mostly or completely outside of awareness. At the moment of the beep Brandon is innerly smelling, tasting and seeing a “He Man” casserole. [This is a family recipe Brandon has had before – made of ground beef, cheese, potatoes and cream of ‘something’]. Most prominently, he is smelling the casserole – the smell is a mixture of the ingredients, and is true to the smell of the ‘real-life’ casserole. He is also tasting the casserole, but to a lesser degree. He is innerly seeing the casserole sitting atop the dinner table, but the seeing is the least salient part of his experience. This

seeing is in front of Brandon, and slightly to his left. Brandon is also speaking at the moment of the beep but this is not in his awareness.

In the above sample Brandon is almost completely absorbed in the imagined sensory aspects of the casserole; again we see the extent to which Brandon's sensory experiences are prominent, differentiated and complex.

In another sample, Brandon was experiencing two separate sensations simultaneously:

Sample 2.3: Brandon was drinking chocolate-flavored Starbucks coffee. At the moment of the beep he is tasting the bitterness of the coffee and the sweetness of the chocolate. He may have also been noticing the heat of the liquid, but was less confident of that.

In this sample Brandon was extremely specific: he was not merely tasting the chocolate-flavored coffee but had instead zeroed in on the bitterness and on the sweetness (and possibly on the hotness); two (possibly three) separate aspects of one sensorial experience.

The remaining six instances of sensory awareness that Brandon described continue to be rich in detail, combining complex bodily sensations with carefully constructed inner seeings. They again make us aware of Brandon as both precise and craftsman like in his construction of inner experience and his ability to attune himself to his bodily sensations. The samples, described below, involved instances of bodily sensory awareness, such as feeling muscular tension (sample 2.8 and 2.7), as well as external sensory awareness (sample 2.2 and 4.1).

Sample 2.8: Brandon was at physical therapy doing a standing stretch, bending at the waist reaching toward the floor. At the moment of the beep he was feeling the stretch in his hamstrings at the base of his thighs, feeling it in both legs but the left leg was a little looser. At the same time he was innerly seeing his hands on the floor next to his feet, viewed from his own first person, as if he could complete the stretch that he was now attempting but unable to finish. That is, he was seeing himself from his own eyes, as he would like to be. This seeing was clear, in color, and accurate in detail (if he could attain that posture). The stretch and the inner seeing were pretty much 50/50 in his experience.

Sample 2.7: Brandon was at work, beginning the outline of an English paper on the Boy Scouts that he was working on. At the moment of the beep he is writing “BSA” [meaning Boy Scouts of America], but the writing itself and its meaning are not present to him; instead, he is feeling the tension in his right forearm, in the inside from just below his elbow to just above his wrist. [He says he holds the pencil too tight.] At the same time he is innerly seeing his Eagle Scout patch, as if he is in high school wearing his Boy Scout uniform looking down at the left side of his chest. That is, he sees the patch accurately as if viewed obliquely from above. He sees a bit of the tan uniform around the patch; the rest of the uniform fades into irrelevance. More of his experience is on the tension than on the seeing (70/30).

Sample 3.4: Brandon was running up the stairs to attend to his son who was crying. He was halfway up the stairs. At the moment of the beep Brandon is aware of his physical alignment in space – of not falling over. He is paying

attention to the physicality of balancing as he is running up the stairs. He was also aware of tension in his legs and back, but this awareness may have occurred after the beep.

Sample 4.1: Brandon was stitching with string the leather of a knife sheath he was making for his father-in-law. He had just tied a knot in the stitching string and was pulling the knot tight. At the moment of the beep Brandon is aware of the sensation of the stitching string ‘biting’ into the outside of his left pinky finger.

Other Phenomena

Vigilance.

Brandon experienced instances of vigilance on the first and second sampling days. Because one occurred on the first, training day of sampling, it will not be discussed. The second instance is presented below:

Sample 2.2: Brandon was driving on Interstate 15 [his wife took the notes], making a curve. At the moment of the beep he is seeing everything in his visual field that is outside his windshield: cars, roadway, signs, and so on. All these things are seen with equal attention and clarity—he is “paying attention to everything.” The cars on the other side of the freeway divider are seen as well, but without quite so much intensity. Things inside the car—instruments, his wife, etc., are not part of his visual seeing. At the same time he is noticing the feel of the steering wheel against his hand—the hardness of it, the place where the spoke of the wheel and the rim of the wheel come against his hand. Most of his attention is on the visual display (70/30).

Flashbacks.

Brandon had two instances of multi-sensorial inner experience, or flashbacks, which occurred on the fifth day of sampling. Brandon described his flashbacks as “more clear” than reality and all consuming. His flashbacks are described below:

Sample 5.2: Brandon was on the computer, reading the description of an EMT course. At the moment of the beep Brandon is reliving an event. He is in Iraq, going through combat lifesaver course training. He is experiencing this as though it is happening right now, at the moment of the beep. He is seeing his buddy, the simulated casualty, lying down. Brandon is seeing and feeling his right hand clamped on his buddy’s artery, and his [Brandon’s] left hand holding the catheter/needle which Brandon is about to push into his buddy’s artery. He is also hearing the sound of helicopters around him [and possibly (he’s not sure) seeing and hearing the sound of other people engaged in a similar exercise], and smelling the distinctive smell of that area [the area in which the actual training took place]. However these aspects are less relevant than the seeing of his buddy’s artery and the catheter. This reliving is hyper-real – it is more relevant, sharper somehow, and more in focus than the real-life training had been, as if the “relevance control knob, which usually goes from one to ten, has been turned up to twelve.”

Sample 5.5: Brandon was in his car, and his wife was driving. They had just passed a truck with a bumper sticker that read “Dezzert Assault.” At the moment of the beep Brandon is reliving a live-fire exercise during combat skills training. He is experiencing this as though it is happening right now, at the moment of the beep. He is sitting in the gunnery of a Humvee – with his body sticking up through a hole in the top of the Humvee, and he is holding his M4 weapon against

his left shoulder. He is looking out ahead of him, seeing both what is in his line of sight [what is in front of where he is pointing his weapon] as well as his surroundings. He is seeing what is in his line of sight with his left eye [he shoots left handed]– the target he has just shot at, and his surroundings with his right eye – the hill in front of him, the curving road ahead. At the same time Brandon is feeling the recoil of the M4 against his left shoulder, hearing the sound of the Humvee’s engine and the sound of the tires on the road. He also smells the grass. All this is understood to be an accurate reliving of the original event with two exceptions: first, the grass he is smelling at the moment of the beep is distinctively different from the actual grass he was smelling during the combat training; the “relived” grass smells stronger, fresher like fresh-cut grass. Second, the entire reliving (sights, sounds, smells, sensations) is hyper-real – more intense and sharper than the actual training. At the moment of the beep the experience is a reliving; a second later, when responding to the beep, he recognizes the grass smell as being stronger and the whole event as being hyper-clear.

In both these samples, Brandon described a “hyper-clear” or “hyper-real quality” to the flashback. It appears that his flashbacks somehow hold a sharpness and intensity that “real life” lacks. Further, Brandon’s experience is particularly precise and detailed. An illustration of this is his experience of the smell of grass (sample 5.5); he indicates that this “imagined” grass smell is distinctly different from the actual grass – stronger, fresher, apparently more intense. The detailed precision of Brandon’s flashback is reminiscent of his other experiential phenomena. Interestingly, Brandon did not describe, nor did he endorse his flashbacks as being particularly distressing to him or directly

related to any trauma. His flashbacks, though related to his military experiences were rather benign in nature.

Concentrated doing.

The following sample is an example of concentrated doing:

Sample 4.3: Brandon was working on the lacing of the belt. He was pulling the lacing through each hole and tightening the lacing while doing so, making sure the lacing was not twisted. At the moment of the beep Brandon is looking at the lacing with the purpose of ensuring that the lacing lays flat on the leather. This ensuring-it-lays-flat intention is explicitly present in Brandon's experience at the moment of the beep; that is, it is not merely that he is trying to get it flat, but rather that he directly apprehends this trying-to-get-it-flatness. The trying-to-get-it-flatness is a part of the looking, and is not a separate thought process.

In this sample, Brandon was far more involved in the task of lacing than simply looking at the lace – he was focused on the lace with the intent to ensure the lace laid flat, did not twist or turn. His looking was careful, concentrated and purposeful. In another instance of concentrated doing, Brandon was carefully, concentratedly running up the stairs toward his crying child, paying attention to the physicality of his balance. This sample has been discussed above but will be presented again here:

Sample 3.4: Brandon was running up the stairs to attend to his son who was crying. He was halfway up the stairs. At the moment of the beep Brandon is aware of his physical alignment in space – of not falling over. He is paying attention to the physicality of balancing as he is running up the stairs. He was also

aware of tension in his legs and back, but this awareness may have occurred after the beep.

Two of Brandon's samples, both occurring on the final sampling day, involved complex experiential processes that were difficult for Brandon to describe and for us to comprehend. Although these experiences appear to be in the realm of concentrated doing, they do not clearly fit within that phenomenological category.

Sample 5.3: Brandon was at Target with his wife. She was trying on a dress and had asked Brandon his opinion of how she looked in the dress. At the moment of the beep Brandon is looking at her with approval. This approval is somehow a part of the looking, and does not exist separately from the looking. In his looking, he is directly apprehending this approvingness. His looking is more than just looking with approval but less than looking with a separate "approval" thought.

Sample 5.6: Brandon was plugging the Christmas tree lights into the socket. At the moment of the beep Brandon is seeing the socket and the plug part of the lights, with the intention of plugging the plug into the socket. The intention is tied into the seeing, and can't be pulled apart – as Brandon described, they are tied together in the way the three-layered toothpaste is tied together and can not be separated without making a mess.

We worked hard on trying to apprehend these two experiences, but without resolution. As best we could tell, these samples involved a kind of "intentional" looking process, possibly a phenomenon common to Brandon's inner experience but complex enough that he had some difficulty in apprehending and clearly describing the phenomenon in the amount of time we were able to sample with him.

The remainder of Brandon's samples involved unsymbolized thinking (samples 2.5 and 3.7; 8%), and inner hearing (sample 4.4 and 4.6; 8%). Brandon had one sample that involved worded thinking (sample 5.4). Finally, Brandon had no instances of feeling or inner speaking in any of his 25 samples.

Discussion

As mentioned previously, Brandon appeared to be a particularly disciplined DES participant – he was very precise in his descriptions and chose his words just so; at times, Brandon's level of preciseness appeared somewhat concrete and rigid. Brandon's inner experience was similar to his external presentation – very precise, orderly and specific. In some ways, Brandon's inner experience might be characterized as stubbornly concrete, even in more abstract moments such as when he is attempting to “taste the color yellow” (sample 3.5).

Brandon's reports of inner experience changed rather substantially following the first day of sampling. On the first day, Brandon reported two instances of feeling (pride and a combination of vigilance and boredom). Interestingly, these were the only feeling experiences Brandon reported. As sampling progressed, his inner experience consisted of primarily very precise and complex inner seeing and sensory awareness; phenomena he did not report until the second day of sampling. In fact, over half of his total reported instances of sensory awareness (5 of 9, or 55%) occurred on the second day of sampling. Fifty percent (5 of 10) of his inner seeing samples also occurred on the second day of sampling.

Brandon's inner experience was strikingly precise and detailed. He was almost craftsman-like in his ability to construct complex inner seeings that often accompanied

ongoing thought processes or tasks in which he was engaged. Brandon also was rather skilled in noticing or focusing on his bodily sensations and muscle movements. He also exhibited several instances where he was focused on imaginarily created sensations (tasting yellow, but not quite the “right” yellow and smelling grass that was more “grassy” somehow than the original, actual grass). The precise nature of his inner experience paralleled Brandon’s external presentation and his use of language.

CHAPTER 6

Idiographic Description of Louis' Experience

Louis was a 23 year-old Pacific Islander male who sampled with us during February and March 2010. Louis met criteria for significant PTSD symptomatology on the PCL-M and considered himself to have symptoms of PTSD following his two deployments to Afghanistan in January, 2007, and again in January, 2009. He described feeling increasingly irritable and easily frustrated since his deployment. Louis was not in treatment for PTSD at the time of sampling. Louis was a Medic and Air/Ground technician attached to the Marine Corps during his deployments. He described feeling “my life was always in danger” both during training exercises and also while in Afghanistan, though he was hesitant to discuss the specifics of these experiences, stating, “compared to what a lot of my friends went through, I feel really lucky because my experiences weren’t that bad.” He described himself as having, to some extent, aftereffects from his military experiences, although he also discussed his inner strength and his ability to overcome some of his stressful experiences using this inner strength. Louis endorsed mild depressive symptoms including decreased concentration, discouragement about the future, self-criticalness changes in sleep, but shared that these symptoms do not significantly interfere with his day-to-day functioning.

Louis collected a total of 34 samples over 6 sampling days and attended an expositional interview within 24 hours of each sampling day. After discarding the samples from the first day of sampling, we were left with 28 samples.

The most salient phenomenon in Louis’s inner experience was inner seeing. As shown in Table 6 at the end of this chapter, 9 of Louis’s 28 samples (32%) involved inner

seeing. Six of his 28 (21%) samples involved inner speaking, five (18%) involved feelings and four (14%) involved sensory awareness. Louis also had instances of inner hearing (7%), unsymbolized thinking (3%), laughter/amusement (3%), concentrated doing (3%), and just doing (10%).

Table 6

Frequency of Inner Experience Phenomena for Louis (28 samples)

	Number of Samples	Frequency (%)
Unsymbolized Thinking	1	3
Inner Seeing	9	32
Sensory Awareness	4	14
Concentrated Doing	1	3
Inner Hearing	2	7
Feeling	5	18
Just Doing	3	10
Amusement	1	3
Inner Speaking	6	21

Note: All totals in the table are approximations.

Inner Seeing

Inner seeing was the most frequent of Louis’s experiences, and also the most complex. Louis reported two particularly unusual instances of inner seeing, which we termed “unformed” inner seeings:

Sample 2.2: Louis was on the phone with his friend, Joe. Joe had been describing his evening, that he and his friends were drunk, that their designated driver had ditched them, and that they were now walking down the street, still drunk. At the moment of the beep Louis trying to form an image of Joe's location. Louis is having what he calls a "thought blur" which consists of a not-fully-formed image of his friend Joe walking down a street. In this image, Joe is clear, and in motion, walking from Louis's left to Louis's right. There are trees in this seeing/image, however, they are less clear than Joe is, but not completely unformed or blurry either. The remainder of the scene is much more blurry, dark, unformed. It is as if this image is being built by Louis; the more information Joe gives him about where he is, the more pieces of Louis's blurry image get "filled in." Louis's attention is also equally directed toward what Joe is saying; he is listening to Joe's description of where Joe is.

In the above sample, Louis indicated that the image was like a half-assembled puzzle, with pieces missing. He said that the more information he gathered about Joe's location, the more pieces of the image-puzzle would be filled in. He was also clear that the "missing pieces" of the image were not represented by "holes" or "gaps" in the image, but were instead just not there yet, not fully formed.

Sample 6.6: Louis was looking at himself in the mirror and had noticed a stain on his sweater. At the moment of the beep Louis is trying to figure out how that stain got there. He is innerly seeing himself from the neck down to the waist, wearing the sweater and moving about – the sweater is not stained. The "rest" of the seeing has not formed –Louis is trying to trying to figure out how the stain got on

the sweater which involved trying to fill in the inner seeing with the details of when he had last worn the sweater.

Our understanding of this experience changed quite substantially about half way through the interview. What is written above is the final understanding; during the first half we understood Louis to be saying that there was a *trying* to see but that there was no *actual* inner seeing at the moment of the beep. There are two explanations: (a) his apprehension of the experience changed during the interview; and (b) what he meant by “not seeing” during the first part of the interview meant that he was not seeing *the interesting part of* the scene—the part that would identify where he had worn the sweater.

What is particularly interesting about both of the above samples is that Louis started out in both by saying he was not seeing anything, but eventually came to the view that he *was* seeing something clearly, but that the thing he was seeing was not what he was interested in so he verbalized that as “not seeing anything.” In both interviews it took a long time to get to a description of a clearly seen detail, leading us to be unsure about what Louis’s true experience actually was. There are two likely alternatives: “(a) the sweater (and Joe in 2.2) was clearly seen at the moment of the beep but was not reported because Louis’s interest was elsewhere (in the where he wore the sweater in 6.6, and where Joe was in 2.2); and (b) the sweater (or Joe in 2.2) was *not* present at the moment of the beep, but Louis built over the course of the somewhat lengthy interview a false memory of having been seeing the sweater at the moment of the beep (or of having been seeing Joe in 2.2). We were unable to disentangle these two alternative explanations.

Louis had a number of multimodal inner seeing experiences throughout the course of sampling:

Sample 4.1: Louis was lying in bed with his eyes closed trying to relax. At the moment of the beep he is innerly seeing/hearing Quinn, a character from the TV show “Glee,” sing “Smile,” a song from the show. He is seeing/hearing Quinn singing “sad words goodbye” along with the accompanying melody, and is more focused on the hearing aspect of this experience than the seeing aspect. He is seeing Quinn from straight ahead, from the waist up, wearing a red and white cheerleader’s outfit (which she wears on the show), with the center of his attention on her mouth as she sings. He sees her in motion, singing the song. This seeing does not appear to have a specific location in space, but Louis seems to be looking forward at her.

Sample 5.4: Louis was driving and looking at the mountains. At the moment of the beep he is looking at the mountains and remembering his platoon; he is experiencing a series of inner seeings of himself and his platoon hiking. Some of these inner seeings are memories of events he experienced with his platoon during training in California and others are not. During our interview Louis was unsure exactly which of these inner seeings was at the moment of the beep. Examples of these include the following: 1) Louis and three other guys from his platoon are hiking and have run out of water. Louis sees one of the guys is asking him for water. The guys are wearing Kevlar and helmets but their faces are undefined, blurry. 2) Louis and his platoon members are getting ready to scale a mountain; they are in the prone position.

Sample 5.6: Louis was thinking about an interaction he’d had with a guy yesterday, and was replaying the interaction over in his head, obsessing about

what he wishes he would have said at the time. At the moment of the beep Louis is mentally replaying the interaction; he innerly sees himself speaking with the guy. He sees himself from the third person perspective; he sees the back of his head and the guy's face as well, as though he is seeing through his own head. Louis is talking to the guy, saying what he wishes he had said at the time. Louis also feels irritated/mad/disappointed in himself at the moment of the beep. (Louis did not want to disclose what he was innerly saying at the beep nor did he want to disclose the subject matter of the conversation).

Sample 6.5: Louis was in his closet looking for something to wear, but the clothes at which his eyes are aimed are not in his experience at the moment of the beep. At the moment of the beep Louis hears himself say, "Hey, I missed you" to a friend, Joe. Louis innerly sees Joe's face and spiky hair from a first person perspective as if he is sitting in the class he has with his friend and turning to his right toward his friend, who is turned looking at him. They are looking into each other's eyes. Louis sees Joe's spiked hair clearly, and sees the table at which they are sitting clearly, but Joe's face is not differentiated. Louis knows it is Joe, but he cannot see the features. In particular, Louis cannot discern the emotional expression, if any, on Joe's face. Louis does not experience emotion, despite the apparent emotional situation of the inner seeing.

Inner seeing can range from rather simplistic, such as a still image, to rather complex, much like the above samples. All four are animated and include "scenes" with sound and motion and indicate rather skilled inner seeing ability. Sample 5.4 highlights the skilled nature of Louis's inner seeings; he is able to leave blurry what is undefined (the faces of

his platoon members) and to clarify what is defined. We see another example of Louis's skilled inner seeing in the following sample:

Sample 4.4: Louis was driving and hearing a Rhianna song on the radio. At the moment of the beep he hears the Rhianna song and innerly sees a close-up of Rhianna's face and particularly her Mohawk hair. The background is black behind her. He sees Rhianna sing the song that he hears on the radio, as if he were watching a music video. He is also paying attention to the physical sensation of his jaw opening as he is yawning, but this is less central to his experience.

In this sample he has created an inner seeing synchronized to the external hearing; it is important to note that he is not simply hearing Rhianna sing as a part of his inner seeing, but instead has created a "visual track" to go with the "audio track" he hears on the radio.

We again see the level of skill in Louis's inner seeing in the following samples:

Sample 4.2: Louis was lying in his bed with his eyes closed trying to relax and to clear his mind. A bit before the beep he was actively trying to clear his mind. At the moment of the beep this active trying to clear his mind has been replaced by what is apparently the fruit of the trying: he innerly sees a dark, three-dimensional void that is spreading, pushing off to the sides his previous thoughts. These thoughts are represented by very bright, white light around the right and left edges of the expanding darkness. The spreading, expanding void is a ragged square, the edges of which are not straight but are jagged as the void pushes the thoughts away.

Sample 3.4: Louis had been driving to his brother's house and had passed a woman walking down the street. He had then passed her again when leaving his

brother's house a short while later. At the moment of the beep he is toying with the idea of picking this woman up. He is experiencing a series of inner seeings that represent 'what if' questions related to whether or not he should offer the woman a ride. These inner seeings include innerly seeing the woman sitting next to him in the passenger seat of the car seen as if standing in front of the car looking in through the windshield. The woman is more in focus in the image. This inner seeing is associated with wondering what would happen if he picked her up. Another inner seeing involves seeing himself walking into class late. From a first-person perspective he sees his classmates are turning backward looking at him, and the teacher standing in front of the class is giving him a stern look. This inner seeing represents whether or not he would be late to class if he gave the woman a ride. Because he was driving at the moment of the beep, Louis was unable to immediately record his experience at the moment of the beep and was therefore unable to pinpoint which of these series of questions and inner seeing combinations was present right at the beep.

Sample 3.4 is particularly interesting in that Louis has "paired" inner seeings with his unsymbolized thoughts as opposed to simply having an unsymbolized thought. It is likely that because Louis is so skilled at inner seeing, he tends to "think" visually more easily and more often than others who are less skilled at this phenomenon.

Inner Speaking

Though inner speaking was Louis's second most frequent experiential phenomenon, it is clear that he is a rather unskilled producer of inner speaking, particularly when compared to his high level of skill in inner seeing. The majority of

Louis's instances of inner speaking involved repetitious, short and isolated sentence fragments while the remainder simply involved speaking that accompanied reading.

Sample 2.4: Louis had just noticed that he did not have his sampling notebook, and was searching through his backpack for it. He was repeating the phrase, "Where did I fucking put that shit" to himself over and over. At the moment of the beep he is saying to himself, "where did I fucking put that shit" and is feeling condescending about the notebook not being there.

Sample 3.1: While driving Louis was trying to remember his dog's vaccination appointment by innerly saying the words "March first" to himself repeatedly. At the moment of the beep he is on his second iteration of innerly saying the words "March [beep] first." He is innerly saying "March first" to himself, in his normal speaking voice, with a flat tone.

Sample 4.5: Louis was cleaning the trunk of his car because his dog had "shit in the trunk." At the moment of the beep Louis is innerly screaming, "I hate this fucking shit!" He is irate/angry/pissed off. The inner screaming is loud and intense, but not at 100% of his possible intensity. Besides the yelling, his anger is manifested as a heat expanding in his chest and radiating out to his hands, which are shaking. His physical anger is less centrally in his awareness than the inner yelling.

Sample 5.1: Louis was leaning down, and his dog was licking his face. At the moment of the beep Louis is innerly saying, "awww kisses" in his own voice, only high-pitched and more feminine. He is also feeling the wetness of his dog's saliva on his right cheek.

Sample 2.1: Louis was sitting on his bed with his laptop in his lap, reading an email. At the moment of the beep he is reading the subject line of the email – ‘Sender: [company name].’ As he is reading this he is saying it to himself in his normal voice. He is also aware of himself and his dog in space. This awareness is not visual or mental, but is a knowledge of his own location/existence in space in relation to the other items in the room.

Sample 5.5: Louis was reading a text message on his cell phone. At the moment of the beep he is innerly reading the text message to himself in his own, nondistinct voice, “It’s Holly’s birthday today.” He is also innerly seeing Holly’s face smiling brightly.

Feelings

Louis’s emotion-skill does not appear to be at the same level as his inner-seeing-skill, though he does appear to have possible instances of well-integrated emotion experience (e.g., sample 4.5 and 5.2). He had a total of five feeling experiences throughout the course of sampling; all five involved negatively valenced feeling (e.g., irritation, condescension, impatience, anger).

Sample 2.3: Louis was driving in his car, and had just seen a man with long, black hair hugging a girl. At the moment of the beep Louis is having a condescending/irritable reaction [Louis indicated that both these words accurately reflect his reaction] to the man’s hair. This reaction is more mental and does not involve any words or other characteristics. [Louis reported that the condescending reaction can be captured by the phrase “pshhh, look at this guy” but that this thought was not actually present to him at the moment of the beep].

Sample 2.4: Louis had just noticed that he did not have his sampling notebook, and was searching through his backpack for it. He was repeating the phrase, “Where did I fucking put that shit” to himself over and over. At the moment of the beep he is saying to himself, “where did I fucking put that shit” and is feeling condescending about the notebook not being there.

Sample 4.3: Louis was in the car, waiting to make a right turn at a red light. At the moment of the beep he is watching the cars coming toward him from his left. He is impatiently/eagerly awaiting a hole in the traffic, but this is less centrally in his awareness than the watching of the cars.

Sample 5.2: At the moment of the beep Louis is staring intently into his dog’s eyes, holding his dog tightly by the snout and is saying in a harsh voice, “When I say no I mean no [beep], OK Hailey?” Louis is feeling irritated, and is aggressively handling of the dog’s snout. In staring at the dog, Louis is trying to communicate with her telepathically; trying to impose his thoughts on her.

Additional Phenomena

Louis had one instance of concentrated doing, which also involved sensory awareness and inner hearing. Louis is carefully ladling stew from a pot into a bowl, focusing on not spilling the stew:

Sample 5.3: Louis was using a ladle to scoop beef stew from the pot into a bowl. At the moment of the beep he is paying attention to what he is doing, trying not to spill the stew. He also smells the beef stew, which smells good. There is a segment of a Bon Jovi song playing over and over in his head (this segment is the

only part of the song he knows), and at the moment of the beep he is hearing the music and lyrics, “halfway there, oh oh, living on a prayer.”

The remainder of Louis’ samples were relatively straight-forward and are presented in Appendix B.

Discussion

Louis had three phenomena that he experienced at higher rates than other phenomena: inner seeing, inner speaking and feeling. Louis’ inner seeing experiences were rather skilled as compared with his inner speaking and feeling experiences. It seems Louis was able to create inner seeing experiences in such a way that he was able to, for example, leave undefined or blurry or “blank” aspects of images that were uninteresting or unimportant to him, and clarify or define more important aspects. In stark contrast, Louis’ inner speaking was simplistic, probably at the lower end of the inner speaking “skill spectrum.” Louis’ feeling experiences included both well-integrated emotion (e.g., anger) as well as slightly more diffuse, undefined feeling experiences (e.g., condescension). It is possible that feeling is a developing skill for Louis, one that is not quite as developed as his inner seeing ability, but more developed than his inner speaking.

CHAPTER 7

Idiographic Description of Andrew's Experience

Andrew was a 23 year-old American Indian male who sampled with us during February and March 2010. Andrew met criteria for significant PTSD symptomatology on the PCL-M and considered himself to have symptoms of PTSD following his 6-month deployment to Iraq in 2009. Andrew was not in treatment for PTSD at the time of sampling. Andrew was a member of the Army Reserves and was activated and deployed during Operation Iraqi Freedom. He described the majority of his duties as involving civil affairs, though he was involved in a number of firefights. He described a love for the military and deployment, and hoped to reenlist and redeploy once he completed his academic obligations. Andrew described himself as changed upon returning from his deployment, relating that he values closeness with others less than he used to, avoids people, avoids crowds and no longer goes out with his friends as he used to. He described himself as moody with outbursts of anger that "I'm able to control. I can fake being calm when other people are around, I know how to mask it." He described some history of insomnia, but shared with us that since starting sampling, his sleep improved, as did his psychological distress. He told us that he liked the anonymous nature of sampling, that he could come share anything with us without having any judgment or having to explain himself, something he was unable to do currently with others in his life, such as friends and family.

Andrew collected a total of 38 samples over 7 sampling days and attended an expositional interview within 24 hours of each sampling day. After discarding the samples from the first day of sampling, we were left with 32 samples. The most salient

phenomenon in Andrew’s inner experience was feeling. As shown in Table, 25 of Andrew’s 32 samples (78%) involved feeling. Andrew experienced sensory awareness in 9 of his 32 samples (28%). Three of his samples involved unsymbolized thinking (9%), one (3%) involved concentrated doing and one (3%) involved vigilance. Andrew experienced two each (6%) of the following: inner seeing, inner speaking and laughter/amusement.

Table 7

Frequency of Inner Experience Phenomena for Andrew (32 samples)

	Number of Samples	Frequency (%)
Unsymbolized Thinking	3	9
Inner Seeing	2	6
Sensory Awareness	9	28
Vigilance	1	3
Concentrated Doing	1	3
Feeling	25	78
Amusement	2	6
Inner Speaking	2	6

Note: All totals in the table are approximations.

Feeling

The majority of Andrew’s samples involved feeling experience. Andrew’s feeling experiences were often unlike the “typical” feeling experiences reported by participants in other DES studies.

Sample 2.1: Andrew was sitting at the DMV waiting for his number to be called. At the moment of the beep Andrew is feeling anonymous, like he's just a number, or just one of many. This feeling is a comfortable, familiar one. He is also looking at the numbers on the number display board.

Sample 2.2: Andrew was at the DMV having a conversation with an older man. The man was describing his wartime experiences to Andrew. At the moment of the beep Andrew was relating to this man; there was a feeling of connection/bond with this man. The connection was a result of having a shared experience of war, although this was not in Andrew's awareness at the moment of the beep.

Sample 2.5: Andrew was lying in his bed listening to music. At the moment of the beep Andrew is paying attention to the meaning of the lyrics of the song –“no one's going to hold me back” – and feeling unstoppable. This unstoppable feeling was a mental feeling of relating to the song lyrics and feeling unstoppable as a result.

In the above three samples, Andrew felt anonymous, connected and unstoppable, respectively. These adjectives are not typically what others call feelings, and were difficult for Andrew to describe. It seems that Andrew experienced a broader array of feelings than those that are considered more prototypical, such as anger, sadness and happiness (though he did also experience those types of feelings), or that he used the term “feeling” in a broader sense than is typical. These types of experiences (e.g., anonymous, connected and unstoppable) highlight the difficulty in determining the boundaries of feelings. As best we could understand, Andrew considered these experiences instances of feelings rather than cognitive/thinking experiences or some other type of experience.

Andrew's feeling experiences, though plentiful, were sometimes disjointed and lacking integration. In these instances, his feelings were not coalesced into one coherent experience, but rather encompassed what appeared to be scattered "pieces" of feeling experience. For example:

Sample 4.2: Andrew was walking to class. At the moment of the beep Andrew is experiencing the coolness of the breeze on his arm, contrasted against the heat of the sun. The coolness is on the surface of his skin, but also just below the surface; it feels pleasant. Andrew is also feeling better/happier, brought on by arm coolness, the nice weather and the familiarity of the song that he is listening to on his iPod. Although he believes the iPod music is affecting his mood, the music itself is not central to his experience.

