PTSD and Forensic Psychology: A Continuum of Care and Multi-Modality Approach (CCMM)

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Abstract

There has been a recent surge of interest in PTSD that can be attributed to the wars in Iraq and Afghanistan. Ironically, this surge in interest has helped forensic psychologists to better appreciate the full range and depth of PTSD in contemporary American society. The present paper discusses: what is PTSD, who is affected by PTSD, how to treat PTSD, and what forensic psychologists can do. A Continuum of Care and Multi-Modality Approach (CCMM) to PTSD is recommended whereby treatment is expanded to include: 1) risk prevention, early intervention(s) and specific evidence-based treatments, and 2) individualized and comprehensive treatment plans consisting of different modalities of care and the partnering of different care providers.

Keywords:
PTSD, Forensic Psychology, Early Intervention, Prevention, Continuum of Care, Multi-Modality Approach, Trauma Preparedness Training, Homeland Security

Learning objectives:
1. To list the origins, etiology, nature, and effects of PTSD.
2. To recognize the importance of multi-disciplinary perspectives and care providers in the treatment of PTSD.
3. To outline balance in the treatment of PTSD to include early intervention, prevention, certain evidence based treatments, and follow up.

Target Audience:
Psychologists, Medical Doctors, Social Workers, Forensic Scientists

Program Level:
Intermediate

Disclosures:
The authors have nothing to disclose

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In recent years there has been a surge of interest by laypersons and professionals alike in Posttraumatic Stress Disorder (PTSD). That surge in interest has resulted in large part from a marathon of national media coverage of the wars in Iraq and Afghanistan, as well as the stark realization that even highly trained military personnel are vulnerable to the crippling effects of psychological trauma. According to the Rand study (Tanielian & Jaycox, 2010), approximately one third of military personnel returning from Iraq