Sample 4.4: Andrew was at home, and had received a job offer about 10 minutes prior to the beep. At the moment of the beep, Andrew is happy and has a sense of accomplishment. Andrew feels physically lighter in his whole body, as though a physical weight has been lifted from his shoulders, and has somehow a mental sigh of relief, as if he is mentally saying "Yes!" but in fact is not saying anything, mentally or otherwise. Much less salient is a slight nervousness about having been out of retail work for some time.

In the initial example it was unclear whether the "happier" feeling was actually experienced, is a pervasive but not experienced mood, or is merely a general characterization of the pleasantness of the individual (arm, weather, iPod) experiences. In the latter sample it was unclear the extent of felt emotion. It was as though the lightness

of his body and the mental “Yes!” were pieces or ingredients of feeling, but were not actually integrated into a cohesive feeling.

Sample 3.2: Andrew had just finished speaking on the phone with his grandmother. At the moment of the beep he is feeling that he failed his family members who are in another city. The feeling of failure is specific to his family members in this other city and does not include his family members in Las Vegas. He also feels detachment. His heart feels like it is being squeezed in someone’s hand. This is a medium level of pressure, like a firm handshake all around his heart.

Sample 3.3: Andrew had just been with his mother and was now driving in his car, leaving his mother. At the moment of the beep Andrew is seeing a still image of his mother’s face. His mother is looking directly at him and he sees that she is sad though he cannot see the details of her face. He can see that she is not crying or frowning. Andrew is feeling a sense of responsibility toward his mother, mixed with a little sadness; this feels like a heaviness pushing down on his shoulders. Andrew’s eyes also feel a little warm/humid, like they are about to get watery. Andrew was aware of the world around him (the noises, the other cars, etc.) but also felt like he was invisible, like was not fully present in the world around him. This sense of being invisible was only peripherally in his awareness at the moment of the beep.

Andrew calls “failure,” “detachment” and “responsibility” feelings, though these may well not be emotional experiences as others use the term. Again in these samples we see emotion that is not well integrated, that is not fully coherent; the squeeze in the heart

seems somehow separate from the detached/failure feeling, but is also related. It is as though Andrew experienced this heart-squeeze and at some point determined that it was a part of an emotion experience, though at what point, if any, he was able to connect the heart-squeeze as a part of the actual emotion is unclear. This is also true of the “warm/humid” eyes he describes – it is as though his experience is not integrated to a point that he can draw the conclusion that the warmness of his eyes may be related to the sadness he feels, and may represent the experience of “tearing up.”

Then again, it may be that Andrew simply has an unusual way of speaking about the otherwise typical experience of feeling sad and tearing up. However, it is unlikely that this is the case, as Andrew *does* evidence the ability to clearly and coherently talk about and experience emotion, as seen in the following sample:

Sample 7.1: Andrew was walking around his house after getting off the phone with a loan officer who had given him bad news regarding his loan. At the moment of the beep Andrew is furious, betrayed, which manifests itself in part as directly experienced warmth throughout his body, most intensely in his chest and ears. As part of or parallel to this rage, Andrew wants to punch something: he feels a surge of energy in his arms, which he feels as trembling (although he doubts that they were physically trembling) and tickling, particularly his biceps and palms, as if he is physically restraining himself from punching. Andrew reports that the rage has been building over the past 5 or 10 minutes since getting off the phone. The fury/betrayal/rage is understood to be the result of the loan-officer conversation, but Andrew does *not* experience his rage as being *aimed* at the loan-officer—it is experienced as pure, objectless rage.

In the sample above, Andrew experiences what appears to be a fully integrated and intense emotion experience, and describes it as such to us during the interview. His emotion experience (fury) consists of experiential bodily aspects that appear to be well integrated with the mental or cognitive aspects of the rage, resulting in an intensive, holistic rage experience. This sample illustrates that Andrew *is* able to experience emotions that are better integrated, but that often his emotion-experience appears unintegrated, suggesting perhaps that the “skill” of experiencing emotions is not well developed.

Andrew appeared to have emotion experiences that were more intense but still somehow unusual and disintegrated, such as in the two samples presented below:

Sample 3.5: Andrew was on his way to Claim Jumper. His ex-girlfriend is driving, taking him out to dinner at his favorite restaurant. At the moment of the beep Andrew is eager, energized about going to Claim Jumper. His body surges with excitement, primarily experienced as a surge of energy or adrenaline that starts in the region of his heart and branches out through his chest toward his shoulders, feeling like several (maybe 3 to 5) marble-sized ball-bearings rolling through his veins toward his shoulders. His right leg bounces up and down as he rapidly taps his foot—he’s more aware of the bouncing of his hand on his knee than he is of the foot itself. The bouncing-hand-on-leg experience is not as central to him as the chest rush. It is unclear whether the “going to Claim Jumper” is actually present as part of his excitement at the beep, or whether it is simply excitement brought on by the going to Claim Jumper.

Sample 7.5: Andrew was lying on the couch. At the moment of the beep Andrew is feeling consumed by anger/annoyance and is at the same time noticing how consumed he is by anger/annoyance. The majority (he calls it 75%) of his experience is taken up by the noticing of how consumed he is by anger (by comparison to the consumed-by-anger itself, 25%). This “consumed by anger” is like a cloudiness that is surrounding him, or encasing him. That is, his seeing (and perhaps his other senses) is cloudy, unclear.

In both samples above Andrew is clearly experiencing emotion (excitement and anger, respectively), yet neither emotion appears well-integrated. Sample 7.5 is unusual in that Andrew is experiencing anger while also *noticing* himself as experiencing anger. In other words this sample is one of meta-awareness. Overall, the majority of Andrew’s feeling experiences were similar to the samples presented earlier that consisted of vague, somewhat difficult to apprehend descriptions of feeling components that were not well integrated and sometime lacked a sense of cohesiveness. Though Andrew had a high frequency of what he called “feeling” (78%), his feelings were not typical, to say the least.

Sensory Awareness

Andrew had several sensory awareness experiences scattered throughout the course of sampling, a number of which have been presented in the “Feelings” section above. Overall, nine of Andrew samples (28%) contained sensory awareness. Many of Andrew’s sensory awareness experiences occurred at the same time as he was experiencing other phenomena (e.g., feelings). Some of his sensory awareness samples are presented below:

Sample 5.1: Andrew was sitting on the couch with his shoes off, after a long day at work. At the moment of the beep Andrew's feet are aching all over and he feels a dull, round jabbing pain in the bottom middle of his foot, in the meaty part between the heel and the balls of his feet. The jabbing is approximately 1.5 inches in diameter, like a dull rod pushing up into the area where the arches of his feet should be. (He has flat feet.) He is also feeling heat release out of his feet into the cool air. His feet had been hot and steamy from having shoes on all day; he is feeling this heat escape his feet. At the same time Andrew is feeling relaxed all over his body, but this is very minimally in his experience (about 5%).

The following are additional examples of Andrew's typical sensory awareness:

Sample 5.2: Andrew was sitting on the couch and slowly drinking a beer. At the moment of the beep Andrew is feeling the carbonation of the beer on the inside of his mouth. The carbonation feels like light stinging sensations all over his mouth; the stinging is very mildly aversive. Andrew also tastes the limey-ness of the lime beer, which he likes, and he is generally thinking the beer tastes good. This thinking does not have any characteristics (words, images, etc) but is somehow present at the moment of the beep.

Sample 5.3: Andrew was sitting on the couch. At the moment of the beep he is moving his hands on the couch and feeling the coolness of the fabric on his hands. He also feels his body (not including arms and hands) melting or sinking into the couch. He is also having a mental process about being relaxed, something like, "I'm so relaxed" only there are no actual words present.

The following sample is an example of sensory awareness as well as Andrew's only sample involving concentrated doing. As can be seen, Andrew was not simply enjoying a sandwich, but was instead purposefully focused on the sandwich.

Sample 7.3: Andrew was eating his favorite Subway sandwich, a spicy Italian with chipotle sauce. At the moment of the beep Andrew tastes the sandwich, particularly the chipotle sauce and the pepperoni, and the taste is good, pleasant. He is effortfully concentrating on the sandwich, trying not to let his mind wander to other things (particularly the loan situation of sample 7.1). There is a small lingering sense of annoyance still present.

A number of Andrew's sensory awareness samples were related to the experience of heat and coolness on his body, or within the environment (e.g., paying attention to the heat radiating from his feet, or the coolness of fabric on his hands, coolness of breeze on his arm). He has few instances of sensory awareness involving other senses, for example, he had no visual sensory awareness samples, and just one taste-related sample.

Additional phenomena.

Andrew experienced what we termed vigilance in one of his samples.

Sample 3.6: Andrew was at Claim Jumper. At the moment of the beep he is feeling happy about being at Claim Jumper. This happiness has no accompanying characteristics or sensations; he is just happy. At the same time, much less central in his experience, he is uneasy or vigilant. He hears/sees in an undifferentiated way the noise and activity of the restaurant and feels as if someone there is watching him, feels distressed because he doesn't know who, feels his body tense and stiffen as he monitors the surroundings.

This sample is unusual in that it involves two seemingly contradictory states, happiness and uneasiness. Although the simultaneous existence of seemingly contradictory states is not unprecedented, it is consistent with the speculation that Andrew's feelings may sometimes be not well integrated.

Andrew also experienced other common phenomena of inner experience, but each at low a frequency. He experienced inner speaking in two samples (6%), inner seeing in two samples (6%), and unsymbolized thinking in three samples (9%). These phenomena were generally fairly typical except for the low frequency with which he experienced them. Andrew also experienced laughter/amusement in two samples (6%). Were we to count laughter/amusement as part of the feeling category, it would even further elevate Andrew's unusually high frequency of samples containing feelings.

Discussion

What stood out in Andrew's sampling was the very high frequency of moments containing what he referred to as "feelings" but that were rather unusual or atypical feeling experiences. When Andrew experienced feelings, there at times seemed to be a lack of integration of the various components of the experience, particularly for milder feeling experiences. He was better able to integrate intense emotion experiences, particularly those related to anger, as highlighted on the final sampling day. Ultimately, it may be that feeling is a developing skill for Andrew, one that he has not yet mastered. Additionally, he had quite low frequencies of other common phenomena of inner experience (inner speaking, inner seeing and unsymbolized thinking) except for sensory awareness, occurring in approximately one quarter of his samples, which is not unusual.

CHAPTER 8

Idiographic Description of Peter's Experience

Peter was a 25 year-old Caucasian male who sampled with us during March and April 2010. Peter was deployed to Iraq for a total of 28 months as a part of Operation Iraqi Freedom on two separate assignments with the Army as a gunner; he experienced active combat on several occasions and incurred a number of injuries as a result. Several fellow soldiers were killed during his deployment, including a close friend. Peter endorsed symptoms of posttraumatic stress disorder on the self-report questionnaires but indicated that he had been taking a course of medications to help with his PTSD symptoms. On a measure of PTSD symptomatology Peter obtained a score that was seven points below our established cut-off for participation; however because of Peter's self-reported PTSD symptomatology and his endorsement of significant symptoms in the prior month, he was included in this study.

Peter collected a total of 45 samples over 9 sampling days and attended an expositional interview within 24 hours of each sampling day. Samples collected on Peter's first through fourth day of sampling were considered training samples due to the apparent difficulty Peter had with the task of apprehending and/or conveying his inner experience. However, these samples will be discussed as they contribute to an overall understanding of the progression of Peter's sampling across time. Please see Table 8 for frequencies of inner experience phenomena for Peter.

Table 8

Frequency of Inner Experience Phenomena for Peter (45 samples)

	Number of Samples	Frequency (%)
Unsymbolized Thinking	1	2
Inner Seeing	6	13
Sensory Awareness	20	43
Concentrated Doing	0	0
Just Doing	1	2
Feeling	0	0
Inner Speaking	2	4
Pain-Related	5	10
Vigilance	1	2

Note: All totals in the table are approximations.

Peter was a particularly eager DES participant. He seemed quite pleased with his ability to cope with PTSD symptoms and thought he could teach others to cope as well as he does. He appeared to enter the DES process with many preconceived notions of what DES might entail. For example, prior to starting the DES process, Peter asked that we review his videotapes with him and comment on his body posture, facial reactions to questions, and so forth in the belief that if he had a better idea of the process of his experience, he may be even more effective in helping others cope with PTSD as he himself had done. Peter expressed many strong beliefs about the nature of his experience,

especially regarding his high degree of vigilance, his nearly constant tendency to scan his environment rapidly for information about those around him and signs of danger, and his constant, intense physical pain.

Our initial day of sampling with Peter was very difficult; it was impossible for us to ascertain whether Peter's reports were of actual experience or whether they were contaminated by his presuppositions. Peter continued to struggle with the sampling process, and we with our ability to tease apart what of his reports were experiential phenomena and what might have been presuppositions, for the first three or four sampling days. We have included sampling days 1, 2, 3 and 4 in our discussions, as they are important in developing a full understanding of Peter. In this chapter we will first discuss how Peter's reports of his experience changed over time and then we will discuss his experience based on his reports during his later days of sampling when we were more confident that he was describing his actual experience rather than his presuppositions about his experience.

Sampling over Time

As mentioned previously, Peter entered the sampling process with very strong convictions about the nature of his inner experience. Although many people hold strong presuppositions about their inner experience, Peter was more vocal than most about his beliefs. On the first sampling day, Peter apparently did not understand the concept of the moment of the beep (as is the case with many participants), but also seemed deeply committed to his beliefs about his inner experience, particularly the belief that he was always vigilantly surveying his environment and the belief that he constantly experienced chronic, bodily pain. The first sample of the first sampling day and the third sample from

the second sampling day illustrate Peter's pain beliefs. It should be noted that experiences from the first day of sampling were difficult for us to apprehend and even more difficult to believe. Therefore, though we have presented some of these samples below as coherent, straight-forward instances of experience, it should be clear that we did not (and do not currently) take these instances to be believable or clear:

Sample 1.1: At the moment of the beep Peter is concentrating on the pain in his right knee (60% concentration) and his lower back (40% concentration). The pain in his knee has flared up to a peak and then remained constant, and feels like very intense pressure pushing from the back of his kneecap directly outwards. The pain in his back is a dull pain like someone is carefully, slowly pushing a pin up through the middle of the bottom vertebra and up into the next 2 vertebrae. Peter is also looking at his son who is standing in front of him. He is in a daze, spaced out, and is searching within himself for some emotion, and finding no emotion – like he is a shell. The searching for emotion is said to be an active doing, trying unsuccessfully to find emotion.

Sample 2.3: At the moment of the beep Peter is focusing on creating of physical pain all over his body, from the top of his head to the bottom of his feet and from the surface of his body down to his bones. That is, he is not merely feeling the intense pain all over his body; he is focused on creating it and experiencing it.

The following samples, both taken from the first day of sampling highlight Peter's beliefs regarding his "constant vigilance."

Sample 1.2: Peter was walking through the casino at the Luxor. His eyes are aimed at a security guard in front of him, but Peter is not experiencing him. At the

moment of the beep Peter is paying attention to the people all around him. Specifically, he is looking at the mirror reflection of the 13 people behind him. The mirror is a thin mirror about 3 inches wide located on a pillar 45 degrees off to Peter's right. Peter is looking at the reflection of the people in this mirror with his peripheral vision (his eyes are pointed forward), and is seeing 13 people reflected in the mirror. He is paying attention to the details of each person he is seeing in the reflection. This was understood to be a direct seeing of the reflection of these people. [Hurlburt said it seemed to violate the geometry of optics, but that did not sway Peter's conviction that he was actually seeing the reflection of 13 people]. At the same time he is having the thought that he hates people walking behind him; this thought is in his direct experience but does not include words or images. At the same time Peter is innerly seeing the badge of the security officer who is standing in front of him. He is seeing the gold badge with black lettering that reads "J.D. Minnesota." He is seeing the badge about a foot out in front of him and to the upper left. The seeing of the badge is less clear than the actual seeing of the reflection of the people in the mirror. Peter was also aware of the 6 people off to his left and the about 20 people in front of him.

In the above sample, Peter meant the numbers 13 and 6 to be taken literally—that is *not* approximately 13. But he was not entirely consistent: 6 became 7 in a subsequent telling. We observed, following this sampling meeting, that Peter seemed powerfully attached to the notion of being hypervigilant, and it was difficult or impossible to know whether that notion influenced what he took to be perception or whether his perception was in fact as complex as he described. We see this difficult-to-distinguish phenomenon again below:

Sample 1.5: Peter was sitting in the corner booth of a restaurant at the Orleans, rapidly surveying each individual person in his environment, one at a time, from close right to far left. At the moment of the beep Peter is looking at a guy dressed in all black and wearing a Raider's shirt, black shoes with a blue stripe, with a scar on his face and an earring in his right ear. This man is about 30-40 feet away, at Peter's 10 o'clock. He is paying most attention to the guy's facial expression, trying to determine whether the guy is a "go/green checkmark/good" or a "no-go/red X/bad." Peter is enraged, his fists clenching, jaw clenching so hard that he worried (after the beep) he might shatter his teeth, but this rage is not in his awareness at the moment of the beep. He wants to fight, is in the kind of mood where he will pick a fight with someone (anyone), wants to break the arm of the guy in the black shirt, but none of that is directly in his experience at the moment of the beep.

Peter's presuppositions may very well have been accurate; our aim, as with all participants, was to help Peter bracket those presuppositions. For example, if vigilance was a part of his experience at the moment of some beep, we wanted to hear about it, but if not, not. Furthermore, Peter appeared, until at least the second day of sampling, to have a very limited view of what "counted as" experiential phenomena. A discussion of the concept of 'experience' and the moment of the beep appeared to clarify Peter's understanding of the DES process. During the third day of sampling Peter appeared to have a better sense of the process, and though we still had difficulty keeping Peter focused on the moment of the beep and not on his general beliefs about himself, the struggle was somewhat reduced. It is also on this sampling day that Peter reported

phenomena a) that did not necessarily adhere to his presuppositions as closely as previous reports and b) that he continued to report, quite believably, for the rest of our sampling meetings (see below for a discussion of these and other phenomena).

The fourth day of sampling marked somewhat of a transformation in the sampling process. On this day, Peter reported a flashback:

Sample 4.2: At the moment of the beep, Peter is having a flashback of a scene from Iraq. He is in his Humvee, gloved hands on his 50-caliber rifle, seeing in full 3-D color his friend Jay being blown up by an IED [improvised explosive device]. He sees the top left part of Jay's head being blown up and to the left, his right arm flying off to the right, his left arm being flung to the left, spurts of blood everywhere. Peter feels the grip of his 50-caliber rifle, smells the gunpowder and the chlorine from the explosive, tastes the grit. This is a multi-sensory experience but there is no sound. [Peter reported that as far as he can tell, he did not hear anything in 'real-life' at the time of the actual explosion that killed his friend in Iraq. He was unsure why he heard no sound].

Peter's retelling of this flashback experience appeared particularly difficult and painful. He took several lengthy pauses afterwards to compose himself. Peter indicated that speaking about the flashback in such detail was difficult and out-of-the-ordinary, but also relieving.

It appeared that Peter had become progressively better able to apprehend his experience across the first four sampling days, as evidenced by his vivid and believable report of his flashback (in beep 4.2), including a focus on the sensory aspects of the experience. The following expositional interview day (day 5) was markedly different –

Peter's reports of moments of the beep were much clearer and less diluted with generalities about experience, and our discussions with him were much easier to navigate. Peter appeared much calmer. He reported to us that the process of sampling was decreasing his levels of inner chaos and helping him become "more organized" mentally and behaviorally.

We are unsure precisely why the transformation around days 4 and 5 occurred. It is possible that Peter, being given the opportunity to discuss the sensory aspects of his awareness in-depth, without judgment, was better able to capture, apprehend and describe his momentary experience. It is also possible that having the opportunity to describe the flashback of his friend's death in an in-depth, detailed manner without being judged or asked to emote regarding the experience may have somehow been freeing to Peter. The discussion of the flashback may have assured him that we would accept him regardless of what material he brought to the table, and that he could openly be himself and report on his true experiences while meeting with us; that our only expectation of him was to access his momentary inner experience. It is also possible that the shift had nothing to do with the report of the flashback and was instead the result of the iterative training he received in apprehending his experience at the moment of the beep.

Sensory Awareness

The most prominent example of the change in the reports and nature of Peter's inner experience over time was the increase in the frequency of sensory awareness. Peter's reported experience became increasingly sensory-focused after sampling day 4, with 60% (18 out of 30) of his samples on days 5 through 9 involving sensory aspects, as opposed to only 19% (3 out of 16) of his samples collected on days 1 through 4; this is a

3-fold increase in sensory awareness. Peter's sensory awareness samples included both bodily and external examples. His sensory awareness ranged in complexity from rather simple and straightforward to sophisticated and complex. Examples of Peter's more straightforward sensory experiences are as follows:

Sample 5.3: Peter was watching a boiling pot of thick stew. At the moment of the beep Peter is completely absorbed in a bubble that is about to break through the surface in the thick, red liquid of the stew (external sensory awareness).

Sample 6.1: Peter was lying in bed, cheek-to-cheek with his son. At the moment of the beep Peter is absorbed in the cold, smooth feeling of his son's cheek on his own cheek (bodily sensory awareness).

Sample 7.3: Peter was cleaning his Colt-45 revolver and doing function checks. At the moment of the beep Peter feels the roughness of the hammer on the meaty part of his thumb. He is completely absorbed in the roughness of the hammer, which feels like pressing his thumb on rough sandpaper (bodily sensory awareness).

Some of Peter's sensory awareness samples were less typical and more complex than those described above.

Sample 6.3: Peter was staring at a piece of paper and was spacing out. At the moment of the beep Peter is noticing the blurriness of his vision and is actively, mentally trying to refocus his eyes. He is also feeling the muscles around the outer edges of both eyeballs straining, but this is less central in his experience.

Sample 6.3 is a bodily sensory awareness but was unusual in that Peter felt the muscles in his eyes as they were straining to refocus. Most people, for example, do not notice the

focus of their eyes—eye focusing typically takes place automatically, ahead of experience, so to speak. By contrast, Peter is actively engaged in the doing of the focusing; he is paying attention to the muscles around his eyeballs, a rare phenomenon (R.T. Hurlburt, personal communication, 2010). Sample 6.6 is another sensory awareness example that is representative of Peter’s unusual sensory experience.

Sample 6.6: At the moment of the beep Peter is completely absorbed in the imaginary smelling and tasting of sulfur. The smell is so strong it includes a sensation of burning along the inside of both nostrils. (Peter noted that the smell and taste of sulfur were very, very strong, as though coming from a sulfur pit, however, there was no sulfur or sulfur pit in his environment).

In sample 6.6, Peter smelled sulfur that did not exist within his environment. The ‘smell’ was so intense that he experienced it as burning the inside of his nostrils. In this sample we see a very unusual bodily sensory experience. We see this type of imagined or manipulated sensory experience in two other instances involving the visual system.

Sample 7.4: Peter was ironing his white chef’s jacket, and had just placed the iron off to the side. At the moment of the beep his eyes are fixed on the jacket, which is not directly in his experience. Instead, he is completely absorbed (his word was “stuck”) in infinite, very bright, illuminated whiteness. This whiteness is much brighter than the whiteness of the chef’s jacket; it is as bright as looking into a headlight and is all around him in an unbounded, uniform fashion.

Peter was of the impression that the whiteness experienced in Sample 7.4 had arisen from the whiteness of the chef’s jacket, but the jacket and the arising of the whiteness were not experienced at the moment of the beep. Instead, he was simply absorbed in whiteness.

Sample 7.6: Peter's eyes were fixed on his Xbox, but the Xbox was not in his experience at the moment of the beep. Instead, at the moment of the beep, Peter sees a flash of intense, imagined redness. The redness is a solid, intense, fire engine red located only in the spot in which he is looking.

Both sample 7.4 and 7.6 involve a visual absorption in intense color that is not actually immediately present in his real environment. In sample 5.2, Peter described a parallel auditory phenomenon:

Sample 5.2: Peter was looking at an old black and white wall clock across the room. At the moment of the beep he is seeing the second hand snap from twenty-two seconds to twenty-three seconds. He is focused on the movement of the second hand; he is not concerned with the time. In synch with the snap of the series of six-degree snap, snap, snap of the second hand, he innerly hears a sharp, metallic click, click, click sound, something like the sound he thinks the second hand might be making were he able to hear it. The metallic clicking is somehow present to him with each snap of the second hand, but it is not actually heard in the real world. (The sound is something like two knives being clicked together or the sound an M16 trigger makes when being tested).

In this sample Peter was hearing in the absence of sound. Again, this appears to involve a manipulation of his sensory experience in such a way that he had created the experience of an appropriate clock-ticking sound in the absence of one. In another example of unusual sensory awareness, Peter is consumed by an almost-painful ringing in his ears.

Sample 9.1: Peter was experiencing a completely consuming and loud ringing in his ears for at least several seconds. This ringing was so loud that he either did not

hear or did not cognitively register that the beep was going off until *after* the ringing in his ears stopped. At the approximate moment of the beep Peter is completely consumed by the ringing in his ears. The ringing is intensely loud, clear, pure and high-pitched; approximately a 5000 Hz tone [as roughly approximated using Audacity to create sine waves; 3520 seemed too low, 7040 seemed too high]. It is in his ears and inside his head. The sound is almost painful and is accompanied by or creates a strong pressure pushing from inside his head outwards in all directions.

As previously discussed, Peter's sensory awareness experiences increase 3-fold following sampling day 4. A parallel decrease in other phenomena is noted in the days following sampling day 4. This was a dramatic change in his reports of the content of his inner experience. Given that the frequent reports of sensory awareness came after he became better able to report on his experience at the moment of the beep and that these changes were not anticipated by him nor were they consistent with his presuppositions about his experience, it does appear that sensory awareness is a major component of Peter's inner experience. The increase in the frequency of his reports of sensory awareness were also accompanied by Peter saying that the process of sampling had been very helpful to him.

Pain

Peter's reports of the experience of pain also changed fairly dramatically over time. Five of Peter's 46 samples (10%) involved pain-related experience, but four of these samples came during Peter's first four days of sampling and only one came during days five through nine of sampling. As mentioned previously, upon starting the sampling

process, Peter described pain as being central to his daily experience; he stated several times that he experienced pain on an almost constant basis. However, over 9 days of sampling, Peter had only one “in pain” experience, which occurred during the first day of sampling. It is possible that as sampling progressed, Peter became less attached to this aspect of his self-concept (“I’m always in pain”), resulting in an absence of pain-related samples.

The Doing of Pain

However, Peter reported that he not only experienced pain on a constant basis, but also, separately, that he *created* pain in his body in an attempt to counteract the naturally occurring pain. In other words, he stated he was able to create bodily pain despite the fact that there was not any immediate, physical cause of pain. Peter stated that he created pain in order to counteract or reduce his existing pain. Focusing on the *creation* of pain, according to Peter, reduced the impact of the pain already ongoing in his body. In other words, Peter said he used this pain-creation as a coping mechanism.

He described a very complex and sophisticated process by which he created pain. This process began with creating pain in an area of his body contralateral to the area of already-existing pain and then “spread” his created pain evenly throughout the rest of his body in a generally ordered manner – working upward or downward until he had created pain everywhere. He reported that he was unable to specifically create a certain *type* of pain (e.g., aching, stabbing, sharp, dull, etc.); that part of the pain-creation was out of his control. As is clear, Peter had spent a great deal of time considering his pain and the process of pain creation; he appeared particularly attached to his pain concepts.

Interestingly, Peter experienced the phenomenon of pain-creation in four samples, three of which occurred during the first four days of sampling. Two of Peter's four pain-creation samples are presented below so that the reader can gain a better understanding of his "pain-creation" descriptions. Because we encountered Peter's pain-creation even on the final day of sampling, it is possible that Peter did in fact have an accurate view of his tendency to engage in this act (more accurate than his belief of "always" being in physical pain).

Sample 4.1: At the moment of the beep Peter is producing pain in his left shoulder. He has just started this process and doesn't feel any pain yet. He has excluded the rest of the world and is entirely concentrating on a specific, thin area about the diameter of a pen in the soft part of his shoulder, just below the bony part.

Sample 9.2: Peter was creating pain throughout his body. Just prior to the beep Peter was focused on creating pain in his right thigh. At the moment of the beep Peter is feeling pain he created that feels like a charley horse in his right thigh [the pain was not intended to feel like a charley horse specifically, but it ended up randomly feeling this way]. At the same time Peter innerly sees the top of his own thigh in front of him, laid out horizontally. The thigh is fuzzy, black and white, a 2D outline that includes veins, arteries, bones, but no skin. Peter is trying to see the inside middle of his thigh.

Inner Seeing – Visual Violence and the Absence of Emotion

Six of Peter's samples (13%) involved inner seeing; of these six samples, four occurred after the fourth sampling day. There were two unusual features of Peter's inner

seeing that were present in five out of the six samples of inner seeing. The first was the presence of graphically violent content. The second was a complete lack of any feeling, despite the seemingly emotion-laden content of the inner seeings. Here are those five instances of inner seeing:

Sample 3.2: Peter was in class. At the moment of the beep Peter is innerly seeing himself strangling Carl. Peter is clearly seeing himself and Carl, head to toe, from a third-person perspective, the seen-Peter on the left and Carl on the right. They (Seen Peter and Carl) are both wearing their white culinary school uniforms and standing in their culinary school classroom. Real Peter sees tan walls and tables and chairs around them (apparently an accurate recreation of the actual classroom except that there are no people in the imaginary classroom other than Seen Peter and Carl, and there are many other students in the real classroom). Real Peter sees Seen Peter's hands around Carl's neck; the veins in Seen Peter's hands and arms are pulsating. Carl is dead as a result of the strangling. Seen Peter is staring into Carl's eyes, and this is Real Peter's focus. Seen Peter is feeling sad, confused, angry, all at once, which Real Peter can tell by Seen Peter's facial expression, but Real Peter is not experiencing any emotion. At the same time, Real Peter hears the dull buzz of voices in the room; these voices sound like they're coming from behind him.

Sample 5.6: At the moment of the beep Peter is innerly seeing himself pulling the skin off of a woman's face. He is seeing this from the first person perspective; his right hand is reaching out in front of him, and is holding the woman's face, pulling the skin away from the face. The skin is stretched out tightly and is about

to rip. He can see her eyes pointed upwards because of the angle of the pulled skin. He is seeing only his hand and the woman's face and head – she has long, curly blond hair. There is no background.

Sample 7.1: Peter was sitting in the dark, at home. At the moment of the beep he innerly sees himself stab someone in the side of the face. He sees his hand moving from the right to the left holding a knife horizontally, stabbing the face from the side. He sees his hand, the knife hilt and blade and the tip of the blade piercing the skin of the cheek. The face he is stabbing is blurry and unclear, except for the spot being stabbed, which is clear. He knows this face to be the face of the “enemy.”

Sample 8.1: Peter was sitting at home on his couch, and was purposefully fantasizing about harming his ex-wife. At the moment of the beep Peter innerly sees his ex-wife lying on a stainless-steel countertop; she is nude and the top 3 layers of her skin have been peeled off by him, leaving a uniformly red tinge to her body from head to toe. Peter sees himself standing over her body and pouring liquid sodium-iodide onto her body – the beep occurs when the liquid is pouring out of its container but has not yet hit her body (it is in midstream). Peter sees, from a perspective slightly above and looking obliquely down, the right side of his own body from head to toe, standing over his ex-wife who is seen lying on a stainless steel table, her feet pointed toward where he is viewing the scene from. Her head is obscured by his body. To the center of this seeing is the pouring of the liquid onto her body, but Peter also sees details of the room, including windowed walls, knives and other tools used for skinning his ex-wife and an IV hooked into

her arm. The ex-wife is alive; the object of this imaginary skinning and pouring is to inflict a maximum amount of pain—salt into open wounds, head to toe.

Sample 8.5: Peter was at an auto-shop and a mechanic named Ryan was talking to him about car-parts. At the moment of the beep Peter innerly sees himself, from a first person perspective, punching Ryan in the face. Peter is most focused on the ripples in Ryan's facial skin, created by the impact of the punch. The ripples are moving outward from the site of impact, from the cheek area toward the temple, and each ripple is distinct and markedly slowed down in time, such that it takes about two seconds for the ripples to travel from the point of impact to the ear (an event that would happen in real life in a fraction of a second). However the rippling motion does not seem slowed down to Peter. Peter also sees his forearm and fist, and Ryan's body from about the chest up, although Ryan's body is non-descript and blurry. Thus Peter sees himself hit Ryan in the face and sees the resulting skin ripples, all in one seeing that seems quite natural. But on closer examination, the hitting takes place at the usual pace whereas the ripples are dramatically slowed, even though all seems quite natural and not time altered.

The first striking aspect of all of these samples is their violent nature. All five samples involve particularly violent acts towards others. Peter's descriptions all involve a great deal of detail regarding the violent acts with a focus on the physical damage being inflicted. Of further interest is the fact that in all five samples the violence is being perpetrated by Peter, and he is imagining either hurting, killing or torturing the individuals involved. The vividness of these inner seeing is also consistent with the sensory focus present in many of Peter's other samples.

The second striking aspect of the above samples is the seeming lack of directly experienced feeling in the presence of apparently on-going emotion, specifically, some form of anger. For example, in sample 8.5 Peter said that his intention in this seeing was to see the skin ripples: “I wonder what the ripples would look like if I hit Ryan in the face?” When asked whether he was angry, Peter said no; it was as if a scientist were interested in the rippling phenomena. However, subsequent interview revealed that before the beep Ryan had indeed said something that had annoyed Peter. So it seems reasonable to understand this as viewed from the omniscient perspective as follows: Ryan annoyed Peter. Rather than experience the anger or even annoyance emotion directly, Peter innerly saw something related to anger. But the distancing from the anger was double in this seeing: Not only did he innerly see rather than directly feel the anger, but the inner seeing was estranged from the anger itself: He did not see himself as angrily hitting Ryan, he saw himself as scientifically hitting Ryan.

That is similar to other of his inner seeings. In sample 8.1 Peter was innerly seeing himself torture his ex-wife in a very science-like and precisely imagined way; again when asked whether he was angry, Peter said no and again, following subsequent interviewing, Peter verbalized intense dislike for, even hatred toward, his ex-wife. In sample 7.1 Peter was innerly seeing himself stab a face that represented to him “the enemy.” In this sample, like the others, Peter said that he was not angry, but was simply fantasizing the act of stabbing the enemy. However, at other times Peter had expressed his anger toward those who had inflicted harm upon him and his fellow soldiers in combat, presumably those others were “the enemy” represented in Peter’s inner seeing. The remaining two samples appear to encapsulate the same phenomenon, although we

did not at the time question Peter regarding whether he'd ever had feelings (positive or negative) for the blond woman in sample 5.6, or Carl in sample 3.2. As far as we can understand, three (and likely all five) of Peter's inner seeing samples involve violently acting out anger toward other individuals without the direct experience of any emotion.

Peter described his inner seeings as usually purposeful fantasies for which he would sometimes set aside time during the day. His fantasies involved extremely precise, detailed and graphic depictions of violence with no associated experience of emotion. It is possible that Peter's violent inner images are a tool he uses, either consciously or unconsciously, to distance himself from the experience of negative emotions. Consistent with this possibility is the absence of any reports of directly experienced emotion in Peter's samples. Peter reported no feelings (positive *or* negative) throughout the course of sampling, suggesting he may have learned to use his fantasies or inner seeings to remove himself from or as a substitute for feeling experiences.

Peter reported one additional inner seeing experience that did not fit the patterns of the inner seeings described above.

Sample 2.2: Peter was sitting on the couch doing nothing in particular. At the moment of the beep Peter is innerly himself sitting on the couch. He is seeing himself from a perspective behind and slightly above and to the left. He sees only lines, a curved solid, sketched line representing the left side of his face, another curved line representing the right side of the back of his head, and another curved line representing his left ear. He is seeing some straight lines that represent the walls and floor and couch. Thus he sees only outlines—he does not see what is in

between the outlines—as if he is seeing a pencil or charcoal sketch. Everything he’s seeing looks as though it is sketched with a charcoal pencil.

This example of inner seeing seems to be somehow related to Peter’s focus on sensory experiences and his frequent purposeful alteration of these sensory experiences. Here he is not simply seeing himself as he is but instead he is seeing a stylized or abstracted, sketched version of himself. It is as if he effortfully, perhaps unconsciously or automatically, altered what might otherwise be an inner seeing of himself as he existed at that moment.

Additional Phenomena

Inner speaking.

Peter had inner speaking in only two of his 39 (5%) samples. He reported possible inner speaking in a third sample, but was very unsure whether he was speaking out loud or speaking innerly at the moment of the beep. Unlike his highly detailed inner seeings, Peter’s inner speaking was somewhat underdeveloped.

Sample 5.4: Peter was at home, trying to find his sunglasses. At the moment of the beep Peter is innerly saying “glasses” over and over again [“glasses, glasses, glasses....”] and is in shape-recognition mode, looking for the shape of his glasses. He is taking in his surroundings, from periphery to periphery, and sees everything in his surroundings simultaneously. He knows what he is looking for and has a sense that his glasses will jump out at him when he sees them, but this is not clearly in his experience.

Sample 8.2: Peter was wondering about what type of lawyer he needed. At the moment of the beep Peter is innerly saying the word ‘lawyer’ in a flat tone of

voice. He was engaged in wondering about what type of lawyer he needs, but that wondering was not in his awareness at the beep.

In both these examples, Peter's inner speaking is somewhat rudimentary, consisting of just one word each time. His experience is not of typical inner speaking but something less sophisticated. In another sample, Peter is experiencing what seems to be particularly underdeveloped inner speaking, bordering on wordless speaking or unsymbolized thinking, but not quite either of those.

Sample 8.4: Peter was working on his car getting ready to tighten a bolt with a ratchet. At the moment of the beep he is thinking, "lefty loosey, righty tighty." This thought does not involve clear words or images but is unfolding over time such that the beep occurs at the pause between 'loosey' and 'righty' as if the thinking has some kind of rhythm or temporality even though it does not have words.

These underdeveloped or rudimentary instances of inner speaking stand in stark contrast to Peter's instances of detailed inner seeing and his moments of vivid sensory experience. These moments of inner speaking were also quite rare. Thus inner speaking does not seem to be a central part of Peter's inner experience.

Visual vigilance.

Peter also reported four instances of what we have termed "vigilance." Two of his four vigilance samples occurred on the first day of sampling and again, closely paralleled the descriptions Peter had given of himself prior to the start of sampling. In addition to describing to us his chronic pain, Peter also shared that he is an extremely hypervigilant individual. He described a tendency to "see everything at once" and to be able to take in

his surroundings quickly and efficiently in order to assess the level of safety of his environment; he said that he developed this skill in the military and it continued into civilian life. On the first sampling day Peter described two very detailed instances of vigilance, the first being a more “visual” form of vigilance.

Sample 1.2: Peter was walking through the casino at the Luxor. His eyes were aimed at a security guard in front of him, but Peter was not experiencing him. At the moment of the beep Peter is paying attention to the people all around him. Specifically, he is looking at the mirror reflection of the 13 people behind him. The mirror is a thin mirror about 3 inches wide located on a pillar 45 degrees off to Peter’s right. Peter is looking at the reflection of the people in this mirror with his peripheral vision (his eyes are pointed forward), and is seeing 13 people reflected in the mirror. He is paying attention to the details of each person he is seeing in the reflection. This was understood to be a direct seeing of the reflection of these people. [When it was pointed out to Peter that what he was seeing seemed to violate the geometry of optics, Peter’s conviction that he was actually seeing the reflection of 13 people was not swayed]. At the same time he is having the thought that he hates people walking behind him; this thought is in his direct experience but does not include words or images. At the same time Peter is innerly seeing the badge of the security officer who is standing in front of him. He is seeing the gold badge with black lettering that reads “J.D. Minnesota.” He is seeing the badge about a foot out in front of him and to the upper left. The seeing of the badge is less clear than the actual seeing of the reflection of the people in

the mirror. Peter is also aware of the 6 people off to his left and the about 20 people in front of him.

In this sample, Peter meant the numbers 13 and 6 to be taken literally—that is *not* approximately 13. But he was not entirely consistent: 6 became 7 in a subsequent telling, and 13 became 15. Peter appeared powerfully attached to the notion of being hypervigilant, and in-line with his firmly held belief, even when inconsistencies or impossibilities of what he was describing were pointed out, he was somewhat resistant. Peter reported two more instance of this “vigilance” on the fifth and seventh days of sampling. However, although the phenomenon was the same, it appeared that the vigilance was “toned down” at least in Peter’s description, in comparison to his description in sample 1.2.

Sample 5.4: Peter was at home, trying to find his sunglasses. At the moment of the beep Peter is innerly saying “glasses” over and over again [“glasses, glasses, glasses...”] and is in shape-recognition mode, looking for the shape of his glasses. He is taking in his surroundings, from periphery to periphery, and sees everything in his surroundings simultaneously. He knows what he is looking for and has a sense that his glasses will jump out at him when he sees them, but this is not clearly in his experience.

Sample 7.5: Peter had just walked into an audio store. At the moment of the beep Peter is vigilantly taking in his surroundings. He is taking in his surroundings from periphery to periphery and sees everything simultaneously; however, his eyes are pointed forward, unmoving. Although he is looking at everything, nothing is particularly in focus. The vigilant taking in is done with the purpose of

finding anything that may be out of place or dangerous, but this is not in his awareness at the moment of the beep.

In sample 5.4 Peter is visually vigilant or aware of his environment, however his vigilance is not safety-based but is instead a “searching” vigilance. In sample 7.5 Peter was taking in or seeing his entire environment without scanning or moving his eyes. This seeing was vigilant and purposeful, done presumably in the pursuit of safety.

Finally, Peter described a slightly differing version of vigilance that involved the same intense awareness of his environment, however it appears that in this instance we have “caught him” just following the initial visual scanning phase and he appears to have “honed” his attention in on a potential threat.

Sample 1.5: Peter was sitting in the corner booth of a restaurant at the Orleans, rapidly surveying each individual person in his environment, one at a time, from close right to far left. At the moment of the beep Peter is looking at a guy dressed in all black and wearing a Raider’s shirt, black shoes with a blue stripe, with a scar on his face and an earring in his right ear. This man is about 30-40 feet away, at Peter’s 10 o’clock. He is paying most attention to the guy’s facial expression, trying to determine whether the guy is a “go/green checkmark/good” or a “no-go/red X/bad.” Peter is enraged, his fists clenching, jaw clenching so hard that he worried (after the beep) he might shatter his teeth, but this rage is not in his awareness at the moment of the beep. He wants to fight, is in the kind of mood where he will pick a fight with someone (anyone), wants to break the arm of the guy in the black shirt, but none of that is directly in his experience at the moment of the beep.

The two examples in which Peter reports experiencing vigilance most consistent with his presupposition about always scanning the environment for danger and attending to many aspects of the environment simultaneously were on the first day of sampling when it was difficult to be confident that Peter was apprehending and describing his actual experience. The two later examples of vigilance share the feature of Peter scanning or seeing the entire environment at once without his focus shifting from one area of his visual field to another. Thus it seems reasonable to be more confident about this aspect of his vigilance more so than his description of being able to attend to many detailed aspects of his visual field simultaneously.

Discussion

Overall, Peter's inner experience consisted mostly of an absorption in or noticing of the sensory aspects of his environment; almost half of his samples involved this sensory awareness. What is particularly interesting about Peter is the "evolution" of his sampling – we see an increase in the reporting of sensory awareness following the fourth day of sampling, and an equal decrease in pain-reports. However, the doing of pain instances continued throughout the course of sampling and were highly unusual and not seen in previous DES studies. As mentioned previously, it is unclear why exactly this shift occurred, but hypotheses include an increase in comfort with the sampling process and the interviewers, increasing skill at apprehending his inner experience, actual change in his inner experience as the result of sampling and/or possibly as some loosening of his previously firmly-held beliefs about his inner experience. Peter also experienced a series of graphic, violent inner seeing samples that occurred in the absence of any directly experienced emotion. We hypothesize that these inner seeings are Peter's way of

indirectly experiencing, or “relieving” himself of, feelings such as anger, rage and hatred; this becomes especially meaningful when considering the fact that Peter did not report a single feeling-experience throughout the course of sampling (or in our discussions with him outside of sampling). There were some instances where Peter experienced visual vigilance where he was attending to his entire visual field at once. There was little evidence that inner speaking was a salient feature of Peter’s inner experience with only a few instances of very rudimentary inner speaking being observed over the nine days of sampling.

CHAPTER 9

Idiographic Description of Geoff's Experience

Geoff was a 28 year-old Caucasian male who sampled with us in March and April 2010. He was deployed with the Army to Iraq from 2005 to 2006 and again for 15 months from 2007 to 2009. During his first deployment Geoff stated his military occupational specialty was a mechanic but he was involved in raids and ambushes on a regular basis. During his second tour, Geoff reported that he experienced more boredom, but also had more time to think, causing him to experience, in his own words, more thoughts “that mess with your mind about everything you’ve done.” He described a number of traumatic incidents throughout his time in Iraq, and he endorsed significant symptomatology of posttraumatic stress disorder. Geoff also described a long family history of military involvement, and exhibited a great deal of pride in his family’s history as well as his own military history. He described his training and his deployment experiences as rewarding overall and a source of pride.

Geoff collected a total of 31 samples over 6 sampling days and attended an expositional interview within 24 hours of each sampling day. Two of his 31 samples occurred while he was sleeping and therefore will not be discussed. Please refer to Table 9 for frequencies of inner experience phenomena for Geoff.

Table 9

Frequency of Inner Experience Phenomena for Geoff (17 samples)

	Number of Samples	Frequency (%)
Sensory Awareness	10	59
Vigilance (internal and external)	8	47
Flashback	2	12
Unsymbolized Thinking	1	6
Feeling	1	6
Inner Speaking	0	0
Inner Seeing	0	0

Note: All totals in the table are approximations.

The Evolution of Sampling

What was particularly striking about Geoff was that, unlike our other participants, Geoff seemed to experience significant difficulty with the DES task throughout the sampling process. Geoff's difficulty with the task was apparent from the first day of sampling. He appeared to have difficulty understanding the concept of the moment of the beep, despite discussions about the moment of the beep during our expositional interview. However, difficulty with sampling on the first day is not entirely uncommon, which is why we usually discard samples from that day. But Geoff's difficulty with comprehension of the task appeared to continue well beyond the first day. His lack of clarity about the moment of the beep became especially apparent on the third day of sampling. Geoff's initial report of his experience 'at the moment of the beep' in a

particular sample (sample 3.2) was that he was looking for a pen to write in his notebook *as a result of the beep*. Therefore, it appeared on that occasion (and likely on other occasions), Geoff was reporting his experience immediately following the beep, and not just prior to the beep as instructed.

During our expositional interview with Geoff on this third day of sampling we belabored the concept of the moment of the beep, using examples and metaphors until we were satisfied that Geoff had a better understanding of the concept of the moment of the beep. Geoff indicated that he did in fact understand the concept and would incorporate his new understanding into future sampling days. However, Geoff's struggle with the sampling process appeared to continue on the fourth through sixth days of sampling though his clarity increased somewhat.

Although we believe that Geoff was better able to complete the sampling task following the third day of sampling, we must still approach all his samples with a certain degree of skepticism. Geoff's difficulty in accessing the moment of the beep may have been a result of the nature of his inner experience; perhaps some feature of his experience prevented him from gaining access to the moment of the beep (i.e., his experiential process was so fragmented that he was unable to home in on just one moment in time). Perhaps Geoff was not dedicated to the DES task in general; perhaps he did not take the time or effort to understand the task. However, Geoff reported on several occasions that he found the task intriguing and that he took the task seriously. Furthermore Geoff consistently came to his appointments, participated fully and with apparent good humor in all expositional interviews, despite our tough questions, and often comment on the sampling process. It is also possible that the presuppositions of the investigators

somehow interfered with our ability to apprehend Geoff's experience because it was so different from our own. Although we cannot rule out this possibility, the fact that we had two and usually three investigators present for Geoff's expositional interviews and that we attempted to bracket our presuppositions as best we could makes this explanation seem unlikely. Regardless of the source of our skepticism, we never became fully convinced of Geoff's reliability in reporting his momentary experience.

For the reasons discussed, prudence suggests we should be cautious about interpreting samples from the first three days of Geoff's sampling. Therefore, the first 14 samples (days 1 through 3) will not be fully discussed unless they aid in clarifying his later experiences. We remain aware of the possibility that Geoff may *never* have clearly understood the moment of the beep or the sampling process, but we believe that his abilities improved following the third day of sampling.

The Prominence of Sensory Awareness

The most common feature of Geoff's inner experience was sensory awareness. Either the presence or the recognition of sensory awareness changed substantially over the course of his sampling. Specifically, Geoff reported sensory awareness during the first day of sampling and it was evident in 3 (25%) of his 12 samples during the first three days; but it was present in 10 (59%) of his 17 samples from days 4-6. This pattern is consistent with the notion that sensory awareness is a core feature of Geoff's inner experience and that he became better at recognizing it as he improved his ability to focus on the moment of the beep and to apprehend his inner experience.

Of the 10 instances of sensory awareness occurring during sampling days 4 through 6, 8 (47%) were externally-focused and 2 (11%) were bodily. Geoff's externally-

focused sensory awareness included focusing on single color or sounds within his environment.

Sample 4.1: Geoff was setting up his Xbox to play a video game and the lower half of the TV screen was green. At the moment of the beep Geoff is completely absorbed in the greenness.

Sample 5.2: At the moment of the beep Geoff is listening to a Johnny Cash song; he is completely absorbed in the song.

Sample 6.2: Geoff was outside, watching a lady walk by with a large, dark brown dog on a leash. At the moment of the beep Geoff is absorbed in the brownness of the dog's fur.

As these examples show, Geoff's instances of externally-focused sensory awareness were quite simple and were typical of moments of sensory awareness reported by other participants.

Geoff also experienced two instances of bodily sensory awareness that involved intense pain.

Sample 5.3: At the moment of the beep Geoff is absorbed in back pain. The pain is intense (greater than 10 on a 10-point scale), sharp, stabbing, like many sharp objects bilaterally stabbing into his sides just above his hips, moving horizontally toward and past the center of his lower back/spine.

Sample 5.6: Geoff had just stubbed the toes of his right foot on the doorframe to his room. At the moment of the beep Geoff is absorbed in severe pain. The pain is in the smaller toes of his right foot and is intense, sharp and stabbing.

The Experience of Vigilance

Geoff reported a phenomenon we have termed vigilance in eight of his 17 samples (47%) from the fourth, fifth and sixth days of sampling. Geoff's vigilance was in some ways similar to the vigilance reported by other participants in this study (i.e., externally-focused); however, Geoff's vigilance also included several instances of internally focused vigilance or self-monitoring. He was usually monitoring or noticing his internal level of calmness or relaxedness and was insistent throughout sampling that he was not *feeling* calm or relaxed, but was *noticing* that he was calm or relaxed at any given moment.

A typical example in which Geoff is experiencing externally-focused vigilance, in which he is "monitoring" his surroundings as part of his experience, is presented below:

Sample 4.4: Geoff was playing a fighting game on the Xbox and was intent on killing the bad guy character. At the moment of the beep Geoff is intensely focused on beating the bad guy and is playing aggressively. At the same time Geoff feels aggressiveness, his heart is beating a little faster. Geoff is also, directly in his experience but at a low level, monitoring his surroundings, keeping track of who is there, what is happening.

Similarly to sample 4.4, several of Geoff's vigilance reports involved him engaged in some other task while simultaneously, though less saliently in his experience, monitoring his surroundings:

Sample 6.5: Geoff was at home and there was a good deal of commotion going on around him – Rachel and her mother were speaking, Rachel was talking to Junior, the A/C had just come on and was noisy, the scent of food was in the air,

and Geoff and Peter were trying to watch a movie. At the moment of the beep Geoff is aware of all these sensations in his surroundings.

In other instances, the vigilance was the primary or only aspect in his experience:

Sample 6.3: Geoff was walking out of his house towards his car. At the moment of the beep Geoff sees an orange-juice container that's on the sidewalk, the orange on the juice container, and a guy walking by on the sidewalk all at the same time. The container, the orange and the guy walking are all lined up in a straight line from Geoff's perspective in a way that is striking to him. These objects and their configuration strike Geoff as odd/unusual/out of the ordinary/out of place/weird somehow; this is not a thought but is somehow present to Geoff. Geoff is intently, vigilantly focused on these objects and the surroundings, though his visual taking in of the greater surroundings may not have occurred until just after the beep.

As mentioned above, several of Geoff's samples involved the experience of internally-focused vigilance, or self monitoring:

Sample 6.4: Geoff had just had a conversation with his girlfriend that had left him happy and calm. At the moment of the beep Geoff is somehow noticing that he is calm/relaxed both mentally and physically. The physical calmness exists throughout his body.

Geoff reported this noticing or monitoring of his calmness on several occasions. He was not simply feeling calm (or happy, or relaxed), but instead was somehow vigilantly monitoring his level of calmness (or happiness or relaxedness) as if to reassure himself that he was indeed calm (or happy or relaxed). This phenomenon was unusual to us, and

we often met Geoff's reports of self-monitoring with intense, direct questioning. In fact, Geoff reported this self-monitoring from the first day of sampling, and despite our interrogations, never backed down from his self-monitoring claims.

Sample 4.2: Geoff was watching Peter play a video game on the Xbox. He had been thinking about how well his relationship with his current girlfriend was going. At the moment of the beep Geoff is directly experiencing himself as being mentally and physically very happy. This happiness manifests physically as relaxedness/at-easeness in his body, which Geoff is noticing at the moment of the beep. Geoff is also, directly in his experience but at a low level, monitoring his surroundings, keeping track of who is there, what is happening.

In the above example Geoff is monitoring *both* his internal self and his external environment. We never became 100% convinced of Geoff's reports of "internal vigilance." It is possible that Geoff's self-narrative includes the belief that he is, at all times, aware of his internal levels of calmness. In fact Geoff reported that he believes this to be true; that he is always, to some degree, monitoring his internal levels of calmness just as he is always, to some degree, monitoring his surrounding environment. It is possible that this belief interfered with his ability to report in-experience phenomena. However, despite his claims that he is always actively monitoring himself and his environment, Geoff did not report these phenomena in every sample as would be expected if his belief were accurate.

Other Phenomena

Flashbacks.

Geoff reported two flashbacks, moments when he experienced reliving events from his past. One came on the third day of sampling and the second came on the fifth day of sampling. In both instances Geoff was unclear as to the details of the experience and altered his descriptions as we questioned him. Geoff did not say his flashback experiences were distressing or trauma-related. In fact, he described one flashback (sample 3.3) as rather calm and relaxed.

Sample 3.3: Geoff was sitting outside with Peter. Everything was perfect, the weather was warm and the sun was setting. The setting sun reminded Geoff of being in Iraq. At the moment of the beep Geoff is reliving an experience in Iraq. He is in Iraq, standing in a concrete tower, watching the sunset. This reliving is multisensory and contains many true-to-life elements including his friend standing just to his right, Arabic prayers in the background, hedgehogs playing in the field below, and his M16 leaning to his left.

It should be noted that Geoff could not say which of these aspects were being experienced at the moment of the beep. As discussed previously, it is likely that he had not yet grasped the concept of the moment of the beep. It is also possible that he was experiencing all these aspects at one time, or that his consciousness was so interrupted by or absorbed in this flashback that he was later unable to tease the various elements of the experience apart. Geoff's second flashback experience occurred on the fifth day of sampling.

Sample 5.5: Geoff was in his room watching his white football jersey flapping in the wind. At the moment of the beep Geoff is, experientially, in Iraq. He is in a Humvee holding onto the steel handle of a 50-caliber machine gun. He feels the

coldness of the triggers of the gun on both thumbs. He sees a white flag ahead of him. The seen flag is a large piece of white fabric, maybe a bed-sheet or a dress. Geoff's flashback was the beginning of a scene in which Geoff's platoon had been ambushed by a group of Iraqi soldiers pretending to surrender. The ambush had turned into a sustained firefight in which quite a few people were killed. The battle had not yet begun in Geoff's flashback. Geoff believed that the flashback was triggered by seeing his white football jersey moving in the wind, which was similar to the way the white flag in Iraq had been moving that day. It should be noted that Geoff's description of this flashback was inconsistent. Initially he stated that he was absorbed in the whiteness of the flag. Later he stated that he was absorbed not in the whiteness of the flag but in the significance of the flag (that the flag stands for surrender, or that the surrender is a ploy). It was unclear to us whether Geoff's inconsistency was a matter of a lack of clear understanding of the moment of the beep, or whether, as mentioned previously, Geoff's consciousness was interrupted to such an extent by this flashback or reliving experience that he was unable to tease apart and accurately report on the details of the experience. It is possible that the flashback experience was so jarring to Geoff's awareness that the details became difficult to decipher afterwards. Of course, because we only saw two flashback experiences, we are unable to say much more at this point.

Feeling.

The closest Geoff came to reporting feeling occurred in one sample, on the fourth day of sampling (sample 4.4, see above). In this sample Geoff was aggressively playing a videogame, focused on beating the bad guy. He said he was feeling aggressive toward a videogame character he was attempting to defeat, and that that was accompanied by an

elevated heart rate. However, aggressiveness is not usually considered a feeling, and we cannot be certain how he experienced this. Although Geoff did not report any other instances of directly-experienced feeling, Geoff was, in several samples, monitoring his internal levels of calm and happiness. This monitoring is orthogonally related to the experience of feelings. Geoff was very clear that he was not necessarily *feeling* calm or happy at any given instance, but was instead *noticing* his calmness/happiness. He was not experiencing feeling but was instead monitoring his levels of ongoing emotion.

Thinking.

Geoff had no instances of inner speaking in any of his samples, and one possible instance of unsymbolized thinking.

Sample 5.1: Geoff was in his room. At the moment of the beep he hears the engine sound of a low, fast-flying F-18. He is absorbed in the sound of the plane. Geoff is also having a simultaneous, general mental process about how low and fast the plane is flying.

It was unclear during the interview whether Geoff was actually separately thinking about the lowness/fastness of the plane or whether he was just absorbed in the sound of the plane, and in his explanation to us, described the sound as one that would come from a low, fast plane. Regardless, there is very little experienced thinking in any of Geoff's samples. Finally, Geoff had no instances of inner seeing in any of his samples.

Discussion

Geoff sampled with us for 6 days and collected a total of 29 samples during that time. Geoff struggled with the descriptive experience sampling task, from initially being unclear regarding the concept of "the moment of the beep" to apparently struggling to

capture, describe and apprehend his inner experience. Although his ability to capture and describe his experience seemed to improve somewhat over the course of sampling, it was evident that Geoff did not become fully proficient at the task of sampling in the 6 days we met with him. Geoff's continued difficulty with the task is unusual based upon our previous sampling experience. It is likely that his difficulty with the task speaks to something unique about Geoff's experience itself, and is unlikely to be indicative of a simple lack of effort or interest in the task.

Despite his struggles with the task, Geoff reported sensory awareness consistently throughout the course of sampling. Furthermore, his reports of sensory awareness increased in frequency as sampling progressed and his ability to do the task improved. Geoff's sensory awareness descriptions were much clearer than his other experiences; he was better able to describe these instances, and appeared much more confident in his descriptions than he was when describing other experiential phenomena. When describing his sensory awareness experiences Geoff remained consistent, whereas his reports tended to change when attempting to describe and discuss more complex experiential phenomena. For example, Geoff often struggled when describing his "internal vigilance" or self-monitoring.

Geoff had no clear feeling experiences but often described his tendency to "monitor" his calmness. It may be that feelings are problematic for Geoff – that he is unable to clearly apprehend his feelings, or perhaps that he does not have nuanced feeling experiences. The monitoring of calmness may very well be a conscious effort by Geoff to maintain control over his emotions, emotions that are not clearly apprehended by Geoff. For example, in sample 5.6 when he stubbed his toe, Geoff described his experience as

primarily sensory awareness (absorption in pain) but also mentioned, several times, significant anger following the stubbing of his toe. In other samples that occurred earlier in the course of sampling (days 1 and 2), Geoff described similar instances in which he was, for example, tightly gripping his steering wheel out of anger without the experience of anger being present at the moment of the beep. Taken together, Geoff's samples of monitoring his calmness and his lack of experienced feelings may suggest that the direct experience and management of feelings is problematic for him.

Geoff had essentially no experience related to thinking (e.g., inner speaking, unsymbolized thinking). This absence of thinking experience may be an indicator that Geoff had little in the way of "clear" experience outside of the phenomenon of sensory awareness. If experience itself is conceptualized as a skill, individuals who have complex thinking experience (or more complex experience in general) tend to be more highly skilled "experiencers" whereas in Geoff's case, we see an individual who is rather unskilled at creating and apprehending experience. Geoff's previously mentioned tendency to alter his descriptions when discussing non-sensory awareness related, somewhat more complex instances of experience, provides further evidence for his lack of skill in creation and apprehension of experience. It is possible that an inability to separate himself from his presuppositions hampers Geoff's ability to clearly apprehend and describe his experience. Conversely, a lack of clearly apprehendable experience may cause Geoff to be more "tied" to his *beliefs* about the nature of his experience, and may therefore result in "messier" experience apprehension. For example, because Geoff has difficulty in clearly apprehending his inner experience, he may rely upon his presuppositions to "fill in the blanks" or account for the aspects of his experience he is

unable to apprehend. This “filling in” of the blanks then lends itself to changeable descriptions of inner experience. However, Geoff’s descriptions of sensory awareness remained unchanged or unchangeable, providing evidence for their clarity and veracity.

Finally, Geoff’s reports of external vigilance fell within the realm of questionable experience. It is possible that the vigilance Geoff described was not actually experienced but instead was a strong presupposition, possibly as a result of his military training and expectations of himself in relation to that training. Geoff described a great deal of pride in his military history and the training he received while in the military. He often described the importance of being aware of his surroundings as part of being successful in the military. The fact that his reports of external vigilance became less frequent as sampling progressed provides additional evidence that some of his presuppositions were so powerful that he was unable to completely break away from them and his beliefs about himself, thereby interfering with his ability to clearly apprehend his inner experience. It is also possible that Geoff’s reports of experienced vigilance were faithful to his experience but that his vigilance was difficult for him to describe or otherwise difficult for him to clearly grasp.

CHAPTER 10

Idiographic Description of Mark's Experience

Mark was a 26 year-old Hispanic male who sampled with us during March and April 2010. Mark met criteria for significant PTSD symptomatology on the PCL-M and considered himself to have symptoms of PTSD following his two deployments to Iraq during Operation Iraqi Freedom. Mark was not in treatment for PTSD at the time of sampling. Mark was in the Army as Infantry/Paratrooper for two tours in Iraq in which he was involved in several firefights and in what he referred to as “traditional warfare” including bursts of combat followed by several days of “quiet, thinking time.” Mark was involved in the initial invasion into Baghdad in 2002/2003 and was responsible for escorting convoys to and from the city, parachuting into and securing identified cities and locations, and airdropping equipment and supplies. He described several instances in which he was exposed to violence (e.g., observing severe beatings of civilians, soldiers being hit with shrapnel, a little girl holding a bomb which then exploded), improvised explosive device (IED) blasts and incoming gunfire. He described situations in which “all hell broke loose” and he was “very scared and shocked.” As Mark discussed his wartime experiences he became visibly anxious. He said he believed his military experiences impacted him in many ways, often negatively. He tried to seek treatment shortly following discharge from the military, but did not like the effects of medication and group psychotherapy was unhelpful. At that point, he decided to “live his life” and not “allow” his wartime experiences and PTSD symptoms to prevent him from accomplishing the things he wants to accomplish.

Mark collected a total of 46 samples over 8 sampling days and attended an expositional interview within 24 hours of each sampling day. After discarding the samples from the first day of sampling, we were left with 41 samples. The most salient phenomenon in Mark's inner experience was unsymbolized thinking. As shown in Table 10, 18 of Mark's 41 samples (44%) involved unsymbolized thinking and sensory eight of his 41 samples (19%) sensory awareness. Five of his samples (12%) involved concentrated doing, three (7%) involved vigilance. Mark had three (7%) instances of inner speaking/worded thinking and three (7%) instances of inner seeing. Five of Mark's 41 samples (12%) involved multiple awareness. Two (4%) of his samples involved directly experienced feeling.

Table 10

Frequency of Inner Experience Phenomena for Mark (41 samples)

	Number of Samples	Frequency (%)
Sensory Awareness	8	19
Vigilance	3	7
Concentrated Doing	5	12
Unsymbolized Thinking	18	44
Amusement	4	10
Feeling	2	4
Inner Speaking & Worded Thinking	3	7
Inner Seeing	3	7

Note: All totals in the table are approximations.

Feeling

Mark had samples that appeared to involve directly experienced and clearly apprehended feeling, presented below.

Sample 6.3: Mark was driving in heavy traffic, attempting to change lanes but being blocked by the driver behind him. At the moment of the beep Mark is looking behind him, concentrating on finding a space in which to merge. At the same time he is feeling frustrated and frustratedly, innerly saying “this asshole!” (referring to the driver who is not letting him merge).

Sample 6.5: Mark was trying to find a shirt to wear to the gym, but was having trouble doing so because he’d gained weight and all his shirts were “suffocatingly tight.” At the moment of the beep Mark is frustrated/angry/sad that he has gained weight and can’t find a shirt that fits. The frustration/anger/sadness are three elements of one emotional experience. The notion that his shirts no longer fit is also present. He is expressing this frustration/anger/sadness by forcefully jamming shirts back into the drawer.

Although clearly experienced feelings were relatively rare for Mark, there were quite a few instances where it appeared there were ongoing emotional processes without an experiential aspect of emotion (i.e., a feeling) being directly in experience. At many of these moments, Mark’s emotion experience was unclear and apparently difficult for him (and for us) to apprehend. Mark had difficulty with the experience of feeling early on and throughout the course of sampling. Mark oftentimes was able to label a feeling in his experience, however, was sometimes unable to clarify the actual experiential nature of the feeling – in other words, he struggled to describe the way in which he experienced

whatever feeling he had labeled. In the four samples presented below, Mark describes his feelings as being experienced “mentally” but is unable to elaborate beyond that descriptor. The emotions in the four samples are also less prominent in his awareness than other phenomena.

Sample 5.1: Mark was making his bed. At the moment of the beep he is thinking that he hates making the bed. This thought does not involve any specific words and is not being spoken; it is a general thought about hating making the bed. At the same time Mark is mildly, mentally frustrated about making the bed.

Sample 5.3: Mark was cleaning his truck and was trying to decide whether or not to throw away a stack of old journal articles. At the moment of the beep Mark is looking at the article on top and is trying to remember what the article is about in order to decide whether or not to keep it. Also in his awareness, though much less prominently, is a sense of mental frustration that he’s let his truck get so disorganized.

Sample 8.1: Mark is driving on the freeway, somewhat aware of traffic surrounding him, but there is not much traffic and not much awareness of it. At the moment of the beep he innerly sees a recreation of a video that he and his class had watched earlier; he sees the words “GLOBALIZATION IS GOOD” printed in block white letters below a long-haired guy with hair blowing in the wind—a glamour-shot kind of scene. He had seen this same scene earlier; now he does not see the TV screen, the entertainment center, the living room wall, etc; he sees just the glamour guy and the words, with most of his attention aimed at the words. At the same time he is experiencing dislike for this one-sided video, a

mental dislike that seems to be a feeling more than a thought, but it is difficult to be sure.

Sample 6.4: Mark was sitting on the kitchen floor, one of his dogs lying next to him on his left, one his right. He is scratching their bellies. At the moment of the beep Mark is thinking something most closely captured by the words, “I wish I could spend more time with you guys.” This thought is not occurring in words and is not innerly spoken, instead it is a general idea, directed at his dogs. Mark is also happy, which is experienced both bodily and mentally but he could not describe it further. Mark is also experiencing the sensation of his dogs’ fur on his fingers, and noticing the change in texture of fur caused by canola oil, from soft and fuzzy to kind of gummy, on the dog on his left.

In these four samples Mark is experiencing what he understands to be a “mental” feeling, although in all four samples he is unable to clearly define the experience. In these samples, Mark had difficulty apprehending emotion-related experiences although he was able to clearly apprehend and describe other experiential phenomena (e.g., inner seeing, unsymbolized thinking, sensory awareness). In fact, Mark sometimes “experienced” feeling through these other phenomena, primarily unsymbolized thought.

Sample 2.2: Mark is at his girlfriend’s house watching the movie *Catch Me If You Can* while waiting for his girlfriend and several others to get ready to go out. At the beep he is frustratedly thinking repetitively that they always take forever to get ready. (His impression was that he had been thinking this pretty constantly, or maybe continuously, for perhaps 15 minutes.). This is a thought rather than a feeling though it expresses frustration with the repeated delays involved in

waiting for his girlfriend to get ready. This thought does not involve specific words or other images.

Sample 2.5: Mark was walking in front of City Center Hotel/Casino. At the beep he is thinking a bunch of related thoughts about it being a horrible complex. He experienced this as a series of related but separate thoughts about what a badly planned/unpleasant place it was, like “it looks like downtown LA” and “it isn’t wheelchair accessible” and “it’s not welcoming.” It was difficult for him to determine which thought or thoughts were present at the beep but thinking it’s a horrible complex seemed to be most salient. There were no words or images related to these thoughts. These thoughts seemed to carry negative emotion but there was no feeling directly in his experience.

In the above two samples Mark’s experience is primarily that of unsymbolized thoughts. What is interesting about these symbolized thoughts is the fact that they appear to represent, or be substitutes for, feeling. In both, Mark’s thoughts somehow express emotion though he does not appear to directly experience any feeling. Another example of this is presented below.

Sample 3.3: Mark is a political operative for Senator X’s re-election campaign. About 15 minutes before the beep, Mark had been at an immigration reform rally at which he had said to the assemblage that Senator X would get legislation presented in the Senate. A woman, a fellow Democrat, had responded that another senator would get it presented. That had angered Mark—it undermined the campaign of Senator X in favor of the other senator who was not up for re-

election. The anger had continued to build, and now, as Mark is driving home, he is intensely angry.

At the moment of the beep he is thinking what seems like hundreds of thoughts, all simultaneous, some of which are innerly shouted or almost shouted: “How could she do this?!?” “Why would she do this?!?” “What was she thinking?!?” and so on. These inner speakings/shoutings are in his own inner voice, experienced as if he had spoken/shouted them aloud. But they also occur so rapidly that it is difficult to know whether they are happening sequentially so fast as to be inseparable or are all present at the same time. Thus there is both a sense that the inner speakings happen at each one’s own natural rate, but also that they happen incredibly rapidly. Mark also, simultaneously, experiences a tingling hotness in the core of his body. He is gripping the steering wheel tightly, but it is not clear whether this is in his experience at the moment of the beep.

Sample 3.3 is particularly interesting in that Mark is experiencing a rapid succession of angry, inner shoutings. These inner shoutings appear to somehow represent, or be the main feature of Mark’s emotion experience. During our expositional interview Mark repeatedly stated that he was *extremely* angry at the time of this sample and at the moment of the beep, however, despite this ongoing emotional process (anger), it does not appear that Mark *felt* anger at the moment of the beep – instead it seems as though his anger is represented by a rapid succession of inner shoutings.

Unsymbolized Thinking

The most frequently occurring phenomenon in Mark’s experience was unsymbolized thinking, present in 44% of his samples. Several of his unsymbolized

thinking samples are typical and can be found in Appendix A. However, a number of his unsymbolized thinking samples were rather complex and included multiple thoughts occurring either simultaneously or in rapid succession; these are presented below.

Sample 4.5: Mark was on the phone with his girlfriend and was trying to decide where they should go jogging tomorrow – at the park or on the street. At the moment of the beep Mark is thinking about the various features of the park and the street, trying to make a decision. He is thinking about the various pros and cons of each location (e.g., The park track is circular, I don't like running in circles; the length of the park track is known; which is easier to get to?; etc.). There are more of these details on the “park” side of the decision [which Mark takes to mean he is mentally leaning toward the park, but he doesn't know whether the number of details is the *result* of the mental leaning or whether the number of details *causes* the leaning]. At the same time, though less prominently, he hears his girlfriend's voice on the phone, but is not paying attention to what she is saying.

Sample 5.2: Mark was sorting his laundry into darks and lights. At the moment of the beep Mark is holding a blue shirt and trying to decide whether the blue shirt should go in the light or dark pile. This process of trying to decide consists of a fast-paced thought made up of several elements that form a whole; these elements, if put into words (they did not actually involve words) include, “is it lighter or darker in color?” “Will it bleed?” “What pile should it go in?” and other similar thought-lets. That is, it does not seem like one thought that could be

looked at in several different directions, but instead seems like some kind of a combination or cluster of thoughts. There are no specific words present.

Sample 7.4: Mark was buying deodorant and was trying to decide whether buying 2 single Degree sticks would be cheaper, or whether buying the 2-pack would be cheaper. He was performing a sequence of very rough mental math, rounding prices up or down in order to make an assessment of which was cheapest. At the moment of the beep Mark is towards the end of the rough mental math sequence and has concluded that buying 2 singles would equal a little less than \$4 which is cheaper than buying a 2-pack at \$4.33. This mental math is not occurring in words or images, it has no discernable characteristics. At this moment in time, although he has decided which option is cheapest, Mark has not yet decided which option he will go with.

Sample 8.2: Driving on the freeway, a song had come on the radio. The song was well known to Mark; it was about a Mexican laborer who had come to the US to work and would like to go back to Mexico. At the moment of the beep Mark is thinking about the immigration law that had just been passed in Arizona and several of its ramifications: boycotts, protests, marches, lawsuits. All these concepts are present as aspects of one thought; they are present without words or other symbols. The song, apparently as a meaningful entity (not merely the music) is also slightly present.

Sample 8.3: Mark is at home reading a photocopy of his professor's book, which has seven sections, each of which is organized like the paper Mark is currently writing: each section begins with a history. The paper Mark is trying to write

must begin with a history, and at the moment of the beep Mark is trying to think about that history. Four topics of his paper are specifically present to him: USAid, Black Columbia, the role of the State Department, and the US War on Drugs. At the same time, he is trying to decide whether there is anything else that should be included in his paper he is explicitly trying to decide, a thought process that exists less prominently but somehow simultaneous to the four-topic consideration and the answer seems to be No as indicated by the fact that most of his attention remains on the original four topics. The topics are present without words or symbols.

The unsymbolized thoughts presented in the samples above involve complex thinking processes comprised of multiple, rapidly successive thoughts which capture one, larger concept or idea (for example, several ongoing thoughts related to the concept of jogging at the park or sorting laundry). It appears this form of unsymbolized thought is instrumental in Mark's decision-making process as well as his analytical process.

Sensory Awareness

Mark experienced sensory awareness in 19% of his sampled moments. Examples of his sensory awareness are presented below. As can be seen, a number of his samples are rather typical examples of sensory awareness.

Sample 4.1: Mark was driving at night. At the moment of the beep Mark is completely absorbed in the bright headlights of an oncoming car; there is nothing else in his awareness.

Sample 7.5: Mark was carrying lots of shopping bags in each hand. At the moment of the beep Mark is absorbed in the heavy feeling of the bags in his hands

and arms. The heaviness feels like a strong squeezing on the outside of his palms and heavy downward pressure across the middle of each palm where the bags are. He can also feel the weight/strain in his arms and shoulders.

Sample 4.4: Mark was in his car, stopped at a red light. He was looking at the electronic signage for Payday Loans. The sign was electronic and there were animated green frogs moving across the sign. At the moment of the beep Mark is completely absorbed in the frogs that are jumping across the length of the sign.

We noticed a trend with auditory sensory awareness in Mark’s sensory awareness samples; Mark tended to experience other people’s voices as indistinctive sounds, as opposed to paying attention to the content of what was being said. Examples of this have been underlined in the samples below:

Sample 4.3: Mark was walking with his friends. At the moment of the beep Mark is texting message to his girlfriend, “I’ll give you a call, I’m going home.” This is happening more or less automatically—that is, he is *not* directly experiencing the “I’ll give you a call, I’m going home” sentence. At the same time he hears his friend Tony’s voice, but is not paying attention to what Tony is saying. The voice is more or less like noise, devoid of meaning.

Sample 4.5: Mark was on the phone with his girlfriend and was trying to decide where they should go jogging tomorrow – at the park or on the street. At the moment of the beep Mark is thinking about the various features of the park and the street, trying to make a decision. He is thinking about the various pros and cons of each location (e.g., The park track is circular, I don’t like running in circles; the length of the park track is known; which is easier to get to?; etc.).

There are more of these details on the “park” side of the decision [which Mark takes to mean he is mentally leaning toward the park, but he doesn’t know whether the number of details is the *result* of the mental leaning or whether the number of details *causes* the leaning]. At the same time, though less prominently, he hears his girlfriend’s voice on the phone, but is not paying attention to what she is saying.

Finally, Mark had one instance of sensory awareness in imagination involving a food craving.

Sample 7.2: Mark was at the store with his girlfriend. He was looking at boxes of cookies on the store shelf, and was trying to decide between chocolate chip and oatmeal raisin cookies. At the moment of the beep Mark is thinking he likes oatmeal cookies. This thought is not occurring in words or images, and has no characteristics but is instead more of an idea or notion. At the same time, Mark is craving the oatmeal raisin cookies and mentally imagining the taste of oatmeal cookies – he is imagining the raisins and the sweet taste of oatmeal. This craving/imagining is located in Mark’s head.

Overall, Mark’s sensory awareness experience was typical in some instances and less typical in others. His sensory awareness was primarily visual and auditory, with one tactile sensory awareness and no olfactory or gustatory experiences (although his sensory awareness in imagination experience was gustatory). His auditory experience was notable in that he tended to focus on the sounds of others’ voices and ignore the content or meaning behind those words, essentially reducing language to its most basic elements (e.g., tones).

Concentrated Doing

Mark's concentrated doing samples are relatively typical of the concentrated doing samples encountered in the other participants in the current study. In the five samples presented below, Mark is carefully engaged in the doing of a task (e.g., highlighting, sorting, texting, pulling/listening and tying). He is not "mindlessly" going about these tasks, but instead is paying close attention to a specific portion of the task at hand.

Sample 3.5: Mark was in the process of composing an RSVP list for work on his computer. At the beep he is carefully highlighting a telephone number with his cursor, being sure not to go too far. There was nothing else in his experience other than paying careful attention to what he was doing.

Sample 5.6: Mark was sorting his clean laundry and watching the Lakers playoff game. At the moment of the beep Mark is looking for the mate of the sock he is holding. He is looking at every sock one by one, eliminating each 'incorrect' sock, kind of like a visual rejection of the non-mate socks. At the same time, though much less prominently, he hears the commentator on the TV.

Sample 7.1: Mark was in the car sending a text message to his friend, telling him that he can't hang out because his girl's parents are having a BBQ. At the moment of the beep Mark is typing the "r" or "l" of the word "girl." Most central in his experience is his typing of the word girl. To a lesser degree, he is mentally spellchecking the word "girl." This spellchecking is difficult for Mark to describe, and may involve a visual comparison of the actual word he has typed and some mental form of the word girl. At the same time in his experience, but to a far

lesser degree, Mark is tracking the basic gist of what his girlfriend is saying as she tells him how nervous/excited she is about starting her new nursing job. This tracking is more or less on autopilot: he is only slightly (if at all) listening to her.

Sample 7.6: Mark was building a clothes rack. At the moment of the beep Mark is engaged in the task; he is carefully pulling the telescope rod outward, carefully listening for a clicking sound in order to ensure it is in place. At the same time Mark is thinking that he needs to make sure it clicks into place and that he needs to be careful not to break or bend the rod. These thoughts are present simultaneously; there are no words or images present, more of a notion or idea.

Sample 8.4: Mark is putting his shoes, focused on the shoelace that he is tying. He's quite concentrated on this act [telling us about this is embarrassing, as if he should have outgrown this]. He is also thinking (10%) that he has to pick up his girlfriend, that it's frustrating because disrupts his studying plans. He does not experience frustration.

Mark shared an experience in which he was fully absorbed in the watching of a movie. The experience was not purely sensorial (because he was absorbed in the content of the movie and not in some sensorial aspect of the movie, such as for example, the color of the actor's shirt), nor was it a true example of concentrated doing. This sample is shared here as it shares the "immersed" quality of sample 4.4, presented in the sensory awareness section, but also shares some characteristics of the concentrated doing samples presented in this section.

Sample 2.1: Mark was at home by himself watching the movie *Catch Me If You Can*. At the beep he is fully immersed watching the movie. The Leonardo

DiCaprio character has just walked in on his mother having an affair with her husband's friend. There is nothing else in his awareness.

In this sample and in sample 4.4, he described his immersion/absorption in very strong terms, saying that you would have to call his name "three or four times" to penetrate it or "shake me out of it." The qualitative nature of samples 2.1 and 4.4 separates them from other sensory awareness samples in which the focus of attention is on sensorial aspects of the environment, although usually without the intense level of focus experienced by Mark.

Samples 2.1 and 4.4 are reminiscent of samples we have termed "concentrated doing." In fact, sample 4.4 may be considered on the edge of concentrated doing, as Mark is fully absorbed in the "doing" of watching a movie. However, it differs from more typical concentrated doing in that Mark is not actually completing a task of some kind.

Vigilance

Three of Mark's samples (7%) involved the experience of vigilance.

Sample 2.6: Mark was walking in front of City Center through a covered construction walkway. This is a crowded and chaotic area with lots of people. At the beep he is visually taking in the scene, purposefully tracking the kids in his group. He is seeing the entire scene as one unchanging seeing and shifting cognitively from kid to kid, checking to be sure each one is present and accounted for. That is, the gaze stays constant while the attention within the gaze shifts from kid to kid. This is an intense, focused process where he is working hard to keep track of the kids in his group.

Sample 3.1: Mark was driving to school in traffic. At the moment of the beep Mark is in a state of preparedness/readiness with concern to navigating the traffic surrounding him – he is very aware of the car that is directly in front of him and the two cars that are in front of him in adjacent lanes. That is, his attention is entirely occupied by these specific three cars, and this attention is not merely a relaxed noticing but a state of heightened alertness.

Sample 8.6: Driving his girlfriend home in his girlfriend’s car, many things present to him in a vigilance kind of way. At the moment of the beep, most prominent are the lights of the car behind him that has lit up the dirty back window of the car. He sees the construction site ahead of him. He sees the orange speed limit sign, but cannot make out the speed—it is as if he is expecting or waiting for the speed to be seeable. He is expecting his girlfriend, who is half asleep, to make some comment about the driving, something like “Don’t drive too fast” or “Don’t have an accident,” to which he will respond something like “OK, babe.” There have been several such interchanges, and at the moment of the beep he is expecting another. All this is experienced as a heightened awareness, a vigilant attending to everything around him

Mark’s experience in all three of these samples involved a heightened sense of awareness beyond what is typically seen with DES participants in other studies. He was not merely counting the number of kids, noticing the other cars in traffic or driving while taking in his surroundings. There existed an almost exaggerated sense of awareness, akin to what might be referred to as hypervigilance.

Inner Seeing

Mark's inner seeing experiences were rather complex, and are presented here (one of the three has already been discussed above in the "feeling" section, Sample 8.1).

Sample 5.4: Mark was cleaning his pitching wedge and thinking back to his golf outing with his buddies the day before. At the moment of the beep Mark innerly sees himself, from behind, standing in a sand trap and using his pitching wedge to try to get the ball out. He sees his friends standing on the green, and hears them laughing as a group. His friend Victor's laughing stands out most prominently. There seems to be three visual experiences, of three separate sand traps, seen in quick sequence, one after the other. All have approximately the same visual characteristics—Mark is seen from the back, his friends are on the green. He's not sure exactly which scene he is seeing at the moment of the beep.

Accompanying this seeing is a low-level thought about needing a sand wedge so that he doesn't have to use his pitching wedge.

The above sample is interesting in that it is reminiscent of Mark's unsymbolized thinking samples in which he has several rapidly successive (or possibly even simultaneous) thoughts within a very brief period of time – so much so that the moment of the beep appears to capture several thoughts (or in this case, inner seeings) at one time. The sample presented below is interesting due to the nature of the experience accompanying the inner seeing.

Sample 5.5: Mark was watching a TV show about ancient warriors and their weapons. He had just watched a ninja use a weapon to slash a hanging pig. At the moment of the beep he is watching a Spartan warrior use a large sword to slash through the body of a hanging pig. At the same time he innerly sees a nondescript

human torso being sliced in the same way as is the pig, and is imagining what the pain would feel like. This imagining of the pain is a mental thing, and is not felt bodily or otherwise.

In this sample Mark is imagining pain, though not actually feeling pain at the moment of the beep. Interestingly, another participant, Peter (Chapter 8) also described the imagination of pain, although he also indicated he was able to imagine pain and subsequently *feel* that imagined pain. Here, Mark imagined pain but did not have the actual experience of feeling pain. In order to attempt to comprehend this, we might conceptualize it as we conceptualized some of Mark's feeling experiences. As discussed above, in some instances, Mark described ongoing emotions that were not felt (for example, anger). It is possible that imagined pain that is not felt is somewhat similar to ongoing emotion that is not felt.

Discussion

Mark's emotion experience was sometimes difficult for him (and us) to apprehend. Often his emotion experience was primarily "mental" (lacking in bodily sensations) and, in some instances, was experienced through unsymbolized thought. In other words, sometimes his thinking processes seemed to be substitutes for feeling-experience. It is unclear why this is; it may be that Mark was restricted by the boundaries of language and vocabulary and simply lacked the ability to effectively speak about feeling. It is also possible that some of Mark's feeling experiences were difficult for him to apprehend clearly, while other feeling experiences were easier to apprehend. Mark had a high rate of unsymbolized thoughts throughout the course of sampling. His unsymbolized thoughts were usually complex and multifaceted, with multiple

simultaneously occurring/rapidly successive thoughts present at the moment of the beep. However, this was not limited to unsymbolized thinking, as we also see the rapid-succession phenomenon in inner speaking/feeling and inner seeing samples as well.

CHAPTER 11

Across-Participant Results and Discussion

DES is primarily an idiographic approach to apprehending the inner experience of individuals, and as such, the present study has focused on presenting idiographic descriptions of the inner experience of each of our seven participants separately, in chapters 5 through 11. The focus in those seven chapters was on the characterization of the moment-by-moment inner experience of each individual participant. In this section we consider the question of similarity or shared features of inner experience among the participants. Each of these individuals was selected based on their reporting experiences and symptoms consistent with PTSD. Thus shared features of inner experience may be, in some way, related to or indicative of 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 these individuals. Thus any conclusions or speculations must be tentative, awaiting further confirmation or disconfirmation. Nonetheless, this approach has the potential to discover the unexpected, possibly yielding new directions for study.

The across-participant results are based on a total of 221 samples (not including training samples) gathered from seven participants. Table 11 presents the relative frequency of some of the phenomena of inner experience. The table includes phenomena identified in the Hurlburt and Heavey (1999) codebook (in boldface) as well as phenomena unique to the participants in this study.

Table 11

Noteworthy Characteristics of Inner Experience across Participants (percentages)

	Participants							All Subjects
	Jacob	Brandon	Louis	Andrew	Peter	Geoff	Mark	
Number of Samples	33 (15%)	25 (11%)	28 (13%)	32 (14%)	45 (20%)	17 (8%)	41 (19%)	221 (100%)
Characteristics of Inner Experience								
Sensory Awareness	15% ¹	36%	14%	28%	43%	59%	19%	31%
Inner Seeing	24%	40%	32%	6%	13%	0%	7%	17%
Feeling	3%	0%	18%	78%	0%	6%	4%	16%
Unsymbolized Thinking	24%	8%	9%	9%	2%	6%	44%	15%
Inner Speaking	0%	0%	21%	6%	4%	0%	4%	5%
Vigilance	0%	8%	0%	3%	2%	47%	7%	10%
Concentrated Doing	9%	8%	3%	3%	0%	0%	12%	5%
Flashback	0%	8%	0%	0%	2%	12%	0%	3%

Note.

1. Percentages represent the frequency of each characteristic for each participant with average percentages represented in boldface in the far right column.

Heavey and Hurlburt (2008) identified the five most frequently occurring phenomena of inner experience: inner seeing, feeling, inner speaking, sensory awareness and unsymbolized thinking. Each occurred in roughly one quarter of sampled moments in their stratified sample. In the current study, we see lower rates of inner seeing, feeling

and unsymbolized thinking, and substantially lower rates of inner speaking. The participants in the current study also evidenced other forms of experience that were noteworthy: vigilance (7%), concentrated doing (5%) and, to a lesser extent, flashbacks (2%).

Vigilance

Five of our seven participants (Brandon, Andrew, Peter, Geoff and Mark) experienced vigilance, defined as heightened alertness and watchfulness paid to the environment as a whole. Vigilance, or hypervigilance, is included as a symptom of PTSD in the current conceptualization of the disorder (Criterion D4; APA, 2000) and of our seven participants, six rated the extent to which they've been vigilant ("being 'super-alert' or watchful or on guard") as either 4 (*quite a bit*) or 5 (*extremely*) on the PCL-M. One participant, Louis, rated his vigilance as 3 (*moderately*) and did not report any instances of vigilance over the course of sampling. Geoff reported the most instances of vigilance, over half of the total instances of vigilance in the study; he rated the extent to which he is vigilant as 5 (*extremely*) on the PCL-M. Mark reported three instances of vigilance, Brandon reported two instances and Andrew and Peter reported one instance of vigilance each.

All five participants reported instances of vigilance that involved alertly scanning or being watchful of their external environment (e.g., while at a restaurant, while driving, while walking through a store, while in a parking lot, etc.). All participants were consistent in their vigilance experience, describing themselves as alert, aware of everything, taking everything in, scanning everything, and so forth. However, Geoff was the only participant who reported instances of what we have termed "internal vigilance"

or a careful assessment of one's inner bodily processes beyond simply noticing or being absorbed in these processes. This type of vigilance has not been described in the extant PTSD literature and may be an experience unique to Geoff. Because we did not see this experience in our other participants, we will not comment on it further in this section (see Chapter 9 for additional commentary on Geoff's vigilance).

In general, the experience of vigilance is extremely rare if not nonexistent in other DES studies (personal communication, R.T. Hurlburt, 2010). Although we see the phenomenon 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%. These two aspects taken together may imply that while vigilance does in fact appear to be a symptom of PTSD (or at least an experiential phenomenon associated with PTSD), perhaps it occurs at a much lower frequency than subjectively perceived.

Concentrated Doing

Concentrated doing might be conceptualized as falling on the other side of the same coin as vigilance. Whereas vigilance involves a careful alertness or watchfulness directed at the external environment as a whole, concentrated doing involves intentional, careful, alert focus on one particular aspect of one particular task. Although the other side of the coin, so to speak, it does in some way also seem to be the same "coin" given that both involve a heightened state of alertness and attention. Five of the participants had instances of concentrated doing: Mark (five instances), Jacob (three instances),

Brandon (two instances), Louis (one instance) and Andrew (one instance). The average frequency of concentrated doing across participants in the current study was 5%.

Concentrated doing is not a well-established experiential phenomenon, and has only been examined and discussed in one previous study (e.g., Mizrachi, 2010). In Mizrachi's study of the experience of left-handers, concentrated doing occurred at a similar rate as in the present study. The significance of concentrated doing is as-yet unclear, although concentrated doing may be related to both sensory awareness and vigilance. As concentrated doing involves a focus on the sensory aspects of the "doing" so as not to make a mistake, it can be thought of as a particularly careful attention to sensory details. Furthermore, because the level of attention and focus is so intense during concentrated doing, it can also be thought of as bearing similarities to vigilance, as discussed above.

Flashbacks

Three of our participants (Geoff, Brandon and Peter) experienced flashbacks over the course of sampling; this resulted in an average frequency of 3% across participants. Descriptions of momentary flashback experiences are rare in the extant PTSD literature. Flashbacks are conceptualized as more intense versions of reexperiencing symptoms in most theoretical approaches to PTSD, although some theorists (e.g., multirepresentational theorists) conceptualize flashbacks as involving completely separate memory systems than simple reexperiencing symptoms (Cahil & Foa, 2007). Our participants did not appear to experience "reexperiencing" over the course of sampling (e.g., distressing recollections of the event, physiological distress or reactivity to exposure to reminders of the event), and because DES is interested in momentary, waking experience, we did not

explore the existence of distressing dreams of the event. The only reexperiencing symptom we witnessed was flashbacks, and again, this occurred in only three participants.

In total, three participants had five instances of flashbacks over the course of sampling. Peter's flashback experience was directly combat-related and involved the momentary reexperiencing of his close friend and fellow soldier's death, just as it had occurred during deployment. This was the most intensive flashback experienced by any of our participants; following the discussion of this sample, Peter was visibly shaken and required a brief pause in order to "gather" himself. Geoff's two flashback experiences were more benign. The first involved reliving the experience of standing in a watchtower in Iraq, surveying the environment. The second involved the reliving of driving toward an Iraqi town and seeing a white flag waving in the distance. Geoff did not describe these flashback experiences as particularly emotional or distressing. He indicated that both were triggered by a specific aspect of his surroundings (e.g., sitting outside on a warm day triggered the first flashback, and the second was triggered by watching his white football jersey flapping in the wind). Both of Brandon's flashback experiences involved training exercises. In his first Brandon was reliving a specific part of a combat lifesaver course (inserting a catheter in another soldier's arm) and in the second he was reliving a live-fire Humvee/gunner exercise that took place during combat training. Brandon did not describe either of these flashbacks as distressing, though he did indicate that both were "hyper-real;" more clear and focused than they were when they were occurring. Brandon also indicated triggers for his flashback experiences; the first involved reading about an

EMT course leading to the flashback involving the catheter. The second trigger was a bumper sticker that read “dezzert assault” that Brandon noticed while driving.

Interestingly, all participants in our study endorsed the occurrence of flashbacks on the PCL-M although six of the seven rated flashbacks as being only “a little bit” or “moderately” problematic and one (Geoff) rated flashbacks as “extremely” problematic in the past month. In a recent study, flashbacks were endorsed by 46.6% of participants with a current PTSD diagnosis, whereas only 4% of participants without a past or current PTSD diagnosis reported flashbacks (Holowaka, Marx, Kaloupek & Keane, 2011). Though our study had a substantially smaller sample size, three of our seven participants, or 43% experienced flashbacks over the course of sampling, a rate similar to the endorsement rate in Holowaka et al.’s (2011) study. Therefore, our finding lends support to the idea that flashbacks are experienced by individuals with PTSD. However, it should be noted that of the five flashbacks reported in this study, only one could be described as “distressing” to the experiencer (e.g., Peter). This finding is unique in that the extant PTSD literature describes flashbacks as “distressing” recollections or reliving of a trauma experience. Though Peter’s flashback fits the current description of a flashback, neither Brandon nor Geoff described their flashbacks as distressing or even as being trauma-related. Therefore, it is possible that flashbacks of a non-distressing, benign nature (in addition to distressing flashbacks) may be a phenomenon experienced by individuals who reports symptoms of PTSD.

Inner Speaking, Unsymbolized Thinking and Inner Seeing

Inner speaking occurred with a frequency of 5% in the current study and unsymbolized thinking with a frequency of 15%. Three of the seven participants (Jacob,

Brandon and Geoff) reported no instances of inner speaking, and those who did report inner speaking had rather unsophisticated and simplistic inner speaking.

Only Jacob (24%) and Mark (44%) had more than an occasional instance of unsymbolized thinking. Inner seeing was also seen at a frequency lower than that found by Heavey and Hurlburt (2008), though it was more evenly distributed among the seven participants than either inner speaking or unsymbolized thinking. Overall, “thinking” experience, and especially inner speaking, occurred with low frequency in this study as compared with Heavey and Hurlburt (2008).

Sensory Awareness

Sensory awareness was the most frequently occurring phenomenon in the present study, occurring with an average frequency of 31% across participants. Sensory awareness is the experience of close attention paid to sensory (e.g., visual, auditory, olfactory, gustatory and tactile) details of the external environment, or to internal (bodily) processes (Hurlburt, Heavey, & Bensaheb, 2009). Sensory awareness in imagination is included in this category and includes the experience of attention paid to sensory aspects within imagination. Sensory awareness occurred at a slightly higher rate in the current study (31%) compared to the 22% found by Heavey and Hurlburt (2008). However, of the seven participants in this study, two (Geoff and Peter) evidenced substantially higher rates of sensory awareness, with greater than 40% of their samples involving the phenomenon. In both cases, we saw a progressive increase in the relative frequency of sensory awareness across time, with both participants reporting fewer instances of sensory awareness early in sampling and more toward the end of sampling. Interestingly, both these participants had little to no inner speaking, unsymbolized thought or inner

seeing. Brandon also evidenced higher rates of sensory awareness, with 36% of his samples involving the phenomenon.

Emotion Experience

Although feeling experience occurred with low frequency in the present study, the nature of emotion experience in our sample warrants further discussion. We coded “feeling” in 16% of our total samples. Andrew accounted for 25 of the 34 feeling samples, or 73% of the total feeling samples in the current study. Without the inclusion of his samples, the experience of feeling occurred with low frequency (4%) within our sample. This low frequency in and of itself is unusual and substantially lower than in Heavey and Hurlburt (2008). Furthermore, emotion experience was problematic or atypical for all of our participants. For example, Brandon experienced no emotion-related phenomena over the course of sampling; a rather unusual finding. Of the remaining six participants, Jacob, Peter and Geoff appeared to experience emotions in a particularly fragmented and disintegrated manner, such that their ongoing emotions did not always result in clearly experienced feelings. Louis, Andrew and Mark tended to have some difficulty in apprehending feeling experiences as well, although they evidenced rare instances of more clearly apprehended and integrated emotion experience.

For Jacob, Louis and Andrew, when we did encounter somewhat more clear and integrated emotions, the emotion was often anger. Even for emotion experiences that were ongoing but not clearly apprehended, the ongoing emotion was oftentimes either anger or another related, negatively valenced emotion (e.g., frustration, hatred, etc.). This finding coincides with the conceptualization of emotions in military veterans with PTSD. The military, and in fact society as a whole often discourages the expression of emotions

in men (Cahill & Foa, 2007). However it is generally acceptable for men to experience and express anger, and in the military, even encouraged (Keane et al., 1985). It may follow then that when they did experience feeling, the participants in this study experienced anger at a higher frequency than other emotions, as they are more “practiced” in the experience of this particular emotion.

Overall Jacob, Geoff and Peter appeared to be rather unskilled “feelers.” Jacob appeared to experience emotion though his emotions were usually fragmented and not directly felt (e.g., as in the instance when he visualized himself throwing his computer out of anger, but did not actually *feel* angry). Geoff appeared to struggle with the apprehension of his emotion experience; he was often “monitoring” his level of calmness, but never actually *experiencing* calmness (or any other feeling). Peter never experienced direct feelings over the course of sampling, but did experience several graphic and violent images that appeared to represent emotions such as hatred or anger. Much as Mark’s unsymbolized thoughts may have been a substitution for emotion, we hypothesized that Peter’s inner seeings or images may have been a substitution for emotion. Brandon never experienced any emotion-related experience over the course of sampling; it is hypothesized that this is less likely due to sampling simply “missing” his emotion experience and more likely due to a lack of emotion experience in general.

The remaining three participants (Louis, Andrew and Mark) appeared to have some instances of clearer emotion-experience, as well as several instances of diffuse, vague and disjointed experience that was apparently not clearly apprehended. However in Mark’s case, it appeared that unsymbolized thoughts often acted as a substitute for feelings. He had perhaps two more clearly apprehended feeling samples over the course

of sampling. Though he reported frequent “feeling” experiences, it was quite often questionable what Andrew meant by feeling. At times it appeared he used the word rather liberally, to describe not only feelings but also thoughts, notions, and so forth. However, at times he was better able to describe the feelings he labeled than at others. Louis may have had three integrated emotion experiences (e.g., samples 2.3, 2.4, 4.5) but usually struggled with the integration of the various elements of his ongoing emotion processes such that his apprehension was oftentimes unclear.

Overall, the participants in this study struggled with the experience of feelings, some to a greater extent than others. Feeling was absent, disintegrated and disjointed, or diffuse and atypical across our participants. Though it was apparent that ongoing emotions were present for some of our participants, these emotions were rarely integrated well enough to be experienced of “felt.”

Experiential Skill

In the preceding paragraphs we commented on the frequency of noteworthy characteristics of inner experience among our seven participants. In this section we will discuss possible explanations for these findings. It is important to clarify at the outset that due to the exploratory nature of our study, our comments represent speculation only, and are not meant to be interpreted as solid or confident conclusions. This is the first study that employed the descriptive experience sampling method to examine the experience of individuals who report symptoms of PTSD and as such we interpret our findings with that knowledge in mind. At the same time, two of the examiners in this study (R.T. Hurlburt and C.L. Heavey) have spent many years examining the experiential phenomenology of various populations, and have extensive knowledge in the area of experience sampling.

Some of our speculations are based upon this knowledge. It is also important to note that the following discussion of skill does not apply to every participant or every experiential phenomenon in the same way. For example, Mark had several rather complex instances of unsymbolized thought over the course of sampling; Peter had complex inner seeing experiences, as did Jacob and so forth.

As discussed previously, sensory awareness occurred with greater frequency than other experiential phenomena in the current study. It is possible that sensory awareness is a more rudimentary form of inner experience, perhaps requiring less experiential skill on the part of the experiencer (R.T. Hurlburt, personal communication, June, 2010). Sensory awareness may require less experiential skill than, for example, complex inner seeing or feeling experiences. Alternately, sensory awareness may sometimes be the result of high skill (R.T. Hurlburt, personal communication, June 2010). For example, if conceptualized as resulting from an ability to hone in on the present and concentrate experience on only sensorial details of one's environment while actively excluding competing stimuli, then sensory awareness takes a rather greater amount of skill.

Experiential "skill" can be thought of as similar to any other skill acquired and practiced by human beings – generally skills involve the coordinated and fluid interaction of various bodily and cognitive systems in order to produce a desired outcome. For example, a golfer with a higher level of skill at playing golf is able to more easily and naturally (without much thought) coordinate his bodily movement (the stroke) with his visual input (where the golf ball is) with cognitive processes (e.g., "hitting the ball there will give me the best chance of getting it in the hole with the fewest strokes"). However, a less skilled golfer may not as readily coordinate these various systems, or may

mistakenly involve unnecessary systems that then interfere with his ability to skillfully play golf.

It is possible that experiential skill might be thought of in the same way – a skillful “feeler” for example, may be readily able to coordinate all the various aspects of emotion-experience (e.g., bodily sensations and cognitive processes) into an integrated whole to produce a fully experienced feeling, whereas an unskilled or less skilled “feeler” may only experience disjointed aspects of an ongoing emotion at any given point, without the ability to skillfully integrate these separate aspects into a whole. The experience of sensory awareness, in contrast, may not require integration or coordination among various systems – sensory awareness involves absorption of attention on some sensation or sensory aspect of the world. To put this in practical terms, it may require less coordinated skill to become visually absorbed in the brownness of the brown-colored stew than it does to feel, for example, pride at having prepared delicious stew and hopefulness that others will enjoy it as well.

Of course, it is possible that *more* skill is required in sensory awareness than other forms of experience, particularly in some situations or with some types of sensory awareness. Perhaps it requires more coordination and skill to *block out*, or at the highest levels of attainment, simply not to create, competing information (e.g., ongoing thoughts, ongoing emotions) and simply focus in on the sensory aspects of the world. If conceptualized from this perspective, then the participants in this study might be thought of as highly skilled sensory awareness experiencers. Although we cannot draw a definitive conclusion on this point, it seems possible that sensory awareness requires less

skill as it does not involve creating experience in the same way as inner speaking or inner seeing or even unsymbolized thinking.

It is also possible that sensory awareness is less related to skill and instead simply a result of effort. Perhaps sensory awareness is a less effortful form of inner experience, easier to engage in than feeling or thought. So it is possible that the higher rate of sensory awareness seen in the study is simply a result of lower levels of expended experiential effort. Our task here is not necessarily to identify one truth, but rather to consider the various possibilities based upon the information we have collected.

Further evidence of the potential variability of experiential skill in the participants of the current study is seen in the low frequency of feeling and inner speaking. Feeling was present in 15% of the overall samples collected, with a range of 0% to 78% among participants. As mentioned previously, Andrew's frequency of feeling experience inflated the overall frequency; when his feeling experience is removed, feeling is experienced with 4% frequency across the other six participants, a substantial difference. Inner speaking occurred with very low frequency (5%) across participants in the present study; only four (Louis, Andrew, Peter and Mark) of the seven participants experienced any instances of inner speaking. When inner speaking was present, it was simple, one to two-worded thoughts. Louis had the majority of inner speaking samples (50%). His inner speaking was particularly basic and simplistic. For example, in one sample, as he was reading, he was saying what he was reading to himself. In three other examples, Louis was simply repeating phrases to himself over and over (e.g., "Where did I fucking put that shit," "March 1st" and "I hate this fucking shit!"). Andrew's inner speaking samples were equally unsophisticated; for example, in one of his two inner speaking samples he

was innerly saying to himself the word “daaammnnn.” In Peter’s case, his inner speaking samples consisted of saying the word “lawyer” to himself and repeating the phrase “lefty-loosey, righty-tighty” to himself. Finally, of Mark’s two inner speaking samples, one was rather basic (e.g., saying to himself “this asshole!”) whereas the second sample (sample 3.3) was more complex and discussed in Chapter 10. The minimal presence (or complete absence) of feeling and inner speaking experience may be an indicator that the participants in this study potentially had little in the way of “clear” experience and may have been, in some cases, less skilled experiencers in the area of feeling and inner speaking.

Inner seeing and unsymbolized thinking occurred with lower frequency (17% and 15%, respectively) than in Heavey and Hurlburt’s (2008) study. It should be noted that one participant (Mark) provided over half of the unsymbolized thought samples (18 of 34 or 53%); without the inclusion of those samples, unsymbolized thinking, also a more complex form of experience, occurred with a frequency of 7% among the other six participants. This low frequency of unsymbolized thought may again indicate that the majority (six of seven) of our participants were not highly skilled “unsymbolized thinkers.” The same can be said for the substantially reduced frequency of inner seeing (a more complex form of experience; personal communication, R.T. Hurlburt, 2010) in the current study; this finding is possibly a result of lower levels of “inner seeing” skill. It is harder to make the case in this instance that the lower frequency of these more complex forms of inner experience is due to a *higher* skill level.

Again, if different types of experience (e.g., feeling, inner speaking, unsymbolized thinking, etc.) are conceptualized as skills, an individual who has complex

inner seeing experiences and an absence of feelings, for example, may be thought of as a skilled “inner seer” and an unskilled “feeler.” Much as an athlete who excels in golf (and is therefore a skilled golfer) may struggle when playing basketball (and may be considered an unskilled basketball player).

Overall, the frequencies of experiential phenomena in the present study are lower than the frequencies of the same experiential phenomena in Heavey and Hurlburt (2008), with the exception of sensory awareness. It is hypothesized that one reason for this may be directly related to the experiential skill of the participants in the current study; our participants, in general, may be more skilled when it comes to sensory awareness than when, for example, it comes to feeling. Again, this may be because sensory awareness may be a more rudimentary form of inner experience, and therefore perhaps more readily “experienced” and “mastered” than other forms of inner experience. However, it may very well be the case that sensory awareness is a higher form of experience, requiring greater skill (as discussed above) and our participants were somehow more practiced or skilled in this area.

If we were to momentarily assume that the low frequency of potentially more complex inner experience (e.g., feeling and inner speaking specifically) in the present study is suggestive of less experiential skill in those areas, we might then infer that perhaps the individuals with PTSD symptoms in this study have less integrated and coordinated inner experience, resulting in low experiential skill. For example, our participants did not integrate the disparate aspects of emotion well and therefore can be said to have a low feeling skill. Likewise, the participants in this study had infrequent,

simplistic inner speaking experience, and therefore can be said to have a low inner speaking skill.

The potentially lower level of, for example, feeling and inner speaking skill observed in the participants in the current study may provide insight into the development of PTSD when PTSD is conceptualized as developing and being maintained by a lack of effective processing of a trauma memory, a conceptualization held by several theories of PTSD (e.g., Cahill & Foa, 2007; Ehlers & Clark, 2000). As discussed above, the ability to fully integrate and coordinate various experiential phenomena, like other abilities or skills, likely exists on a continuum from “highly skilled” to “unskilled.” The individuals in this study may fall toward the lower feeling and inner speaking skill end of the continuum. Furthermore, they all have significant symptoms of PTSD. Low experiential skill in an area such as feeling may result in poorly integrated or uncoordinated feeling experience, and therefore potentially more shallow levels of emotion processing.

Thereby, perhaps individuals who go on to develop PTSD through lack of effective trauma processing as well as disjointed, disintegrated trauma memories are individuals who had a lower level of feeling skill to begin with, and thus were not adept at the processing of emotion-laden experience such as a traumatic, life-threatening event. The introduction of the trauma (or, as in the case of our participants, multiple traumas over an extended period of time) then further disrupted an already inefficient (or less efficient) emotion-processing system.

Low feeling skill is hypothesized to be more relevant in individuals who develop PTSD than low inner speaking skill, due to the highly emotional nature of trauma. Of course, it is possible that low inner speaking skill (or low skill in some other aspect of

experience) is somehow related to PTSD as well, though this connection is much less clear and therefore will not be discussed further in this document.

An alternate hypothesis of course is that trauma somehow degrades the ability to effectively integrate and coordinate feeling processes or experiences. This could be due to excessive avoidance of the trauma memory and the resulting emotional numbing. In other words, it is possible that individuals who are not particularly skilled “feelers” may more readily develop PTSD following a trauma, or, alternately, that low feeling skill is a result or “symptom” of the types of trauma that can lead to PTSD. It is also possible that feeling skill and PTSD are two completely unrelated phenomena.

Study Limitations and Suggestions for Future Research

The present study had a number of limitations. The first limitation was the small sample size (N=7). DES studies are, by their nature, very time and labor intensive and require dedicated adherence from participants as well as researchers. For example, DES as it was applied in this study and described in the methodology required approximately 50 hours of expositional interviews, with many additional hours devoted to introducing and explaining the method to participants, digitalizing the interviews, coding samples, writing and reviewing sample descriptions and completing multiple iterations of descriptive chapters. Further, the DES process requires extensive involvement on the part of the participant; from wearing the beeper and collecting samples, to coming in on a regular basis to complete expositional interviews. The involved nature of DES makes large samples difficult to study. Further, due to the small sample size, statistically significant conclusions cannot be drawn from the data collected, nor can broad-based generalizations to other groups be made. Given the qualitative nature of the data collected

(i.e., samples of experience), quantitative analysis becomes difficult, if not impossible, outside of reporting frequencies of salient characteristics. Even with a larger sample size, quantitative analysis of this type of data remains difficult.

A second limitation of the study is a consequence of when and how the participants collected moments of inner experience. Participants were free to collect their moments in their own natural environments at a time of their choosing, thereby increasing ecological validity. It is possible that the varying conditions under which participants collected their sampled moments may have resulted in systematic differences among the individuals. Furthermore, participants may have had presuppositions that influenced the way in which they perceived and presented their inner experience.

A third limitation of the current study is the possibility that the researchers' presuppositions and personal belief systems interfered with the accurate apprehension of the participants' inner experience. However, this is believed to be unlikely as three investigators were involved in the sampling process in an attempt to reduce the likelihood of contamination of the data by presuppositions.

The findings of the current study indicate that additional research using DES to explore the experience of recent war veterans who report symptoms of PTSD would be worthwhile. Future research might address the limitations of this study discussed above by using a larger sample size. Sampling with participants over a more extended period of time may aid in our understanding of the frequency of occurrence of certain phenomena observed in the current study, for example, vigilance, concentrated doing and flashbacks. Additional DES studies with the current population may help to shed further light on the discussion of experiential "skill" in individuals with PTSD. For example, future research

might include an examination of the inner experience of soldiers prior to and following first deployments to a combat zone. Pre- and post-deployment sampling studies may shed light on the nature of inner experience in individuals prior to the development of PTSD and experiential changes that may (or may not) occur as a result of the combat experience and the subsequent development of PTSD symptoms.

APPENDIX A

Participant Samples

Jacob (Chapter 4)

Sample 1.1: The Steelers were playing the Bengals on television. Jacob was watching Bryan Leonard make a good play and was reminded of a television show he had watched previously, titled “Hard Knocks.” On this show, the commentators/coaches had been discussing the prospect of cutting Bryan Leonard from the team during spring training. At the moment of the beep Jacob is saying out loud, “I can’t believe how retarded these coaches are” in a slightly sarcastic tone. He is laughing or snickering sarcastically as he says these words out loud. Although his friend is in the room, he is not saying these words to anyone. Jacob understands that the retardedness of the coaches refers to their wanting to cut Bryan Leonard from the team.

Sample 1.2: The football game was still on but Jacob had gotten up to get a tissue to blow his nose. At the moment of the beep Jacob is blowing his nose and is hoping he won’t be sick on Tuesday so that he can see his girlfriend. This hoping is not occurring in images or words but Jacob is confident that he is thinking that at the moment of the beep. He is blowing his nose, however, this is not in his awareness; it is just something he is doing at the moment.

Sample 1.3: Jacob was at the park, taking his dog for a walk. His dog was not on a leash and was running around with another dog that was not on a leash. The two dogs had just run up to a man whose dogs were on a leash, and a second or so before the beep the man had angrily and arrogantly said, as if to no one but obviously aimed at Jacob, “People should really keep their fucking dogs on a leash!!” At the moment of the beep anger explodes through Jacob’s body, an intense heat that instantaneously spreads throughout his entire body—trunk, arms, legs, head, everywhere. The heat is intense, like being outside in the Las Vegas desert sun, but the heat is mostly inside his body, not particularly on the surface. (This heat occurs instantly and reaches full intensity immediately, and causes Jacob to break out in a sweat, but none of that is in his experience at the moment of the beep.) Jacob also feels his heart racing. At the same time, he is seeing the man, head-to-toe, but instead of seeing the fully detailed man (as he had been seeing him before the incident), he is seeing only the outline of the man, as if the man existed as “a target” standing in front of him.

Sample 1.4: A Kay Jewelers commercial was playing on television. At the moment of the beep Jacob is thinking about why guys get suckered into spending money on diamonds, and why girls don't have to do the same thing. This thinking does not have any identifiable characteristics (e.g., no specific words, no images). At the same time, Jacob is feeling a sense of irritated frustration associated with the whole diamond-buying enterprise. This feeling is not experienced to be in his body or in his head, nor even "mental", but he is confident that he is directly experiencing irritated frustration at the moment of the beep.

Sample 1.5: Jacob was still writing down notes from the last beep. This beep was not discussed.

Sample 1.6: Jacob was watching football, and Troy Aikman was commentating on the performance of the Dallas Cowboys. Troy Aikman has been providing commentary on the Dallas Cowboys for many years, and Jacob has always felt that he always talks shit about the Cowboys, despite his many years of serving as the quarterback for the team. Troy Aikman's shit-talking has always pissed Jacob off. At the moment of the beep Jacob is thinking that Troy Aikman always talks bad about the Cowboys. Jacob is thinking about Aikman, but is not feeling pissed off. The thinking does not have any identifiable characteristics (e.g., no specific words, no image).

Sample 2.1: Jacob had just said the word "treat" to his dog who had responded by becoming excited. At the moment of the beep Jacob was wondering whether his dog really understood him or whether the dog's reaction was habit. Jacob did not experience words, images, or any other symbols as part of this wondering.

Sample 2.2: Jacob was walking toward the refrigerator to get a glass of fresh orange juice. At the moment of the beep Jacob is innerly seeing himself from a third-person perspective from his right, opening the refrigerator door with his left hand and reaching into the refrigerator with his right hand. The refrigerator is "see-through" as though its walls are made of glass. He is innerly seeing himself reaching all the way into the back of the refrigerator with his hand come out the back of the refrigerator into an orange orchard. Another hand is reaching out of a tree towards Jacob's hand, handing him a clear glass full of orange juice.

Sample 2.3: Jacob was watching the show Countdown to the UFC 106 on TV. They were discussing the upcoming fight between Tito Ortiz and Forrest Griffin. At the moment of the beep Jacob listening to what Tito Ortiz is saying and hoping that Tito wins the fight. The hoping that Tito Ortiz wins the fight is a part of the listening rather than a separate thought process.

Sample 2.4: Jacob was looking at his laundry that was separated into 3 piles: darks, mediums and lights. At the moment of the beep Jacob is looking at the 3 piles, wondering which of the piles he should wash first, which pile has the clothes he needs for tomorrow or the next day. This wondering does not have any identifiable characteristics (e.g., no specific words or images).

Sample 2.5: Dozed off, this beep was not discussed.

Sample 2.6: Jacob was watching Sports Center on TV. On the left side of the TV screen was a vertical list of the 6 upcoming topics to be discussed on the show. At the moment of the beep Jacob is reading the words on the screen, “Larry Johnson signs one year deal with the Bengals.” [This happens to be the 3rd topic in the list but that is not a part of Jacob’s awareness at the moment.] He is reading the words and attending to the meaning of the words.

Sample 3.1: Jacob was at home painting his toenails while waiting for a football game to start. At the beep he is concentrating on what he is doing by visually focusing on what he is painting and being careful not to get paint on anything but his toenail. His being careful is not a separate thought process; he is carefully painting including paying attention to what he is seeing. He is seeing his hand from just above his knuckles down to where he is holding the paint brush in his fingers and he is seeing his right big toe from just above the joint to the end. He is not seeing anything else nor is he aware of anything else in his surroundings.

Sample 3.2: Jacob was at home watching a football game with his roommate. The Cowboys had just scored a touchdown to get ahead in the game and Jacob had just given his roommate a hard high-five as part of a ritual they perform after each Cowboys touchdown. At the moment of the beep he is feeling a pleasant *lack of tension* throughout his body. The lack of tension is spread evenly and diffusely throughout his body, possibly including his head.

Sample 3.3: Jacob was walking his dog in the park in his neighborhood. His dog had just pooped and he had picked it up and was throwing it away. At the beep he was looking at a pile of dog poop on the grass, wondering why people don’t pick up their dog’s poop. This wondering was occurring without any words or images. He was also feeling moderately irritated. The irritation did not have any location, sensations or other experiential details.

Sample 3.4: At the moment of the beep Jacob is hoping that it is not going to be breezy the next night when he is working outside. This hoping is innerly seeing three palm trees as if he were standing on the roof of the parking garage where he works. The palm trees are swaying to the left from a strong breeze coming from the right.

Sample 3.5: Jacob was at home eating dinner. He was by himself, sitting at the counter in his kitchen. At the beep he is eating a Spam Musubi, a slice of Spam on rice wrapped in seaweed. He tastes the salty, ham-like taste of the Spam and is wondering what is in Spam. This wondering is occurring without words, images or other characteristics.

Sample 4.1: Jacob was at his house chasing his dog around the island in his kitchen. This is a game they play regularly. At the moment of the beep he is trying to catch his dog and

not hit the cabinets as he runs. He experiences this as paying attention to what he is doing; it is not a thinking experience.

Sample 4.2: Jacob was using his computer to look up information on the Kelly Blue Book web site about a car that his mother-in-law was thinking about buying. He was looking at a web page that listed possible options the car can have. He had just read the option of leather seats. At the moment of the beep he is innerly seeing a Toyota Highlander, the car his mother-in-law is thinking about buying. He is seeing the car as if standing a few feet away from the driver's door, which is open. He is seeing into the car, looking at the tan leather interior. He can also see the open door and the steering column and steering wheel, with the Toyota logo on it.

Sample 4.3: Jacob had been watching football on TV and a commercial for the Marines had come on. As he watched, the commercial tell the story of young men who had enlisted in the Marines, gone through boot camp, and then to the Silent Drill Team, a chill had overcome him—a wave of goosebumps had suddenly tingled across the surface of his entire body, head to toe. The chill was not of coldness, but was a good feeling. He was much more aware of the tingly goosebumpiness than of the commercial, though he was still paying attention to the commercial.

Sample 4.4: He had installed the new version of iTunes on his computer and it was not working. He had clicked four times on the place where his music was supposed to be, but it kept telling him it was not there. At the moment of the beep he intensely wants to break his computer. He innerly sees himself throw his computer, a laptop, out the window near where he is sitting. From a first-person perspective he sees his right arm draw back with his computer in his hand and then throw the computer like a Frisbee through one of the three small kitchen windows in front of him. He sees the window shatter as the computer goes through it. He is confident that even though the inner seeing expresses the desire to break the computer, he also has, apart from the inner seeing, a strong urge to break the computer. It is impossible for him to put this break-the-computer urge into words other than to say it is clearly apprehended as ongoing at the moment of the beep, and that it exists in parallel with the inner seeing. [He noted that he often has the desire to break something when he is angry and that he has a sense that if he does break something, he feels better, though this was not in his awareness at the moment of the beep].

Sample 4.5: He was clipping the fingernails on his left hand. At the beep he was in the process of clipping the fingernail on his middle finger. He was thinking that he wished his fingernails did not grow so fast. This thinking was occurring with words, images or other characteristics. His awareness was more occupied by what he was thinking than what he was doing.

Sample 4.6: He was taking a shower, washing his left arm. (The beeper was on the counter outside of the shower.) At the beep he was wondering why he always washes his left arm first. This thinking was occurring without words, images or other characteristics.

Sample 5.1: Jacob was at his house, getting undressed after work, taking off the several layers of clothing he had been wearing to keep warm at work. At the moment of the beep he is taking off his under-armor cold gear pants. There is little or nothing in his experience at the moment of the beep; he is merely more or less automatically taking off the pants.

Sample 5.2: He was sitting at his house waxing the underside of his snowboard, which involves melting wax onto the snowboard, and then smoothing the wax out when it is at the right consistency. He was holding the wax up to a hot iron, melting it onto his snowboard. The wax was dripping from the hot iron down onto his snowboard. At the moment of the beep he is paying attention both to the wax as it melts next to the iron and to the wax that has dripped onto the board. He is paying close or rapt or concentrated attention to the consistency/appearance of the wax as it relates to the “spreadableness” of the wax (so that it is not lumpy, too watery or too cold).

Sample 5.3: He was eating pizza with his roommate and they had been talking about how much they love pizza. He had just taken a bite of the pizza. At the moment of the beep he tastes the pizza in his mouth. He is enjoying/loving/“into” the taste of the pizza. He is also looking at the pizza on the counter in front of him, but this is not as salient in his awareness as the really good taste of the pizza.

Sample 5.4: He was texting his best friend about the UFC fight between Jon Jones and Matt Hamill, which had taken place the previous night. At the moment of the beep, he innerly sees Jones “12 to 6” elbowing Hamill in the face. He sees Jones’ back and right side from a slight right angle, sitting on top of Hamill who is lying on his back. He sees Jones’ elbow come straight down and hit Hamill in the face. He apparently sees this just as he had seen it on TV. At the same time he is texting his friend regarding the “12 to 6” elbow assault on Hamill, but this is not in his awareness at the moment.

Sample 5.5: He was studying for his final, reading and memorizing phrases. At the moment of the beep, he is reading a phrase, and is not aware of anything in his awareness

Sample 5.6: At the moment of the beep he is thinking about all the things he needs to do this week (papers, finals, work, meetings), and that with next week (following the end of the semester) will come relief. There are no characteristics associated with this thinking; it is more of a mental process absent of words, images or other characteristics.

Sample 6.1: Jacob was on the computer, looking at the UFC website and reading a Twitter posted by Diego Sanchez that read, “Bringing the storm from San Diego to Memphis.” This quote reminded Jacob of the arrogant, cocky nature of Diego Sanchez. At the moment of the beep Jacob innerly sees Diego Sanchez doing his post-fight commentary/interview. He sees Sanchez from the chest up, facing forward, speaking into a microphone, however there is no sound as part of or accompanying this seeing. He is focused on Sanchez’s face, on his “little, arrogant smile” in particular. Whereas he clearly *is* critical of Sanchez, he does not *feel* critical at the moment of the beep.

Sample 6.2: He was on the computer, looking up new insurance for his motorcycle on Geico's website. At the moment of the beep he is typing his VIN number into an empty cell on the screen. He is very carefully concentrating on the numbers and letters of his VIN number on the screen as he is typing them in, in order to type them correctly. Also present in his experience, although to a much lesser degree, are the Geico gecko at the top right corner of the screen, and the other blank cells that he has yet to fill out.

Sample 6.3: Jacob was innerly seeing money and a ring, except that the money and the ring themselves were not being seen. That is, Jacob was confident that he was innerly seeing and that the inner seeing was of money and a ring, but equally confident that the money and ring themselves were not innerly experienced at the moment of the beep.

Sample 6.4: Jacob was in the bathroom looking in the mirror. At the moment of the beep he is looking at a chip in a tooth in the bottom row of his teeth. His way of seeing this tooth somehow represents to him that he should go to the dentist.

Sample 6.5: He was on the computer, reading the names of dentists on his insurance provider's website. At the moment of the beep, he is both reading the name, "Nancy Nguyen" and wondering why so many of the dentists have Vietnamese last names, and why there are so many Vietnamese dentists. This wondering has no characteristics (no words, images). Most of his attention is aimed at the thought; the reading is pretty close to just happening on autopilot.

Sample 6.6: He was asleep and the beep woke him.

Sample 7.1: Jacob was doing the dishes and his hands were submerged in warm, soapy water. At the moment of the beep Jacob feels the sensation of the warm dishwater on his hands and the texture of the sponge in his hand. He is also seeing the bubbles in the water.

Sample 7.2: Jacob was holding the dog's leash, getting ready to take the dog out on a walk. At the moment of the beep Jacob is watching his dog jump up and down in anticipation of going outside. There is amusement that is associated with seeing his dog jump up and down. It is unclear, however, whether that amusement is in Jacob's awareness at the moment of the beep or whether he became aware of the amusement after the beep, when assessing what was happening at the moment of the beep.

Sample 7.3: Jacob was taking his last final online, and had just read the test question, "What is the advantage of behavioral checklists over interviews?" He was reading through the 4 response options. At the moment of the beep Jacob is someplace between the reading, and selecting the correct response, however, he can't say with any certainty what, if anything, is in his awareness at the moment of the beep.

Sample 7.4: Jacob was on the phone with his uncle, who had just asked Jacob how to get from the South Point hotel to the Las Vegas airport. At the moment of the beep Jacob is innerly seeing the South Point hotel and the intersection in front of it, from the perspective of diagonally across the street, looking up at the hotel. He innerly sees the

intersection, the hotel, and an empty parking lot, but mostly he is drawn to the goldness of the innerly seen hotel's windows.

Sample 7.5: Jacob was folding his laundry, and was putting the folded items in 8 separate piles that corresponded with the drawers in which he was going to later place the items (shirts in one pile, underwear in another, socks in another, and so on). At the moment of the beep Jacob is folding a shirt on 'autopilot.' He is somehow aware of his 8-pile categorization system—that is, the categorization system itself is somehow present to him at the moment of the beep—that is, he is not merely folding a shirt that belongs to one of the categories, but is instead somehow aware of the category scheme that includes the shirt category. Perhaps because the level of his category awareness was difficult for him to ascertain is at the moment of the beep, and perhaps because we muddled the water, we were not successful in clarifying this.

Sample 7.6: Jacob was watching *The Office* with his roommate. Michael, a character on the show, had just said, "Football is like rock and roll, basketball is like jazz." Jacob found this a funny and stupid thing to say. At the moment of the beep Jacob is laughing. His laughing has a "[Michael's]-an-idiot" quality to it, but Jacob is not aware of this at the moment of the beep.

Brandon (Chapter 5)

Sample 1.1: Brandon was at Target with his wife and 2 children. At the moment of the beep Brandon is looking at poofy baby shoes and wondering about the usefulness of these poofy shoes for his son during the upcoming trip to Utah where it will be cold. This wondering does not have any characteristics (e.g., words, images, etc.) He is barely noticing that his wife is speaking to him, but he is not aware of what she is saying.

Sample 1.2: Brandon was in the car with his wife and 2 children. His wife was driving. Just before the beep, Brandon had noticed a handicapped placard hanging from the rearview mirror of the car in front of them. This placard had reminded Brandon of working as at the air-show this past weekend directing handicapped drivers to a special parking lot. At the moment of the beep Brandon is feeling bored and vigilant, which was how he had felt while directing traffic during the air show. This is one mixed feeling without bodily sensations. There is also a slight remnant of thinking back to his convoy training and the idea that where they are driving would make a great ambush site. This thought is leaving his awareness and just a slight trace of it remains.

Sample 1.3: Brandon was in the car with his wife and 2 children. At the moment of the beep he was listening to his daughter talking about imaginary superpowers and feeling proud of her for being imaginative. This feeling of pride did not involve sensations or any other characteristics. The feeling of pride was more central in his awareness than what she was saying. At the periphery of his awareness Brandon is considering what his plans are for the day.

Sample 1.4: Brandon was holding his daughter's hand walking through the parking lot. At the moment of the beep he was vigilantly taking in the auditory and visual stimuli in his environment because he does not want his daughter to get hurt while crossing through the parking lot. He is more focused on the environment than he is on the reason for his vigilance. He is noticing the sound of a car alarm and beginning to have a thought that he should be aware of any unsavory people in the surroundings. He is also beginning to experience a physical tenseness in his body.

Sample 2.1: Not discussed due to time.

Sample 2.2: Brandon was driving on Interstate 15 [his wife took the notes], making a curve. At the moment of the beep he was seeing everything in his visual field that was outside his windshield: cars, roadway, signs, and so on. All these things were seen with equal attention and clarity—he was “paying attention to everything.” The cars on the other side of the freeway divider were seen as well, but without quite so much intensity. Things inside the car—instruments, his wife, etc., were not part of his visual seeing. At the same time he was noticing the feel of the steering wheel against his hand—the hardness of it, the place where the spoke of the wheel and the rim of the wheel came against his hand. Most of his attention was on the visual display (70/30).

Sample 2.3: Brandon was drinking Starbucks coffee. At the moment of the beep he is tasting the bitterness of the coffee and the sweetness of the chocolate. He may have also been noticing the heat of the liquid, but was less confident of that.

Sample 2.4: Brandon was in the grocery store, standing in front of the baby food selecting jars. At the moment of the beep he is innerly seeing his daughter's face as she is eating green beans for the first time—seeing the intensity of her expression, the bits of green beans around her mouth, a little of the yellow onesie at her neck (but the rest faded into irrelevance). This inner seeing is understood to be an accurate reseeing of an event that had taken place a few years earlier, and which had been captured on videotape and viewed in the interim.

Sample 2.5: Brandon was at work reading an email that said that a power company truck had disrupted the gas line to his building so there would be no hot water. At the moment of the beep he is thinking about the absence of hot water—that there will not be hot water. This is clearly a thinking and does not involve words or images. At the same time he is innerly seeing a fuzzy or blurry hot water tank, the white part of the tank, not the controls or water lines. More of his experience was occupied with the thinking than the seeing (70/30).

Sample 2.6: Brandon was at work writing an email about an upcoming office Christmas party, which was to take place on December 11 the following week. At the moment of the beep he is typing “DEC 11” and seeing those characters in black against the white computer screen. At that moment he is more interested in the way the characters look than in the meaning they convey. At the same time he innerly sees the December 11 block of a standard office-type calendar, with a red circle drawn around it. He sees a

square with a black 11 in it, and a few surrounding squares; he does not see the whole calendar page (he does not see, for example, “December”) but he understands himself to be looking at a December page. The red circle is as if drawn with a chisel-point Sharpie, and is drawn as he himself would draw it—with a slight overlap of pen strokes at the top of the circle. The inner seeing of the circle occupies him slightly more than the seeing of DEC 11 (60/40).

Sample 2.7: Brandon was at work, beginning the outline of an English paper on the Boy Scouts that he was working on. At the moment of the beep he was writing “BSA” [meaning Boy Scouts of America], but the writing itself and its meaning were not present to him; instead, he was feeling the tension in his right forearm, in the inside from just below his elbow to just above his wrist. [He says he holds the pencil too tight.] At the same time he was innerly seeing his Eagle Scout patch, as if he were in high school wearing his Boy Scout uniform looking down at the left side of his chest. That is, he saw the patch accurately as if viewed obliquely from above. He saw a bit of the tan uniform around the patch; the rest of the uniform faded into irrelevance. More of his experience was on the tension than on the seeing (70/30).

Sample 2.8: Brandon was at physical therapy doing a standing stretch, bending at the waist reaching toward the floor. At the moment of the beep he was feeling the stretch in his hamstrings at the base of his thighs, feeling it in both legs but the left leg was a little looser. At the same time he was innerly seeing his hands on the floor next to his feet, viewed from his own first person, as if he could complete the stretch that he was now attempting but unable to finish. That is, he was seeing himself from his own eyes, as he would like to be. This seeing was clear, in color, and accurate in detail (if he could attain that posture). The stretch and the inner seeing were pretty much 50/50 in his experience.

(Sample 3.1, 3.2: Not discussed due to time).

Sample 3.3: Brandon was sitting down, reading a book of leather tooling patterns, trying to find a pattern for the belt he was making. He was looking at a leaf pattern for tooling. At the moment of the beep Brandon is innerly seeing the belt he is currently making, as if he had tooled the leaf pattern repeatedly along the entire belt. He sees the belt stretched out in front of him, and slightly above him, such that he is looking up to see it [he’s not actually looking up, but his ‘inner eyes’ are looking up]. The place where the buckle should go is on his left [however there is no buckle, only the hole and 2 snaps where the buckle will go]. He does not see the entire left end of the belt; there is an additional hole and two snaps, but they are “faded into irrelevance.” The leaf tooling pattern repeats, and runs across the length of the belt, from the right of where the buckle should be, and has a 1/8 inch border along the top and bottom of the length of the belt, where there is no tooling pattern. At the same time, Brandon is physically looking down at the book in front of him, but this is not as salient in his awareness as his inner seeing (about a 70-30 attentional split).

Sample 3.4: Brandon was running up the stairs to attend to his son who was crying. He was halfway up the stairs. At the moment of the beep Brandon is aware of his physical

alignment in space – of not falling over. He is paying attention to the physicality of balancing as he is running up the stairs. He was also aware of tension in his legs and back, but this awareness may have occurred after the beep

Sample 3.5: Brandon was eating a banana, his eyes aimed at the yellow peel of the banana. As he was eating/seeing the banana, Brandon was trying to imagine what the color yellow tastes like. At the moment of the beep Brandon is tasting the color yellow. He is experiencing a vivid, imagined taste, one that is much more vivid than the taste of the actual banana in his mouth. This taste, however, does not seem to be the ‘right’ taste in that it does not taste the way yellow ‘should’ taste. The shade of yellow Brandon is unsuccessfully attempting to taste is a bright, sunshine yellow, different from the yellow of the banana and the banana peel. The yellow taste Brandon is actually tasting is slightly more sweet than sour, more salty than not, and really, really very light and airy [lighter than whipped cream], but difficult to capture with words, and not the yellow he is trying to taste. Although Brandon is chewing an actual, unimagined banana at the time of beep, he is fully engrossed in his imagined tasting, and is not tasting the real banana.

Sample 3.6: Brandon was at work discussing with a coworker the oddness of duck-Brandoned platypuses and how they don’t really fit into any category. At the moment of the beep Brandon is innerly seeing God standing at a workbench, putting together a duck-Brandoned platypus. Brandon is seeing God about 2-3 yards away and slightly to the right. Brandon is seeing God standing at his workbench, which is a “standard” workbench with four legs. God is human-like in form, an older man [in his 60s or 70s] with a long white beard, long white hair, and a long white robe. The pieces of the platypus are laid out in front of God, on his workbench. The head of the platypus is in God’s left hand, and the “furry kiwi” body of the platypus in his right, and he is assembling these two pieces. The tail and 2 legs of the platypus are lying on God’s workbench. Brandon hears God chuckle to himself as he’s assembling the platypus, chuckling in a self-amused, inside joke kind of way; his chuckle sounds like an older man’s voice, but is not familiar to Brandon. The coworker is speaking, and Brandon is tracking it, but it occupies only a minor part of his awareness.

Sample 3.7: Brandon was at work, preparing trays of cookies for the cookie drive. Brandon was in charge of getting the cookies out to the airmen, and was paying attention to how many cookies were in the bag ready to go, and how many more were needed. At the moment of the beep Brandon is thinking, 6 trays of cookies in the bag, no trays of cookies on the table. This is definitely a thought process but has no associated words, images or other characteristics.

Sample 3.8: Brandon was holding his son Patrick, walking toward Patrick’s high chair. At the moment of the beep Brandon is looking at the seat-part of the high chair, the ‘hole’ of the chair, where he is planning on putting Patrick. He is both paying attention to Patrick’s weight on his chest, arms and hands in order to keep him balanced, and focused on the hole in the chair with the intention of placing Patrick in this hole. This intention is known, but has no associated characteristics (no words, images, etc.).

Sample 4.1: Brandon was stitching with string the leather of a knife sheath he was making for his father-in-law. He had just tied a knot in the stitching string and was pulling the knot tight. At the moment of the beep Brandon is aware of the sensation of the stitching string ‘biting’ into the outside of his left pinky finger.

Sample 4.2: Brandon was reaching for a pair of scissors as part of the task of making a leather belt buckle. The reaching for the scissors was happening on autopilot, not part of his experience at the moment of the beep. At the moment of the beep Brandon is innerly seeing an expanded or zoomed-in version of the way he is going to stitch the buckle he is planning on making. He is seeing the buckle, with its holes arranged in an arch and the lacing (the leather string) woven in and out of each hole. The lacing is loosely woven through each hole, an exaggeration of the way it appears before it has been tightened, so that he can clearly see the pattern that he must make to execute this stitching. [Brandon has never used this particular stitch pattern. Prior to the beep he had looked in a book at a picture/diagram of how to execute this particular pattern. Now, at the moment of the beep, he is innerly seeing how that pattern is applied to the particular belt he is making]. The inner seeing is similar in structure to the book’s picture—a zoomed-in or expanded view of a loose stitching, but the innerly seen leather of the buckle is a tan-brown color and the lacing is a dark brown color, rather than black and white like in the book, and the innerly seen holes are arranged in an arch rather than straight like in the book. This seeing is clear, like a snapshot, and is located in front of Brandon, someplace “above the horizon”; that is, he is innerly looking up at the imaginary buckle, while his actual eyes are aimed down at the scissors.

Sample 4.3: Brandon was working on the lacing of the belt. He was pulling the lacing through each hole and tightening the lacing while doing so, making sure the lacing was not twisted. At the moment of the beep Brandon is looking at the lacing with the purpose of ensuring that the lacing lays flat on the leather. This ensuring-it-lays-flat intention is explicitly present in Brandon’s experience at the moment of the beep; that is, it is not merely that he is trying to get it flat, but rather that he directly apprehends this trying-to-get-it-flatness. The trying-to-get-it-flatness is a part of the looking, and is not a separate thought process.

Sample 4.4: Brandon was still working on the lacing of the belt. At the moment of the beep Brandon innerly hears Faith Hill sing “This, this is Christ the King,” the first line of the second stanza of “What Child is This.” He hears this singing accompanied by the band, apparently exactly as it exists on the CD, except that the singing is heard centered in his head, instead of outside as would be the case if he heard an actual CD. He means “in his head” to be taken literally—the voice sounds as if it were physically located in his head. The location is centered in the center of his physical brain, but he can’t say the extent—that is, whether it is in a small location in the center or occupying his entire skull is not important to him.

Sample 4.5: Brandon was telling his wife he would be late for dinner but would definitely be home for dinner, but that is happening mostly or completely outside of awareness. At the moment of the beep Brandon is innerly smelling, tasting and seeing a

“He Man” casserole. [This is a family recipe Brandon has had before – made of ground beef, cheese, potatoes and cream of ‘something’]. Most prominently, he is smelling the casserole – the smell is a mixture of the ingredients, and is true to the smell of the ‘real-life’ casserole. He is also tasting the casserole, but to a lesser degree. He is innerly seeing the casserole sitting atop the dinner table, but the seeing is the least salient part of his experience. This seeing is in front of Brandon, and slightly to his left. Brandon is also speaking at the moment of the beep but this is not in his awareness.

Sample 4.6: Brandon was working on the lacing of the belt buckle. At the moment of the beep he is innerly hearing dialog from the movie ‘Pirates of the Caribbean—Dead Man’s Chest’. Specifically, he is hearing Will (a character from the film) speaking. This hearing is inside his head, and as far as he can tell sounds exactly the same as it did in the movie. He is not hearing any background noise, music, etc. from the movie.

Sample 5.1: Brandon was reading the instructions on a box of leather dye. At the moment of the beep Brandon is innerly seeing black, leather shoes. He is seeing the shoes directly in front of him and at eye level; the toes of the shoes are pointed to the left. The shoes are side-by-side and he is seeing them from a profile view, such that he can see most of the left side of the left shoe, and only bits and pieces of the right shoe. This seeing is clear, but not as clear as “real life seeing” – about 80-85% as clear as real life. Brandon is also aware of reading the instructions on the leather dye box, but this awareness is much less salient than the seeing (about 30% versus 70%). The leather dye in the box that he is reading is red, and Brandon is a bit surprised that he is innerly seeing black shoes.

Sample 5.2: Brandon was on the computer, reading the description of an EMT course. At the moment of the beep Brandon is reliving an event. He is in Iraq, going through combat lifesaver course training. He is experiencing this as though it is happening right now, at the moment of the beep. He is seeing his buddy, the simulated casualty, lying down. Brandon is seeing and feeling his right hand clamped on his buddy’s artery, and his [Brandon’s] left hand holding the catheter/needle which Brandon is about to push into his buddy’s artery. He is also hearing the sound of helicopters around him [and possibly (he’s not sure) seeing and hearing the sound of other people engaged in a similar exercise], and smelling the distinctive smell of that area [the area in which the actual training took place]. However these aspects are less relevant than the seeing of his buddy’s artery and the catheter. This reliving is hyper-real – it is more relevant, sharper somehow, and more in focus than the real-life training had been, as if the “relevance control knob, which usually goes from one to ten, has been turned up to twelve.”

Sample 5.3: Brandon was at Target with his wife. His wife was trying on a dress and had asked Brandon his opinion of how she looked in the dress. At the moment of the beep Brandon is looking at Rachel with approval. This approval is somehow a part of the looking, and does not exist separately from the looking. In his looking, he is directly apprehending this approvingness. His looking is more than just looking with approval but less than looking with a separate “approval” thought.

Sample 5.4: Brandon was still at Target and was walking with his daughter, trying to find a space heater. At the moment of the beep Brandon is asking himself, “If I were a space heater, where would I be?” The words are present all at once, and have no perception-like characteristics. Brandon is very clear that he is not hearing this, seeing this, or innerly speaking this, however, these are the exact words he is asking himself, and any other variation on these words [e.g., “I wonder where I would be if I were a space heater”] would be inaccurate.

Sample 5.5: Brandon was in his car, and his wife was driving. They had just passed a truck with a bumper sticker that read “Dezzert Assault.” At the moment of the beep Brandon is reliving a live-fire exercise during combat skills training. He is experiencing this as though it is happening right now, at the moment of the beep. He is sitting in the gunnery of a HumVee – with his body sticking up through a hole in the top of the HumVee, and he is holding his M4 weapon against his left shoulder. He is looking out ahead of him, seeing both what is in his line of sight [what is in front of where he is pointing his weapon] as well as his surroundings. He is seeing what is in his line of sight with his left eye [he shoots left handed]– the target he has just shot at, and his surroundings with his right eye – the hill in front of him, the curving road ahead. At the same time Brandon is feeling the recoil of the M4 against his left shoulder, hearing the sound of the HumVee’s engine and the sound of the tires on the road. He is also smelling the grass. All this is understood to be an accurate reliving of the original event with two exceptions: first, the grass he is smelling at the moment of the beep is distinctively different from the actual grass he was smelling during the combat training; the “relived” grass smells stronger, fresher like fresh-cut grass. Second, the entire reliving (sights, sounds, smells, sensations) is hyper-real – more intense and sharper than the actual training. At the moment of the beep the experience is a reliving; a second later, when responding to the beep, he recognizes the grass smell as being stronger and the whole event as being hyper-clear.

Sample 5.6: Brandon was plugging the Christmas tree lights into the socket. At the moment of the beep Brandon is seeing the socket and the plug part of the lights, with the intention of plugging the plug into the socket. The intention is tied into the seeing, and can’t be pulled apart – as Brandon described, they are tied together in the way the three-layered toothpaste is tied together and can not be separated without making a mess.

Louis (Chapter 6)

Sample 2.1: Louis was sitting on his bed with his laptop in his lap, reading an email. At the moment of the beep he is reading the subject line of the email – ‘Sender: [company name].’ As he is reading this he is saying it to himself in his normal voice. He is also aware of himself and his dog in space. This awareness is not visual or mental, but is a knowledge of his own location/existence in space in relation to the other items in the room.

Sample 2.2: Louis was on the phone with his friend, Joe. Joe had been describing his evening, that he and his friends were drunk, that their designated driver had ditched them,

and that they were now walking down the street, still drunk. At the moment of the beep Louis is trying to form an image of Joe's location. Louis is having what he calls a "thought blur" which consists of a not-fully-formed image of his friend Joe walking down a street. In this image, Joe is clear, and in motion, walking from Louis's left to Louis's right. There are trees in this seeing/image, however, they are less clear than Joe is, but not completely unformed or blurry either. The remainder of the scene is much more blurry, dark, unformed. It is as if this image is being built by Louis; the more information Joe gives him about where he is, the more pieces of Louis's blurry image get "filled in." Louis's attention is also equally directed toward what Joe is saying; he is listening to Joe's description of where Joe is.

Sample 2.3: Louis was driving in his car, and had just seen a man with long, black hair hugging a girl. At the moment of the beep Louis is having a condescending/irritable reaction [Louis indicated that both these words accurately reflect his reaction] to the man's hair. This reaction is more mental and does not involve any words or other characteristics. [Louis reported that the condescending reaction can be captured by the phrase "pshhh, look at this guy" but that this thought was not actually present to him at the moment of the beep].

Sample 2.4: Louis had just noticed that he did not have his sampling notebook, and was searching through his backpack for it. He was repeating the phrase, "Where did I fucking put that shit" to himself over and over. At the moment of the beep he is saying to himself, "where did I fucking put that shit" and is feeling condescending about the notebook not being there.

Sample 3.1: While driving Louis was trying to remember his dog's vaccination appointment by innerly saying the words "March first" to himself repeatedly. At the moment of the beep he is on his second iteration of innerly saying the words "March [beep] first." He is innerly saying "March first" to himself, in his normal speaking voice, with a flat tone.

Sample 3.2: Louis was in the process of sitting down at the table (he was mid-sit). At the moment of the beep he is looking at the TV, seeing a close-up of the face of one of the designers on Project Runway. There may or may not exist in his awareness some sense of other objects in his surroundings - his dog to his right, his mother at the table, the chair he is about to sit in; but we can not be sure.

Sample 3.3: Louis was lying on his bed. At the moment of the beep he is hearing a high-pitched ringing sound in his ears (which sounds like the twanging of a wine glass). This ringing is in both ears but a little louder in the right ear. He is also hearing the sound of the garbage collectors on the street outside his room [it is unclear whether these are two separate hearing processes or one, complex hearing process].

Sample 3.4: Louis had been driving to his brother's house and had passed a woman walking down the street. He had then passed her again when leaving his brother's house a short while later. At the moment of the beep he is toying with the idea of picking this

woman up. He is experiencing a series of inner seeings that represent ‘what if’ questions related to whether or not he should offer the woman a ride. These inner seeings include innerly seeing the woman sitting next to him in the passenger seat of the car seen as if standing in front of the car looking in through the windshield. The woman is more in focus in the image. This inner seeing is associated with wondering what would happen if he picked her up. Another inner seeing involves seeing himself walking into class late. From a first-person perspective he sees his classmates are turning backward looking at him, and the teacher standing in front of the class is giving him a stern look. This inner seeing represents whether or not he would be late to class if he gave the woman a ride. Because he was driving at the moment of the beep, Louis was unable to immediately record his experience at the moment of the beep and was therefore unable to pinpoint which of these series of questions and inner seeing combinations was present right at the beep.

Sample 3.5: Louis was in class. He was watching his friends play a game of Scrabble on their iPhones. Louis’s friend had just made the word, “VD.” At the moment of the beep Louis is laughing because the letters stand for “venereal disease.” Louis is laughing hard and it is a good feeling. He’s not paying attention to anything else; he’s just laughing.

Sample 3.6: Louis and his friend James were talking about Louis’ upcoming move [relocation]. James had just asked Louis a question about where Louis was moving. At the moment of the beep, Louis is talking. He is not paying attention to anything in particular; he’s just talking.

Sample 4.1: Louis was lying in bed with his eyes closed trying to relax. At the moment of the beep he is innerly seeing/hearing Quinn, a character from the TV show “Glee,” sing “Smile,” a song from the show. He is seeing/hearing Quinn singing “sad words goodbye” along with the accompanying melody, and is more focused on the hearing aspect of this experience than the seeing aspect. He is seeing Quinn from straight ahead, from the waist up, wearing a red and white cheerleader’s outfit (which she wears on the show), with the center of his attention on her mouth as she sings. He sees her in motion, singing the song. This seeing does not appear to have a specific location in space, but Louis seems to be looking forward at her.

Sample 4.2: Louis was lying in his bed with his eyes closed trying to relax and to clear his mind. A bit before the beep he was actively trying to clear his mind. At the moment of the beep this active trying to clear his mind has been replaced by what is apparently the fruit of the trying: he innerly sees a dark, three-dimensional void that is spreading, pushing off to the sides his previous thoughts. These thoughts are represented by very bright, white light around the right and left edges of the expanding darkness. The spreading, expanding void is a ragged square, the edges of which are not straight but are jagged as the void pushes the thoughts away.

Sample 4.3: Louis was in the car, waiting to make a right turn at a red light. At the moment of the beep he is watching the cars coming toward him from his left. He is

impatiently/eagerly awaiting a hole in the traffic, but this is less centrally in his awareness than the watching of the cars.

Sample 4.4: Louis was driving and hearing a Rhianna song on the radio. At the moment of the beep he hears the Rhianna song and innerly sees a close-up of Rhianna's face and particularly her Mohawk hair. The background is black behind her. He sees Rhianna sing the song that he hears on the radio, as if he were watching a music video. He is also paying attention to the physical sensation of his jaw opening as he is yawning, but this is less central to his experience.

Sample 4.5: Louis was cleaning the trunk of his car because his dog had "shit in the trunk." At the moment of the beep Louis is innerly screaming, "I hate this fucking shit!" He is irate/angry/pissed off. The inner screaming is loud and intense, but not at 100% of his possible intensity. Besides the yelling, his anger is manifested as a heat expanding in his chest and radiating out to his hands, which are shaking. His physical anger is less centrally in his awareness than the inner yelling.

Sample 4.6: Louis was watching a documentary on TV. He was watching a woman speak about something. At the moment of the beep he is focused on the redness of the woman's lips. He is absorbed in the redness of her lips and is not aware of anything else.

Sample 5.1: Louis was leaning down, and his dog was licking his face. At the moment of the beep Louis is innerly saying, "awww kisses" in his own voice, only high-pitched and more feminine. He is also feeling the wetness of his dog's saliva on his right cheek.

Sample 5.2: At the moment of the beep Louis is staring intently into his dog's eyes, holding his dog tightly by the snout and is saying in a harsh voice, "When I say no I mean no [beep], OK Hailey?" Louis is feeling irritated, and this irritation is manifesting in his aggressive handling of the dog's snout. In staring at the dog, Louis is trying to communicate with her telepathically; trying to impose his thoughts on her.

Sample 5.3: Louis was using a ladle to scoop beef stew from the pot into a bowl. At the moment of the beep he is paying attention to what he is doing, trying not to spill the stew. He also smells the beef stew, which smells good. There is a segment of a Bon Jovi song playing over and over in his head (this segment is the only part of the song he knows), and at the moment of the beep he is hearing the music and lyrics, "halfway there, oh oh, living on a prayer."

Sample 5.4: Louis was driving and looking at the mountains. At the moment of the beep he is looking at the mountains and remembering his platoon; he is experiencing a series of inner seeings of himself and his platoon hiking. Some of these inner seeings are memories of events he experienced with his platoon during training in California and others are not. During our interview Louis was unsure exactly which of these inner seeings was at the moment of the beep. Examples of these include the following: 1) Louis and three other guys from his platoon are hiking and have run out of water. Louis sees one of the guys is asking him for water. The guys are wearing Kevlar and helmets but

their faces are undefined, blurry. 2) Louis and his platoon members are getting ready to scale a mountain; they are in the prone position.

Sample 5.5: Louis was reading a text message on his cell phone. At the moment of the beep he is innerly reading the text message to himself in his own, nondistinct voice, “It’s Holly’s birthday today.” He is also innerly seeing Holly’s face smiling brightly.

Sample 5.6: Louis was thinking about an interaction he’d had with a guy yesterday, and was replaying the interaction over in his head, obsessing about what he wishes he would have said at the time. At the moment of the beep Louis is mentally replaying the interaction; he innerly sees himself speaking with the guy. He sees himself from the third person perspective; he sees the back of his head and the guy’s face as well, as though he is seeing through his own head. Louis is talking to the guy, saying what he wishes he had said at the time. Louis also feels irritated/mad/disappointed in himself at the moment of the beep. (Louis did not want to disclose what he was innerly saying at the beep nor did he want to disclose the subject matter of the conversation).

Sample 6.1: Louis was thinking about the sampling process, about being asked questions and responding to those questions. At the moment of the beep Louis is hearing Dr. Hurlburt’s voice saying, “...be in someone’s awareness” as part of the question, ‘what does it mean to be in someone’s awareness.’ However, the “what does it mean to” is implied—that is, it is *not* that he heard Hurlburt say the whole sentence but the beep came in the last half. This hearing is a part of a general thinking process that involves being asked questions about inner experience, and answering those questions. Louis is also tracking/monitoring his dog across the room, but this is less central to his experience at the moment of the beep.

Sample 6.2: Louis was talking with his mom, who was standing behind him. She had just asked him the name of the cruise they’re going on. At the moment of the beep Louis is saying out loud, “Carnival Cruise.” There is nothing in his awareness at the moment of the beep. The words “Carnival Cruise” were “just blurted out,” apparently without the experience of creating them.

Sample 6.3: Louis was sitting at the computer, navigating through the Carnival Cruise webpage looking for the name of the cruise ship that his mother had asked about. He is engaged in this action, reading the labels on the web buttons, clicking on buttons to narrow down his search. At the moment of the beep he is more drawn to the colors on the webpage than the content. There are bright colors on the side of the page that draw his attention, and the color of the buttons that change from dark to light as he clicks in the center of the page also draws his attention.

Sample 6.4: At the moment of the beep Louis is scratching his dog and saying out loud, “good girl.” He is aware of scratching the dog, but what he is saying is not in his awareness, he’s just saying it. He is much more aware of the act of scratching than of the feeling in his fingertips caused by the contact with the dog.

Sample 6.5: Louis was in his closet looking for something to wear, but the clothes at which his eyes are aimed are not in his experience at the moment of the beep. At the moment of the beep Louis hears himself say, “Hey, I missed you” to a friend, Joe. Louis innerly sees Joe’s face and spiky hair from a first person perspective as if he is sitting in the class he has with his friend and turning to his right toward his friend, who is turned looking at him. They are looking into each other’s eyes. Louis sees Joe’s spiked hair clearly, and sees the table at which they are sitting clearly, but Joe’s face is not differentiated. Louis knows it is Joe, but he cannot see the features. In particular, Louis cannot discern the emotional expression, if any, on Joe’s face. Louis does not experience emotion, despite the apparent emotional situation of the inner seeing.

Sample 6.6: Louis was looking at himself in the mirror and had noticed a stain on his sweater. At the moment of the beep Louis is trying to figure out how that stain got there. He is innerly seeing himself from the neck down to the waist, wearing the sweater and moving about – the sweater is not stained. The “rest” of the seeing has not formed –Louis is trying to trying to figure out how the stain got on the sweater which involved trying to fill in the inner seeing with the details of when he had last worn the sweater.

Andrew (Chapter 7)

Sample 1.1: Andrew was reading materials on the computer, studying for his communications class. At the moment of the beep he is blank. The blankness is like being spaced out.

Sample 1.2: Andrew was lying on the couch and trying to relax and take a nap. At the moment of the beep his body is feeling heavy/weighted down and simultaneously like he is floating. His eyelids are heavy. He is trying to relax and fall asleep but is feeling like he cannot control his relaxation. He feels frustrated and defeated about his lack of control.

Sample 1.3: Andrew was thinking about Stew, a marine he had been deployed with in Iraq and was wishing he had whooped Stew’s ass for messing with Hank, a marine under Andrew’s charge. At the moment of the beep Andrew is recollecting an event that had occurred in Iraq. This recollection is a visual still-shot from the first-person perspective of an actual event that occurred in Iraq. Andrew is seeing Stew’s face about a ½ foot away, and is seeing Hank standing in the background off to the right. Andrew is seeing brown dirt and desert in the background [what he is seeing is not an accurate representation of the actual background present at the time of the ‘real-life’ event; the background in his seeing is less defined and less detailed]. Although there is no motion, Andrew can hear Stew saying “Shut the fuck up” over and over. Stew is not quite yelling this at Andrew, but is saying it in a loud voice. Simultaneously, Andrew is feeling angry, pissed off. He experiences this anger in the area of his heart and as his heart beating faster, “like an adrenaline rush.”

Sample 1.4: Andrew was on Facebook playing Farmville. He was in the process of arranging the various elements of his farm so that everything would be perfectly

symmetrical. As he moved each element toward symmetry, he felt an increasing rush of joy and happiness. At the moment of the beep Andrew is moving a tree into a more symmetrical position and is experiencing tremendous joy and happiness. This joy/happiness is experienced as lightness in the chest; as if he is “smiling on the inside.” Andrew has a slight awareness of the tree in the background, but this is far less central to his experience than the joy/happiness.

Sample 1.5: Andrew was sitting at the computer, searching for something to entertain him. At the moment of the beep he is staring at the Google search page, trying to think of something to enter into the search window to find something to entertain him.

Sample 1.6: It was about 10:04 pm and Andrew was thinking he should go to bed but was dreading the task after being unable to sleep the night before. At the moment of the beep Andrew is innerly seeing his room. He is seeing the foot of the bed, his bookshelf, and the shadow of the closet. Most prominently, he is seeing the orange glow/illumination of the streetlight shining into his room through the blinds. The orange glow of the streetlight is the most salient aspect of his seeing; this orange glow represents the inability to sleep. Andrew is simultaneously experiencing dread, experienced as a kind of mental sigh.

Sample 2.1: Andrew was sitting at the DMV waiting for his number to be called. At the moment of the beep Andrew is feeling anonymous, like he’s just a number, or just one of many. This feeling is a comfortable, familiar one. He is also looking at the numbers on the number display board.

Sample 2.2: Andrew was at the DMV having a conversation with an older man. The man was describing his wartime experiences to Andrew. At the moment of the beep Andrew was relating to this man; there was a feeling of connection/bond with this man. The connection was a result of having a shared experience of war, although this was not in Andrew’s awareness at the moment of the beep.

Sample 2.3: Andrew was at home reading news story on his computer. The story was about Marines in Afghanistan and had an accompanying video feed. This story reminded Andrew of his wartime buddies, who he had not seen in a while. At the moment of the beep Andrew is missing his friends. This missing feeling has a little bit of sadness to it, and an accompanying mild heaviness in his chest area, right around his heart.

Sample 2.4: Andrew had just finished doing his laundry and was looking at the finished laundry with a sense of accomplishment. At the moment of the beep Andrew is feeling happy and a small energy rush. The happiness and energy are two separate experiences but are occurring simultaneously. The small energy rush is in his chest around his heart and also spreading to his arms in a pulse-like sensation. There is a simultaneous lightness/weightlessness in the area of his heart.

Sample 2.5: Andrew was lying in his bed listening to music. At the moment of the beep Andrew is paying attention to the meaning of the lyrics of the song –“no one’s going to

hold me back” – and feeling unstoppable. This unstoppable feeling was a mental feeling of relating to the song lyrics and feeling unstoppable as a result.

Sample 2.6: At the moment of the beep Andrew is thinking about the sampling meeting and anticipating the release of the weight on his shoulders/the burden of his feelings during the sampling meeting. There is a jittery feeling around his heart that may represent anticipation. He is also anticipating the interview itself, but that is less salient at the moment of the beep.

Sample 3.1: Andrew had just finished eating the eggs Benedict he had cooked for breakfast. At the moment of the beep he is feeling euphoric: very warm and comforted. He describes this feeling as feeling like “home-cooked meals, or eating something hot on a cold day that your mom made.” He is also feeling a mild sense of accomplishment for having cooked himself eggs Benedict but this is less central to his awareness at the moment. The TV is on, and he is seeing it enough to know that a commercial is on, but he is not paying much attention to it.

Sample 3.2: Andrew had just finished speaking on the phone with his grandmother. At the moment of the beep he is feeling that he failed his family members who are in another city. The feeling of failure is specific to his family members in this other city and does not include his family members in Las Vegas. He also feels detachment. His heart feels like it is being squeezed in someone’s hand. This is a medium level of pressure, like a firm handshake all around his heart.

Sample 3.3: Andrew had just been with his mother and was now driving in his car, leaving his mother. At the moment of the beep Andrew is seeing a still image of his mother’s face. His mother is looking directly at him and he sees that she is sad though he cannot see the details of her face. He can see that she is not crying or frowning. Andrew is feeling a sense of responsibility toward his mother, mixed with a little sadness; this feels like a heaviness pushing down on his shoulders. Andrew’s eyes also feel a little warm/humid, like they are about to get watery. Andrew was aware of the world around him (the noises, the other cars, etc.) but also felt like he was invisible, like was not fully present in the world around him. This sense of being invisible was only peripherally in his awareness at the moment of the beep.

Sample 3.4: Andrew was getting ready to go out and was looking at himself in the mirror. At the moment of the beep Andrew is feeling calm/at ease, and a little bit happy. These are mental feelings that are not accompanied by any sensations. He is also looking into his eyes in the mirror and can see himself from the chest up.

Sample 3.5: Andrew was on his way to Claim Jumper. His ex-girlfriend is driving, taking him out to dinner at his favorite restaurant. At the moment of the beep Andrew is eager, energized about going to Claim Jumper. His body surges with excitement, primarily experienced as a surge of energy or adrenaline that starts in the region of his heart and branches out through his chest toward his shoulders, feeling like several (maybe 3 to 5) marble-sized ball-bearings rolling through his veins toward his shoulders. His

right leg bounces up and down as he rapidly taps his foot—he’s more aware of the bouncing of his hand on his knee than he is of the foot itself. The bouncing-hand-on-leg experience is not as central to him as the chest rush. It is unclear whether the “going to Claim Jumper” is actually present as part of his excitement at the beep, or whether it is simply excitement brought on by the going to Claim Jumper.

Sample 3.6: Andrew was at Claim Jumper. At the moment of the beep he is feeling happy about being at Claim Jumper. This happiness has no accompanying characteristics or sensations; he is just happy. At the same time, much less central in his experience, he is uneasy or vigilant. He hears/sees in an undifferentiated way the noise and activity of the restaurant and feels as if someone there is watching him, feels distressed because he doesn’t know who, feels his body tense and stiffen as he monitors the surroundings.

Sample 4.1: Andrew was sitting in his car at school. At the moment of the beep he is staring at the airport parking garage, but it is not clear whether this means that his eyeballs are idly aimed at the garage, or whether he is actually seeing the garage. He is feeling lazy, restless, frustrated at having to be at school, dreading having to leave his car. His eyelids are feeling heavy and his eyes feel pressure, like they are being pushed down from behind. These things are said to be all interrelated but separate, but the interviewers had difficulty ascertaining the extent to which they are actually experienced at the moment of the beep.

Sample 4.2: Andrew was walking to class. At the moment of the beep Andrew is experiencing the coolness of the breeze on his arm, contrasted against the heat of the sun. The coolness is on the surface of his skin, but also just below the surface; it feels pleasant. Andrew is also feeling better/happier, brought on by arm coolness, the nice weather and the familiarity of the song that he is listening to on his iPod. Although he believes the iPod music is affecting his mood, the music itself is not central to his experience.

Sample 4.3: Andrew was in class, hearing the professor lecture, and taking notes. At the moment of the beep Andrew is writing what he had seen on the overhead. He has written perhaps two words and is now trying unsuccessfully to remember what words come next. It is unclear to the interviewers whether he is merely trying to remember, or whether he is trying to remember and also observing himself as unsuccessfully remembering. He is also hearing the professor’s voice but it sounds like noise, not words, and he is not comprehending the content of what the professor is saying.

Sample 4.4: Andrew was at home, and had received a job offer about 10 minutes prior to the beep. At the moment of the beep, Andrew is happy and has a sense of accomplishment. Andrew feels physically lighter in his whole body, as though a physical weight has been lifted from his shoulders, and has somehow a mental sigh of relief, as if he is mentally saying “Yes!” but in fact is not saying anything, mentally or otherwise. Much less salient is a slight nervousness about having been out of retail work for some time.

Sample 5.1: Andrew was sitting on the couch with his shoes off, after a long day at work. At the moment of the beep Andrew's feet are aching all over and he feels a dull, round jabbing pain in the bottom middle of his foot, in the meaty part between the heel and the balls of his feet. The jabbing is approximately 1.5 inches in diameter, like a dull rod pushing up into the area where the arches of his feet should be. (He has flat feet.) His is also feeling heat release out of his feet into the cool air. His feet had been hot and steamy from having shoes on all day; he is feeling this heat escape his feet. At the same time Andrew is feeling relaxed all over his body, but this is very minimally in his experience (about 5%).

Sample 5.2: Andrew was sitting on the couch and slowly drinking a beer. At the moment of the beep Andrew is feeling the carbonation of the beer on the inside of his mouth. The carbonation feels like light stinging sensations all over his mouth; the stinging is very mildly aversive. Andrew also tastes the limey-ness of the lime beer, which he likes, and he is generally thinking the beer tastes good. This thinking does not have any characteristics (words, images, etc) but is somehow present at the moment of the beep.

Sample 5.3: Andrew was sitting on the couch. At the moment of the beep he is moving his hands on the couch and feeling the coolness of the fabric on his hands. He also feels his body (not including arms and hands) melting or sinking into the couch. He is also having a mental process about being relaxed, something like, "I'm so relaxed" only there are no actual words present.

Sample 5.4: Andrew was watching America's Best Dance Crew on TV. At the moment of the beep he is wanting/wishing he could do the tricks the dancers are doing. This wanting is a mental/cognitive process with no characteristics. Part of the wanting is bodily, like an adrenaline rush causing his heart to beat faster. He is also innerly saying to himself "dammmnnnn" (indicating amazement) and the beep catches the last, lingering part of the word, "mmnnnnn." Andrew is also paying attention to the TV, watching the dancers do dance tricks, although this is slightly less in his awareness.

Sample 5.5: Andrew was in and out of napping, dozing off. At the moment of the beep he is feeling a familiar, comforting tiredness both mentally and physically. This tiredness is like a happy, comforting relief in his head and body. He is feeling the tiredness particularly in the sensation of his eyelids being heavy.

Sample 6.1: Andrew was joking around with his army buddies. At the moment of the beep Andrew laughing – this laughter is hearty, genuine, all-consuming. He is noticing the slight tightness in his abdomen caused by the hearty laughter. He is almost completely absorbed in this laughter at the moment of the beep (about 90%) and is also feeling a close/comfortableness (about 10%) toward his buddies. On retrospection, Andrew views this laughter as "being myself," unlike laughter in other (not with his buddy) situations which he views as being restrained or inauthentic.

Sample 6.2: Andrew was laughing and joking around with his marine buddies. Andrew's buddy had just made a joking jab at Andrew, and Andrew was responding. At the

moment of the beep Andrew saying out loud, “Shut the fuck up and go eat a **bucket of Crisco**” (the beep catches him as he’s saying the latter part of the sentence, which is written here in bold). Andrew is saying this in a snickering, joking way, and is also trying to hold back his laughter. This holding back feels like laughter in his head which he’s trying to keep from coming out so that he can finish his sentence.

Sample 6.3: Andrew was sitting through a presentation. At the moment of the beep Andrew is feeling fidgety in his chest, arms and hands. This fidgetiness is an internal, bodily feeling that he takes to be heightened by the left over energy from his previous laughter. He is also feeling impatient/wanting to go home. He is also squeezing the skin in the middle of his forehead with his fingers to the point of pain. It seems that the squeezing of the forehead skin is a part of/reaction to/defense of the impatience, but that is not certain.

Sample 6.4: Andrew was sitting through a presentation about post-war trauma, emotions, and other topics relevant to returning troops. At the moment of the beep he is intensely staring at the wheel of the table in front of him, and is mostly absorbed in this staring. He is also reflecting on how detached he has been and feeling mildly down. This reflecting seemed somewhat like a thought but, if it was one, it was vague and ill defined.

Sample 6.5: Andrew was lying on the ground, staring at the ceiling. At the moment of the beep he is innerly saying, “I’m not going to miss this.” He is also feeling impatience and is wanting to leave and much less saliently, he is having a paradoxical feeling of wanting to stay.

Sample 7.1: Andrew was walking around his house after getting off the phone with a loan officer who had given him bad news regarding his loan. At the moment of the beep Andrew is furious, betrayed, which manifests itself in part as directly experienced warmth throughout his body, most intensely in his chest and ears. As part of or parallel to this rage, Andrew wants to punch something: he feels a surge of energy in his arms, which he feels as trembling (although he doubts that they were physically trembling) and tickling, particularly his biceps and palms, as if he is physically restraining himself from punching. Andrew reports that the rage has been building over the past 5 or 10 minutes since getting off the phone. The fury/betrayal/rage is understood to be the result of the loan-officer conversation, but Andrew does *not* experience his rage as being *aimed* at the loan-officer—it is experienced as pure, objectless rage.

Sample 7.2: Andrew was on the phone; a girl from work whom he had been dating on and off, had telephoned him; she wanted to talk. At the moment of the beep Andrew is saying to her, “I just saw you [beep] less than an hour ago” and is annoyed and feels like he wants to escape. The annoyance is a mental process that is 50% directed toward the girl on the phone, and 50% directed toward the loan officer from the previous beep. Wanting to escape is a feeling of anticipation, like his insides are being pulled forward and he wants to run away.

Sample 7.3: Andrew was eating his favorite Subway sandwich, a spicy Italian with chipotle sauce. At the moment of the beep Andrew tastes the sandwich, particularly the chipotle sauce and the pepperoni, and the taste is good, pleasant. He is effortfully concentrating on the sandwich, trying not to let his mind wander to other things (particularly the loan situation of 7.1). There is a small lingering sense of annoyance still present.

Sample 7.4: Andrew was lying on the couch with the TV on. At the moment of the beep Andrew is annoyed and wants to kick something. He feels his heart beating fast, and feels a tickling, trembling surge of energy in the upper, front part of both thighs.

Sample 7.5: Andrew was lying on the couch. At the moment of the beep Andrew is feeling consumed by anger/annoyance and is at the same time noticing how consumed he is by anger/annoyance. The majority (he calls it 75%) of his experience is taken up by the noticing of how consumed he is by anger (by comparison to the consumed-by-anger itself, 25%). This “consumed by anger” is like a cloudiness that is surrounding him, or encasing him. That is, his seeing (and perhaps his other senses) is cloudy, unclear.

Sample 7.6: Andrew was playing a videogame. At the moment of the beep Andrew is enjoying playing the videogame. He also simultaneously experiences a very low level of annoyance that is lingering in the physical space behind him—he is physically out in front of it. Very minimally in his awareness is the intense, vivid image of the videogame on the TV screen, which is somehow experienced as both being on the TV screen and being internal, like Andrew is somehow connected to the videogame.

Peter (Chapter 8)

Sample 1.1: At the moment of the beep Peter is concentrating on the pain in his right knee (60% concentration) and his lower back (40% concentration). The pain in his knee has flared up to a peak and then remained constant, feels like very intense pressure pushing from the back of his kneecap directly outwards. The pain in his back is a dull pain like someone is carefully, slowly pushing a pin up through the middle of the bottom vertebra and up into the next 2 vertebrae. Peter is also looking at his son who is standing in front of him. He is in a daze, spaced out, and is searching within himself for some emotion, and finding no emotion – like he is a shell. The searching for emotion is said to be an active doing, trying unsuccessfully to find emotion.

Sample 1.2: Peter was walking through the casino at the Luxor. His eyes were aimed at a security guard in front of him, but Peter was not experiencing him. At the moment of the beep Peter is paying attention to the people all around him. Specifically, he is looking at the mirror reflection of the 13 people behind him. The mirror is a thin mirror about 3 inches wide located on a pillar 45 degrees off to Peter’s right. Peter is looking at the reflection of the people in this mirror with his peripheral vision (his eyes are pointed forward), and is seeing 13 people reflected in the mirror. He is paying attention to the details of each person he is seeing in the reflection. This was understood to be a direct seeing of the reflection of these people. [When it was pointed out to Peter that what he

was seeing seemed to violate the geometry of optics, Peter's conviction that he was actually seeing the reflection of 13 people was not swayed]. At the same time he is having the thought that he hates people walking behind him; this thought is in his direct experience but does not include words or images. At the same time Peter is innerly seeing the badge of the security officer who is standing in front of him. He is seeing the gold badge with black lettering that reads "J.D. Minnesota." He is seeing the badge about a foot out in front of him and to the upper left. The seeing of the badge is less clear than the actual seeing of the reflection of the people in the mirror. Peter is also aware of the 6 people off to his left and the about 20 people in front of him.

Sample 1.3: Skipped this sample due to time.

Sample 1.4: Skipped this sample due to time.

Sample 1.5: Peter was sitting in the corner booth of a restaurant at the Orleans, rapidly surveying each individual person in his environment, one at a time, from close right to far left. At the moment of the beep Peter is looking at a guy dressed in all black and wearing a Raider's shirt, black shoes with a blue stripe, with a scar on his face and an earring in his right ear. This man is about 30-40 feet away, at Peter's 10 o'clock. He is paying most attention to the guy's facial expression, trying to determine whether the guy is a "go/green checkmark/good" or a "no-go/red X/bad." Peter is enraged, his fists clenching, jaw clenching so hard that he worried (after the beep) he might shatter his teeth, but this rage is not in his awareness at the moment of the beep. He wants to fight, is in the kind of mood where he will pick a fight with someone (anyone), wants to break the arm of the guy in the black shirt, but none of that is directly in his experience at the moment of the beep.

Sample 2.1: Peter was on the phone with his buddy Sam, who is talking. At the moment of the beep Peter is unsuccessfully trying to understand what Stan is saying. All his attention is focused on trying to understand Stan. He hears Stan's voice, but it is just noise, not words, much less the meaning behind the words. There is nothing else in his experience other than this intense trying-to-understand – he is fully absorbed in trying to understand.

Sample 2.2: Peter was sitting on the couch doing nothing in particular. At the moment of the beep Peter is innerly himself sitting on the couch. He is seeing himself from a perspective behind and slightly above and to the left. He sees only lines, a curved solid, sketched line representing the left side of his face, another curved line representing the right side of the back of his head, and another curved line representing his left ear. He is seeing some straight lines that represent the walls and floor and couch. Thus he sees only outlines—he does not see what is in between the outlines—as if he is seeing a pencil or charcoal sketch. Everything he's seeing looks as though it is sketched with a charcoal pencil.

Sample 2.3: At the moment of the beep Peter is focusing on creating of physical pain all over his body, from the top of his head to the bottom of his feet and from the surface of

his body down to his bones. That is, he is not merely feeling the intense pain all over his body; he is focused on creating it and experiencing it. He described this as part of a process he goes through to create pain throughout his body so he can relieve his pain.

Sample 2.4: It is unclear what is in Peter's experience at the moment of the beep. It is possible that he was cold at the moment of the beep and was experiencing this coldness all over his body. He also mentioned that he was scared and alone but is unsure what was at the moment of the beep and what wasn't. We did not explore this beep in detail because we had run out of time and it was agreed that Peter's revised understanding of experience and the moment of the beep would allow him to apprehend his experience for the next session.

Sample 3.1: Peter was in class with a book open in front of him. At the moment of the beep Peter is reading from word to word on the page in front of him but he is not comprehending, or in any way understanding the words in front of him – the words may well have been in Japanese and this would not have made a difference. His eyes are just moving from word to word. At the beep he had just read the words “cross-contamination” but he only comprehended what the words were after the beep.

Sample 3.2: Peter was in class. At the moment of the beep Peter is innerly seeing himself strangling Carl. Peter is clearly seeing himself and Carl, head to toe, from a third-person perspective, the seen-Peter on the left and Carl on the right. They (Seen Peter and Carl) are both wearing their white culinary school uniforms and standing in their culinary school classroom. Real Peter sees tan walls and tables and chairs around them (apparently an accurate recreation of the actual classroom except that there are no people in the imaginary classroom other than Seen Peter and Carl, and there are many other students in the real classroom). Real Peter sees Seen Peter's hands around Carl's neck; the veins in Seen Peter's hands and arms are pulsating. Carl is dead as a result of the strangling. Seen Peter is staring into Carl's eyes, and this is Real Peter's focus. Seen Peter is feeling sad, confused, angry, all at once, which Real Peter can tell by Seen Peter's facial expression, but Real Peter is not experiencing any emotion. At the same time, Real Peter hears the dull buzz of voices in the room; these voices sound like they're coming from behind him.

Sample 3.3: At the moment of the beep Peter is concentrated on creating pain in his left knee. He is creating a dull physical pain going from the bottom of his kneecap, underneath it and upwards. Peter's understanding was that he had felt strong pain in the *right* side of his body, and he was engaged in a strategy of pain management. Somewhat before the beep, he had been trying successfully to imagine (that is, to experience nonexistent) pain in the left side of his head; then he had successfully imagined pain in his left shoulder, then his left arm, then his left torso, then his left thigh, and now was in the process imaging pain in his left knee. He was not yet successful in this attempt, and the beep interrupted the entire process. Without the interruption, it was Peter's sense that he would have continued imaging pain down his left leg and foot, and when he had been successful in all those left-side aspects, he would then imagine pain in the entire left side of his body. That imagining would have the effect of blocking the actual pain from his

right side for a while, perhaps measured in hours. The beep disturbed the process, and he had to start it over again from his head on down.

Sample 3.4: Peter was sitting in class. At the moment of the beep there is absolutely nothing in Peter's experience – his experience is completely blank.

Sample 3.5: Peter was searching for something, and was visually scanning the metal table in front of him, seeing papers and other clutter on the table. At the moment of the beep he is visually absorbed in the yellowness of a highlighter that is on the table. He is completely absorbed in the yellowness of the highlighter and there is nothing else in his awareness.

Sample 4.1: At the moment of the beep Peter is producing pain in his left shoulder. He has just started this process and doesn't feel any pain yet. He has excluded the rest of the world and is entirely concentrating on a specific, thin area about the diameter of a pen in the soft part of his shoulder, just below the bony part.

Sample 4.2: At the moment of the beep, Peter is having a flashback of a scene from Iraq. He is in his Humvee, gloved hands on his 50-caliber rifle, seeing in full 3-D color his friend Jay being blown up by an IED [improvised explosive device]. He sees the top left part of Jay's head being blown up and to the left, his right arm flying off to the right, his left arm being flung to the left, spurts of blood everywhere. Peter feels the grip of his 50-caliber rifle, smells the gunpowder and the chlorine from the explosive, tastes the grit. This is a multi-sensory experience but there is no sound. [Peter reported that as far as he can tell, he did not hear anything in 'real-life' at the time of the actual explosion that killed his friend in Iraq. He was unsure why he heard no sound].

Sample 4.3: Peter was working on his car. At the moment of the beep he is completely absorbed in the sunlight gleaming brightly off the chrome of his car.

Sample 4.4: At the moment of the beep Peter is feeling hot and is feeling a prickling, hot sensation on his forehead [Peter said this prickly feeling is the feeling of sweat forming on his forehead]. His entire face feels hot but the prickly feeling is only in his forehead.

Sample 5.1: Peter had just touched his finger to the hot metal of his brake caliper. At the moment of the beep Peter is experiencing pain in the tip of his right finger. The word PAIN is mentally flashing; the word is written in bold, white block letters, all capitals. It was as if the seeing was directed forward.

Sample 5.2: Peter was looking at an old black and white wall clock across the room. At the moment of the beep he is seeing the second hand snap from twenty-two seconds to twenty-three seconds. He is focused on the movement of the second hand; he is not concerned with the time. In synch with the snap of the second hand, click, click, click, he innerly hears a sharp, metallic clicking sound, something like the sound he thinks the second hand might be making were he able to hear it. The metallic clicking is somehow present to him with each snap of the second hand, but it is not actually heard in the real

world. (The sound is something like two knives being clicked together or the sound an M16 trigger makes when being tested).

Sample 5.3: Peter was watching a boiling pot of thick stew. At the moment of the beep Peter is completely absorbed in a bubble that is about to break through the surface in the thick, red liquid of the stew (external sensory awareness).

Sample 5.4: Peter was at home, trying to find his sunglasses. At the moment of the beep Peter is innerly saying “glasses” over and over again [“glasses, glasses, glasses...”] and is in shape-recognition mode, looking for the shape of his glasses. He is taking in his surroundings, from periphery to periphery, and sees everything in his surroundings simultaneously. He knows what he is looking for and has a sense that his glasses will jump out at him when he sees them, but this is not clearly in his experience.

Sample 5.5: At the moment of the beep Peter is trying to remember the date. This trying is experienced as nothingness, like a mental blackness, an awaiting the answer to appear.

Sample 5.6: At the moment of the beep Peter is innerly seeing himself pulling the skin off of a woman’s face. He is seeing this from the first person perspective; his right hand is reaching out in front of him, and is holding the woman’s face, pulling the skin away from the face. The skin is stretched out tightly and is about to rip. He can see her eyes pointed upwards because of the angle of the pulled skin. He is seeing only his hand and the woman’s face and head – she has long, curly blond hair. There is no background.

Sample 6.1: Peter was lying in bed, cheek-to-cheek with his son. At the moment of the beep Peter is absorbed in the cold, smooth feeling of his son’s cheek on his own cheek (bodily sensory awareness).

Sample 6.2: Peter was looking around the room for his dog tags. At the moment of the beep Peter is looking directly at his dog tags and is walking toward them. There is nothing in his awareness at this moment.

Sample 6.3: Peter was staring at a piece of paper and was spacing out. At the moment of the beep Peter is noticing the blurriness of his vision and is actively, mentally trying to refocus his eyes. He is also feeling the muscles around the outer edges of both eyeballs straining, but this is less central in his experience.

Sample 6.4: Peter’s arm had just twitched. At the moment of the beep Peter is intently staring at a small, 50-cent-piece-sized spot on his right arm, anticipating seeing another twitch. He had seen the previous twitch, and was now looking at the same region of his arm to see another one. (The twitch is not felt bodily—this is a visual phenomenon.) Simultaneously, he feels a tensing tightness about the size of a softball in the area of his sternum (just below his chest and just above is stomach); this bodily tenseness is what he calls the emotion of anticipation. The tightness is a squeezing in of this region.

Sample 6.5: Peter was in the car and was staring at the red light of the stop light. At the moment of the beep he is completely absorbed in the bright redness of the red light. At

the same time (or possibly a millisecond before or after, but so close in time that it was difficult for Peter to tease apart) Peter is wondering how many light bulbs there are. This wondering is not occurring in words or images, it is not being said or heard, it is a specific wondering with no characteristics.

Sample 6.6: At the moment of the beep Peter is completely absorbed in the imaginary smelling and tasting of sulfur. The smell is so strong it includes a sensation of burning along the inside of both nostrils. (Peter noted that the smell and taste of sulfur were very, very strong, as though coming from a sulfur pit, however, there was no sulfur or sulfur pit in his environment).

Sample 7.1: Peter was sitting in the dark, at home. At the moment of the beep he innerly sees himself stab someone in the side of the face. He sees his hand moving from the right to the left holding a knife horizontally, stabbing the face from the side. He sees his hand, the knife hilt and blade and the tip of the blade piercing the skin of the cheek. The face he is stabbing is blurry and unclear, except for the spot being stabbed, which is clear. He knows this face to be the face of the “enemy.”

Sample 7.2: Peter was watching TV. The window was open and a cool breeze had just blown into the room. At the moment of the beep Peter feels cold on the left side of his back and ribs. This coldness is slightly stinging and penetrating from the surface of his skin where it is most intense, down to his bones, where it is less intense.

Sample 7.3: Peter was cleaning his 45-colt revolver and doing function checks. At the moment of the beep Peter feels the roughness of the hammer on the meaty part of his thumb. He is completely absorbed in the roughness of the hammer, which feels like pressing his thumb on rough sandpaper (bodily sensory awareness).

Sample 7.4: Peter was ironing his white chef’s jacket, and had just placed the iron off to the side. At the moment of the beep his eyes are fixed on the jacket, which is not directly in his experience. Instead, he is completely absorbed (his word was “stuck”) in infinite, very bright, illuminated whiteness. This whiteness is much brighter than the whiteness of the chef’s jacket; it is as bright as looking into a headlight and is all around him in an unbounded, uniform fashion.

Sample 7.5: Peter had just walked into an audio store. At the moment of the beep Peter is vigilantly taking in his surroundings. He is taking in his surroundings from periphery to periphery and sees everything simultaneously; however, his eyes are pointed forward, unmoving. Although he is looking at everything, nothing is particularly in focus. The vigilant taking in is done with the purpose of finding anything that may be out of place or dangerous, but this is not in his awareness at the moment of the beep.

Sample 7.6: Peter’s eyes were fixed on his Xbox, but the Xbox was not in his experience at the moment of the beep. Instead, Peter sees a flash of intense, imagined redness. The redness is a solid, intense, fire engine red located only in the spot in which he is looking.

Sample 8.1: Peter was sitting at home on his couch, and was purposefully fantasizing about harming his ex-wife. At the moment of the beep Peter innerly sees his ex-wife lying on a stainless-steel countertop; she is nude and the top 3 layers of her skin have been peeled off by him, leaving a uniformly red tinge to her body from head to toe. Peter sees himself standing over her body and pouring liquid sodium-iodide onto her body – the beep occurs when the liquid is pouring out of its container but has not yet hit her body (it is in midstream). Peter sees, from a perspective slightly above and looking obliquely down, the right side of his own body from head to toe, standing over his ex-wife who is seen lying on a stainless steel table, her feet pointed toward where he is viewing the scene from. Her head is obscured by his body. To the center of this seeing is the pouring of the liquid onto her body, but Peter also sees details of the room, including windowed walls, knives and other tools used for skinning his ex-wife and an IV hooked into her arm. The ex-wife is alive; the object of this imaginary skinning and pouring is to inflict a maximum amount of pain—salt into open wounds, head to toe.

Sample 8.2: Peter was wondering about what type of lawyer he needed. At the moment of the beep Peter is innerly saying the word ‘lawyer’ in a flat tone of voice. He was engaged in wondering about what type of lawyer he needs, but that wondering was not in his awareness at the beep.

Sample 8.3: At the moment of the beep Peter is feeling moderately hot all over the surface of his face.

Sample 8.4: Peter was working on his car getting ready to tighten a bolt with a ratchet. At the moment of the beep he is thinking, “lefty loosey, righty tighty.” This thought does not involve clear words or images but is unfolding over time such that the beep occurs at the pause between ‘loosey’ and ‘righty’ as if the thinking has some kind of rhythm or temporality even though it does not have words.

Sample 8.5: Peter was at an auto-shop and a mechanic named Ryan was talking to him about car-parts. At the moment of the beep Peter innerly sees himself, from a first person perspective, punching Ryan in the face. Peter is most focused on the ripples in Ryan’s facial skin, created by the impact of the punch. The ripples are moving outward from the site of impact, from the cheek area toward the temple, and each ripple is distinct and markedly slowed down in time, such that it takes about two seconds for the ripples to travel from the point of impact to the ear (an event that would happen in real life in a fraction of a second). However the rippling motion does not seem slowed down to Peter. Peter also sees his forearm and fist, and Ryan’s body from about the chest up, although Ryan’s body is non-descript and blurry. Thus Peter sees himself hit Ryan in the face and sees the resulting skin ripples, all in one seeing that seems quite natural. But on closer examination, the hitting takes place at the usual pace whereas the ripples are dramatically slowed, even though all seems quite natural and not time altered.

Sample 8.6: Peter was looking at the front driver’s side of his truck and noticing how dirty it was. At the moment of the beep Peter is innerly saying, “Man, my truck is dirty.”

This inner saying is so vivid and intense that he may have also said it out loud at the same time, but he was not sure at the time of the interview.

Sample 9.1: Peter was experiencing a completely consuming and loud ringing in his ears for at least several seconds. This ringing was so loud that he either did not hear or did not cognitively register that the beep was going off until *after* the ringing in his ears stopped. At the approximate moment of the beep Peter is completely consumed by the ringing in his ears. The ringing is intensely loud, clear, pure and high-pitched; approximately a 5000 Hz tone [as roughly approximated using Audacity to create sine waves; 3520 seemed too low, 7040 seemed too high]. It is in his ears and inside his head. The sound is almost painful and is accompanied by or creates a strong pressure pushing from inside his head outwards in all directions.

Sample 9.2: Peter was creating pain throughout his body. Just prior to the beep Peter was focused on creating pain in his right thigh. At the moment of the beep Peter is feeling pain he created that feels like a Charlie horse in his right thigh [the pain was not intended to feel like a Charlie horse specifically, but it ended up randomly feeling this way]. At the same time Peter innerly sees the top of his own thigh in front of him, laid out horizontally. The thigh is fuzzy, black and white, a 2D outline that includes veins, arteries, bones, but no skin. Peter is trying to see the inside middle of his thigh.

Sample 9.3: Peter had just realized his left hand was sweaty after feeling a clammy, moist sensation in the palm of his hand. At the moment of the beep Peter is intensely absorbed in the sweatiness of his hand, which feels like a light, jiggling pressure all over his palm, finger pads and fingertips evenly. He is also seeing his hand, but this is much less salient in his experience than the sensation, perhaps only 10%.

Sample 9.4: Peter was sautéing mushrooms in cooking wine and had just tipped the pan to flip the mushrooms, catching the alcohol on fire and creating a sudden flare-up that startles him, and he draws back, catches his breath, opens his eyes wide. At the moment of the beep Peter is visually absorbed by fire close to his face, filling his visual field. At this moment he does not feel the startle or any other reaction; it is just the fire.

Sample 9.5: At the moment of the beep Peter is feeling a mild burning sensation in both eyes. He is rubbing his right eye, but his experience is of the burning, not the rubbing.

Sample 9.6: Peter was examining his knife blade. At the moment of the beep Peter is looking at a chip in the blade of his knife. He is completely absorbed in the chip. He said he later wondered how the chip had gotten there and was upset about it, but at the beep he was simply absorbed in looking at it.

Geoff (Chapter 9)

Sample 1.1: Geoff is on the computer, navigating the internet. At the moment of the beep he is focused on the redness of the red box on the screen.

Sample 1.2: Geoff was ladling stew into a bowl. At the moment of the beep he is focused on the brownness of the stew.

Sample 1.3: Geoff was playing with his baby nephew, Junior. At the moment of the beep he is engaged in playing with Junior, and attending to Junior's overall safety and happiness. Geoff's body feels tense, like he's ready to attack anything that might threaten Junior.

Sample 1.4: At the moment of the beep Geoff is extremely angry. He is also frustrated about being angry. It is not at all clear whether he experiences the anger or anything else at the moment of the beep. Geoff was unable to further describe this experience Geoff did report that his anger was a result of speaking to his ex-wife.

Sample 1.5: Dozing, beep may have woken him.

Sample 1.6: Asleep and dreaming. The beep woke him.

Sample 2.1: Geoff was surfing the web. At the moment of the beep Geoff is absorbed in the blueness of the computer screen, and is also noticing himself as being very relaxed and calm.

Sample 2.2: Geoff was driving and had just been cut off by an older lady ahead of him. At the moment of the beep Geoff is angry. He is aware that his left hand is very tightly gripping the steering wheel, his right hand is in the relaxed-but-ready position on the gearshift, and his right foot is ready to depress the pedal.

Sample 2.3: Geoff was in a store, standing near the counter and scanning his environment. At the moment of the beep Geoff is looking at three men standing in front of him. The majority of his focus is on the "towel-head" who is dialing a cell phone; the intention of this focus is to determine whether the cell-phone dialing has a dangerous purpose. He is also seeing an Asian man and a Hispanic man with a beard. Geoff is feeling claustrophobic – his heart is beating fast, his hands and palms are starting to sweat, and he's feeling sweaty all over.

Sample 2.4: Geoff was in his car. He had just turned the key, and nothing happened. He is extremely angry, and is somehow going through a list of possibilities. At the moment of the beep he is innerly seeing the battery (viewed from the side) and its red and black cables.

Sample 3.1: Geoff was playing a videogame with his roommate Peter. At the moment of the beep Geoff is mentally calm and suspenseful from the game. Geoff also sees the videogame, but this is not paying attention to playing.

Sample 3.2: This beep came very soon after the first beep. He was about to unpause the videogame he had been playing and had paused when the previous beep sounded. His initial report was of his experience of looking for his pen as a result of hearing the beep.

When it was determined that this was after the beep he could not identify anything in his experience at the moment of the beep. His experience was blank as best he could determine.

Sample 3.3: Geoff was sitting outside with Peter. Everything was perfect, the weather was warm and the sun was setting. The setting sun reminded Geoff of being in Iraq. At the moment of the beep Geoff is reliving an experience in Iraq. He is in Iraq, standing in a concrete tower, watching the sunset. This reliving is multisensory and contains many true-to-life elements including his friend standing just to his right, Arabic prayers in the background, hedgehogs playing in the field below, and his M16 leaning to his left.

Sample 3.4: Geoff was folding his laundry, and had the feeling he was being watched from afar. At the moment of the beep Geoff is alert and sensing a presence watching him. He is folding his laundry very slowly and purposefully, but his attention is divided between his own alertness and the presence he senses.

Sample 4.1: Geoff was setting up his Xbox to play a video game and the lower half of the TV screen was green. At the moment of the beep Geoff is completely absorbed in the greenness.

Sample 4.2: Geoff was watching Peter play a video game on the Xbox. He had been thinking about how well his relationship with his current girlfriend was going. At the moment of the beep Geoff is directly experiencing himself as being mentally and physically very happy. This happiness manifests physically as relaxedness/at-easeness in his body, which Geoff is noticing at the moment of the beep. Geoff is also, directly in his experience but at a low level, monitoring his surroundings, keeping track of who is there, what is happening.

Sample 4.3: Geoff was watching Peter play the Xbox and was playing cars with Jimmy. At the moment of the beep Geoff is directly experiencing himself as being completely calm – emotionally, mentally and physically. That is, the calmness itself is central to his experience. Geoff is also, directly in his experience but at a low level, monitoring his surroundings, keeping track of who is there, what is happening.

Sample 4.4: Geoff was playing a fighting game on the Xbox and was intent on killing the bad-guy character. At the moment of the beep Geoff is intensely focused on beating the bad-guy and is playing aggressively. At the same time Geoff feels aggressiveness, his heart is beating a little faster. Geoff is also, directly in his experience but at a low level, monitoring his surroundings, keeping track of who is there, what is happening.

Sample 4.5: Geoff was outside. At the moment of the beep he is noticing that he is calm. He can also feel the cool breeze on his body, the warmth of the sun on his arm, and can hear the birds chirping. Geoff is also, directly in his experience but at a lower level than samples 4.2, 4.3, and 4.4, monitoring his surroundings, keeping track of who is there, what is happening.

Sample 4.6: Geoff was still outside. At the moment of the beep he is completely absorbed in the sound of the engines of a very low-flying F-18.

Sample 5.1: Geoff was in his room. At the moment of the beep he hears the engine sound of a low, fast-flying F-18. He is absorbed in the sound of the plane. Geoff is also having a simultaneous, general mental process about how low and fast the plane is flying.

Sample 5.2: At the moment of the beep Geoff is listening to a Johnny Cash song; he is completely absorbed in the song.

Sample 5.3: At the moment of the beep Geoff is absorbed in back pain. The pain is intense (greater than 10 on a 10-point scale), sharp, stabbing, like many sharp objects bilaterally stabbing into his sides just above his hips, moving horizontally toward and past the center of his lower back/spine.

Sample 5.4: Geoff was in his room, playing with his friend's young child, "Jimmy." At the moment of the beep Geoff is fully immersed in paying attention to Jimmy. He is seeing Jimmy, listening to Jimmy, feeling Jimmy patting his leg.

Sample 5.5: Geoff was in his room watching his white football jersey flapping in the wind. At the moment of the beep Geoff is, experientially, in Iraq. He is in a Humvee holding onto the steel handle of a 50-caliber machine gun. He feels the coldness of the triggers of the gun on both thumbs. He sees a white flag ahead of him. The seen flag is a large piece of white fabric, maybe a bed-sheet or a dress.

Sample 5.6: Geoff had just stubbed the toes of his right foot on the doorframe to his room. At the moment of the beep Geoff is absorbed in severe pain. The pain is in the smaller toes of his right foot and is intense, sharp and stabbing.

Sample 6.1: At the moment of the beep Geoff is feeling the cool breeze on his skin, but mostly on his face. He is also seeing the trees sway in the breeze but this is less central to his experience than the sensation of the breeze on his skin.

Sample 6.2: Geoff was outside, watching a lady walk by with a large, dark brown dog on a leash. At the moment of the beep Geoff is absorbed in the brownness of the dog's fur.

Sample 6.3: Geoff was walking out of his house towards his car. At the moment of the beep Geoff sees an orange-juice container that's on the sidewalk, the orange on the juice container, and a guy walking by on the sidewalk all at the same time. The container, the orange and the guy walking are all lined up in a straight line from Geoff's perspective in a way that is striking to him. These objects and their configuration strike Geoff as odd/unusual/out of the ordinary/out of place/weird somehow; this is not a thought but is somehow present to Geoff. Geoff is intently, vigilantly focused on these objects and the surroundings, though his visual taking in of the greater surroundings may not have occurred until just after the beep.

Sample 6.4: Geoff had just had a conversation with his girlfriend that had left him happy and calm. At the moment of the beep Geoff is somehow noticing that he is calm/relaxed both mentally and physically. The physical calmness exists throughout his body.

Sample 6.5: Geoff was at home and there was a good deal of commotion going on around him – Rachel and her mother were speaking, Rachel was talking to Jimmy, the A/C had just come on and was noisy, the scent of food was in the air, and Geoff and Peter were trying to watch a movie. At the moment of the beep Geoff is aware of all these sensations in his surroundings.

Mark (Chapter 10)

Sample 1.1: Mark was in the student union by Starbucks. At the moment of the beep Mark is trying to decide whether or not to get coffee. This deciding process consists of innerly saying to himself, in his own voice, something like, “Should I get it or not?” Although words are present, Mark is not quite sure what the exact words are. He also smells coffee though this is not highly salient in his experience.

Sample 1.2: Mark was talking to a couple of his friends. They were having a conversation about the earpiece and having been deployed in Iraq. At the moment of the beep Mark is wrapped up in the conversation; he is listening to what his friend is saying.

Sample 1.3: Mark was checking the email account for the Senator Reid campaign. He was frustrated about people’s ignorance of politics but also somewhat sarcastically bemused, as he was going through these emails. At the moment of the beep Mark is in the process of deleting a bunch of emails. He is paying attention to what he is doing. The notion that people do not understand politics and the accompanying sense of frustration and slight bemusement are still lingering.

Sample 1.4: Mark had just read a logic/reasoning question from the Kaplan LSAT practice book. At the moment of the beep Mark is immersed in trying to figure out the correct response. He is deep in thought.

Sample 1.5: Mark was driving down Harmon and was listening to the radio. At the moment of the beep he is listening to and enjoying a Mexican song and is feeling happy. This happiness is experienced bodily as an “almost jittery” sensation, like wanting to dance but holding back.

Sample 2.1: Mark was at home by himself watching the movie *Catch Me If You Can*. At the beep he is fully immersed watching the movie. The Leonardo DiCaprio character has just walked in on his mother having an affair with her husband’s friend. There is nothing else in his awareness.

Sample 2.2: Mark is at his girlfriend’s house watching the movie *Catch Me If You Can* while waiting for his girlfriend and several others to get ready to go out. At the beep he is frustratedly thinking repetitively that they always take forever to get ready. (His

impression was that he had been thinking this pretty constantly, or maybe continuously. for perhaps 15 minutes.). This is a thought rather than a feeling though it expresses frustration with the repeated delays involved in waiting for his girlfriend to get ready. This thought does not involve specific words or other images.

Sample 2.3: Mark was walking through the MGM Casino and saying to the people he was with, “The casino is really [beep] full.” Other than what he was saying there was nothing else in his awareness. (He said he was navigating through the crowd of people but that was entirely on autopilot.)

Just Talking

Sample 2.4: Mark was standing outside of the MGM casino talking with his girlfriend and her aunt. At the beep his girlfriend was telling her aunt about the concert they [Mark and his girlfriend] had been to the night before. Mark was listening to what she was saying and simultaneously evaluating the correctness/accuracy of it. She was talking about going up to the stage while he had gone to the bathroom during the concert; she had told him about this earlier so he was somehow comparing the two versions of the story. This thought process was running in parallel to her speaking; it did not involve words or images.

Sample 2.5: Mark was walking in front of City Center Hotel/Casino. At the beep he is thinking a bunch of related thoughts about it being a horrible complex. He experienced this as a series of related but separate thoughts about what a badly planned/unpleasant place it was, like “it looks like downtown LA” and “it isn’t wheelchair accessible” and “it’s not welcoming.” It was difficult for him to determine which thought or thoughts were present at the beep but thinking it’s a horrible complex seemed to be most salient. There were no words or images related to these thoughts. These thoughts seemed to carry negative emotion but there was no feeling directly in his experience.

Sample 2.6: Mark was walking in front of City Center through a covered construction walkway. This is a crowded and chaotic area with lots of people. At the beep he is visually taking in the scene, purposefully tracking the kids in his group. He is seeing the entire scene as one unchanging seeing and shifting cognitively from kid to kid, checking to be sure each one is present and accounted for. That is, the gaze stays constant while the attention within the gaze shifts from kid to kid. This is an intense, focused process where he is working hard to keep track of the kids in his group.

Sample 3.1: Mark was driving to school in traffic. At the moment of the beep Mark is in a state of preparedness/readiness with concern to navigating the traffic surrounding him – he is very aware of the car that is directly in front of him and the two cars that are in front of him in adjacent lanes. That is, his attention is entirely occupied by these specific three cars, and this attention is not merely a relaxed noticing but a state of heightened alertness.

Sample 3.2: Mark was sitting in the courtyard and was eating. He was mentally reviewing his “to do” list. At the moment of the beep Mark is thinking the words, ‘volunteer list.’ The words are present to him but are not spoken, heard, or innerly seen;

the words do not have any characteristics, but Mark is sure that the specific words are somehow mentally present. The words ‘volunteer list’ represent the broader idea that Mark needs to finish making the volunteer list, although the finish-it portion is not explicitly in awareness at the moment of the beep.

Sample 3.3: Mark is a political operative for Senator X’s re-election campaign. About 15 minutes before the beep, Mark had been at an immigration reform rally at which he had said to the assemblage that Senator X would get legislation presented in the Senate. A woman, a fellow Democrat, had responded that another senator would get it presented. That had angered Mark—it undermined the campaign of Senator X in favor of the other senator who was not up for re-election. The anger had continued to build, and now, as Mark is driving home, he is intensely angry.

At the moment of the beep he is thinking what seems like hundreds of thoughts, all simultaneous, some of which are innerly shouted or almost shouted: “How could she do this?!?” “Why would she do this?!?” “What was she thinking?!?” and so on. These inner speakings/shoutings are in his own inner voice, experienced as if he had spoken/shouted them aloud. But they also occur so rapidly that it is difficult to know whether they are happening sequentially so fast as to be inseparable or are all present at the same time. Thus there is both a sense that the inner speakings happen at each one’s own natural rate, but also that they happen incredibly rapidly. Mark also, simultaneously, experiences a tingling hotness in the core of his body. He is gripping the steering wheel tightly, but it is not clear whether this is in his experience at the moment of the beep.

Sample 3.4: Mark was looking over his graded essay paper and was reading a comment from his professor regarding a long sentence in the paper. At the moment of the beep Mark is innerly chuckling/laughing to himself and is smiling. This chuckle is an ironic type of chuckle.

Sample 3.5: Mark was in the process of composing an RSVP list for work on his computer. At the beep he is carefully highlighting a telephone number with his cursor, being sure not to go too far. There was nothing else in his experience other than paying careful attention to what he was doing.

Sample 3.6: Mark had read an angry email from someone for his work. At the beep he was trying to decide whether or not it was worth responding to this person. This was a holistic mental process that involved thinking about the pros and cons of responding to this person but there were no specifics present; he was just trying to decide.

Sample 4.1: Mark was driving at night. At the moment of the beep Mark is completely absorbed in the bright headlights of an oncoming car; there is nothing else in his awareness.

Sample 4.2: Mark was at Rebel Pizza with his friends. Mark and his friends had been watching a woman who was displaying very odd behavior – dancing, lifting her skirt, putting her leg up on the counter, etc. Mark and his friends were somewhat uncomfortable with her strange behavior, and were also amused and laughing. At the

moment of the beep Mark is amused by the woman's antics – he is watching her, laughing, and amused at what she is doing. At the same time, though less prominently, he is savoring the taste/smell of the pizza he is eating.

Sample 4.3: Mark was walking with his friends. At the moment of the beep Mark is texting message to his girlfriend, “I’ll give you a call, I’m going home.” This is happening more or less automatically—that is, he is *not* directly experiencing the “I’ll give you a call, I’m going home” sentence. At the same time he hears his friend Tony’s voice, but is not paying attention to what Tony is saying. The voice is more or less like noise, devoid of meaning.

Sample 4.4: Mark was in his car, stopped at a red light. He was looking at the electronic signage for Payday Loans. The sign was electronic and there were animated green frogs moving across the sign. At the moment of the beep Mark is completely absorbed in the frogs that are jumping across the length of the sign.

Sample 4.5: Mark was on the phone with his girlfriend and was trying to decide where they should go jogging tomorrow – at the park or on the street. At the moment of the beep Mark is thinking about the various features of the park and the street, trying to make a decision. He is thinking about the various pros and cons of each location (e.g., The park track is circular, I don’t like running in circles; the length of the park track is known; which is easier to get to?; etc.). There are more of these details on the “park” side of the decision [which Mark takes to mean he is mentally leaning toward the park, but he doesn’t know whether the number of details is the *result* of the mental leaning or whether the number of details *causes* the leaning]. At the same time, though less prominently, he hears his girlfriend’s voice on the phone, but is not paying attention to what she is saying.

Sample 5.1: Mark was making his bed. At the moment of the beep he is thinking that he hates making the bed. This thought does not involve any specific words and is not being spoken; it is a general thought about hating making the bed. At the same time Mark is mildly, mentally frustrated about making the bed.

Sample 5.2: Mark was sorting his laundry into darks and lights. At the moment of the beep Mark is holding a blue shirt and trying to decide whether the blue shirt should go in the light or dark pile. This process of trying to decide consists of a fast-paced thought made up of several elements that form a whole; these elements, if put into words (they did not actually involve words) include, “is it lighter or darker in color?” “Will it bleed?” “What pile should it go in?” and other similar thought-lets. That is, it did not seem like one thought which could be looked at in several different directions, but instead seemed like some kind of a combination or cluster of thoughts. There are no specific words present.

Sample 5.3: Mark was cleaning his truck and was trying to decide whether or not to throw away a stack of old journal articles. At the moment of the beep Mark is looking at the article on top and is trying to remember what the article is about in order to decide

whether or not to keep it. Also in his awareness, though much less prominently, is a sense of mental frustration that he's let his truck get so disorganized.

Sample 5.4: Mark was cleaning his pitching wedge and thinking back to his golf outing with his buddies the day before. At the moment of the beep Mark innerly sees himself, from behind, standing in a sand trap and using his pitching wedge to try to get the ball out. He sees his friends standing on the green, and hears them laughing as a group. His friend Victor's laughing stands out most prominently. There seems to be three visual experiences, of three separate sand traps, seen in quick sequence, one after the other. All have approximately the same visual characteristics—Mark is seen from the back, his friends are on the green. He's not sure exactly which scene he is seeing at the moment of the beep. Accompanying this seeing is a low-level thought about needing a sand wedge so that he doesn't have to use his pitching wedge.

Sample 5.5: Mark was watching a TV show about ancient warriors and their weapons. He had just watched a ninja use a weapon to slash a hanging pig. At the moment of the beep he is watching a Spartan warrior use a large sword to slash through the body of a hanging pig. At the same time he innerly sees a nondescript human torso being sliced in the same way as is the pig, and is imagining what the pain would feel like. This imagining of the pain is a mental thing, and is not felt bodily or otherwise.

Sample 5.6: Mark was sorting his clean laundry and watching the Lakers playoff game. At the moment of the beep Mark is looking for the mate of the sock he is holding. He is looking at every sock one by one, and eliminating each 'incorrect' sock, kind of like a visual rejection of the non-mate socks. At the same time, though much less prominently, he hears the commentator on the TV.

Sample 6.1: Mark is at work, trying to decide whether to discard of his newspaper in the company shredder, which would cost the company money, or whether to recycle the newspaper for free at UNLV. At the moment of the beep Mark is wondering whether he should take the paper to UNLV. This is a specific thought, however there are no words present and he is not innerly speaking.

Sample 6.2: Mark was driving and was thinking about Sue Lowden's comments regarding bartering chickens for medical care. He was wondering how he could find a 'chicken cake.' At the moment of the beep Mark is smiling and humorously thinking that using the internet or "Googling it" would be the best way to find a chicken cake. This thinking does not having any symbols and is not innerly spoken. Mark is experiencing the humorousness of the situation, represented as the tension in his cheeks from smiling.

Sample 6.3: Mark was driving in heavy traffic, attempting to change lanes but being blocked by the driver behind him. At the moment of the beep Mark is looking behind him, concentrating on finding a space in which to merge. At the same time he is feeling frustrated and frustratedly, innerly saying "this asshole!" (referring to the driver who is not letting him merge).

Sample 6.4: Mark was sitting on the kitchen floor, one of his dogs lying next to him on his left, one his right. He is scratching their bellies. At the moment of the beep Mark is thinking something most closely captured by the words, “I wish I could spend more time with you guys.” This thought is not occurring in words and is not innerly spoken, instead it is a general idea, directed at his dogs. Mark is also happy, which is experienced both bodily and mentally but he could not describe it further. Mark is also experiencing the sensation of his dogs’ fur on his fingers, and noticing the change in texture of fur caused by canola oil, from soft and fuzzy to kind of gummy, on the dog on his left.

Sample 6.5: Mark was trying to find a shirt to wear to the gym, but was having trouble doing so because he’d gained weight and all his shirts were “suffocatingly tight.” At the moment of the beep Mark is frustrated/angry/sad that he has gained weight and can’t find a shirt that fits. The frustration/anger/sadness are three elements of one emotional experience. The notion that his shirts no longer fit is also present. He is expressing this frustration/anger/sadness by forcefully jamming shirts back into the drawer.

Sample 7.1: Mark was in the car sending a text message to his friend, telling him that he can’t hang out because his girl’s parents are having a BBQ. At the moment of the beep Mark is typing the “r” or “l” of the word “girl.” Most central in his experience is his typing of the word girl. To a lesser degree, he is mentally spellchecking the word “girl.” This spellchecking is difficult for Mark to describe, and may involve a visual comparison of the actual word he has typed and some mental form of the word girl. At the same time in his experience, but to a far lesser degree, Mark is tracking the basic gist of what his girlfriend is saying as she tells him how nervous/excited she is about starting her new nursing job. This tracking is more or less on autopilot: he is only slightly (if at all) listening to her.

Sample 7.2: Mark was at the store with his girlfriend. He was looking at boxes of cookies on the store shelf, and was trying to decide between chocolate chip and oatmeal raisin cookies. At the moment of the beep Mark is thinking he likes oatmeal cookies. This thought is not occurring in words or images, and has no characteristics but is instead more of an idea or notion. At the same time, Mark is craving the oatmeal raisin cookies and mentally imagining the taste of oatmeal cookies – he is imagining the raisins and the sweet taste of oatmeal. This craving/imagining is located in Mark’s head.

Sample 7.3: Mark was at the store with his girlfriend who was trying to decide which clipboard to buy. An ugly, metal clipboard had just caught his eye. Mark was thinking about playing a little prank on his girlfriend by suggesting she buy the really ugly clipboard that he knew she would not want. At the moment of the beep Mark is imagining the general scenario of how his prank would go – this imagining is mental, and is sort of in a template or ‘rough draft’ form without exact details. The imagining includes how he’d present the prank to his girlfriend, her reaction, and how funny it would all be. The funniness or humor of the situation is somehow present to Mark, but he could not say if it was a definite feeling present in his experience.

Sample 7.4: Mark was buying deodorant and was trying to decide whether buying 2 single Degree sticks would be cheaper, or whether buying the 2-pack would be cheaper. He was performing a sequence of very rough mental math, rounding prices up or down in order to make an assessment of which was cheapest. At the moment of the beep Mark is towards the end of the rough mental math sequence and has concluded that buying 2 singles would equal a little less than \$4 which is cheaper than buying a 2-pack at \$4.33. This mental math is not occurring in words or images, it has no discernable characteristics. At this moment in time, although he has decided which option is cheapest, Mark has not yet decided which option he will go with.

Sample 7.5: Mark was carrying lots of shopping bags in each hand. At the moment of the beep Mark is absorbed in the heavy feeling of the bags in his hands and arms. The heaviness feels like a strong squeezing on the outside of his palms and heavy downward pressure across the middle of each palm where the bags are. He can also feel the weight/strain in his arms and shoulders.

Sample 7.6: Mark was building a clothes rack. At the moment of the beep Mark is engaged in the task; he is carefully pulling the telescope rod outward, carefully listening for a clicking sound in order to ensure it is in place. At the same time Mark is thinking that he needs to make sure it clicks into place and that he needs to be careful not to break or bend the rod. These thoughts are present simultaneously; there are no words or images present, more of a notion or idea.

Sample 8.1: Mark is driving on the freeway, somewhat aware of traffic surrounding him, but not much traffic and not much awareness of it. At the moment of the beep he innerly sees a recreation of a video that he and his class had watched earlier; he sees the words “GLOBALIZATION IS GOOD” printed in block white letters below a long-haired guy with hair blowing in the wind—a glamour-shot kind of scene. He had seen this same scene earlier; now he does not see the TV screen, the entertainment center, the living room wall, etc; he sees just the glamour guy and the words, with most of his attention aimed at the words. At the same time he is experiencing dislike for this one-sided video, a mental dislike that seems to be a feeling more than a thought, but it is difficult to be sure.

Sample 8.2: Driving on freeway, a song had come on the radio. The song was well known to Mark; it was about a Mexican laborer who had come to the US to work and would like to go back to Mexico. At the moment of the beep, Mark is thinking about the immigration law that had just been passed in Arizona and several of its ramifications: boycotts, protests, marches, lawsuits. All these concepts were present as aspects on one thought; they were present without words or other symbols. The song, apparently as a meaningful entity (not merely the music) was also slightly present.

Sample 8.3: Mark is at home reading a photocopy of his professor’s book, which has seven sections, each of which is organized like the paper Mark is currently writing: each section begins with a history. The paper Mark is trying to write must begin with a history, and at the moment of the beep Mark is trying to think about that history. Four

topics of his paper are specifically present to him: USAid, Black Columbia, the role of the State Department, and the US War on Drugs. At the same time, he is trying to decide whether there is anything else that should be included in his paper he is explicitly trying to decide, a thought process that exists less prominently but somehow simultaneous to the four-topic consideration and the answer seems to be No as indicated by the fact that most of his attention remains on the original four topics. The topics are present without words or symbols.

Sample 8.4: Mark is putting his shoes, focused on the shoelace that he is tying. He's quite concentrated on this act [telling us about this is embarrassing, as if he should have outgrown this]. He is also thinking (10%) that he has to pick up his girlfriend, that it's frustrating because disrupts his studying plans. He does not experience frustration.

Sample 8.5: Driving, thinking that when he gets out of work tomorrow he will go to the UNLV library to work on his paper. There is a slight tiredness present.

Sample 8.6: Driving his girlfriend home in his girlfriend's car, many things present to him in a vigilance kind of way. At the moment of the beep, most prominent are the lights of the car behind him that has lit up the dirty back window of the car. He sees the construction site ahead of him. He sees the orange speed limit sign, but cannot make out the speed—it is as if he is expecting or waiting for the speed to be seeable. He is expecting his girlfriend, who is half asleep, to make some comment about the driving, something like "Don't drive too fast" or "Don't have an accident," to which he will respond something like "OK, babe." There have been several such interchanges, and at the moment of the beep he is expecting another. All this is experienced as a heightened awareness, a vigilant attending to everything around him.

Appendix B PTSD CHECKLIST – MILITARY VERSION

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 <i>memories, thoughts, or images</i> of a stressful military experience?	1	2	3	4	5
2. Repeated, disturbing <i>dreams</i> of a stressful military experience?	1	2	3	4	5
3. Suddenly <i>acting or feeling</i> as if a stressful military experience <i>were happening again</i> (as if you were reliving it)?	1	2	3	4	5
4. Feeling <i>very upset</i> when <i>something reminded you</i> of a stressful military experience?	1	2	3	4	5
5. Having <i>physical reactions</i> (e.g., heart pounding, trouble breathing, sweating) when <i>something reminded you</i> of a stressful military experience?	1	2	3	4	5
6. Avoiding <i>thinking about or talking about</i> a stressful military experience or avoiding <i>having feelings</i> related to it?	1	2	3	4	5
7. Avoiding <i>activities or situations</i> because <i>they reminded you</i> of a stressful military experience?	1	2	3	4	5
8. Trouble <i>remembering important parts</i> of a stressful military experience?	1	2	3	4	5
9. <i>Loss of interest</i> in activities that you used to enjoy?	1	2	3	4	5
10. Feeling <i>distant or cut off</i> from other people?	1	2	3	4	5
11. Feeling <i>emotionally numb</i> or being unable to have loving feelings for those close to you?	1	2	3	4	5
12. Feeling as if your <i>future</i> will somehow be <i>cut short</i> ?	1	2	3	4	5
13. Trouble <i>falling or staying asleep</i> ?	1	2	3	4	5
14. Feeling <i>irritable</i> or having <i>angry outbursts</i> ?	1	2	3	4	5
15. Having <i>difficulty concentrating</i> ?	1	2	3	4	5
16. Being " <i>super-alert</i> " or watchful or on guard?	1	2	3	4	5
17. Feeling <i>jumpy</i> 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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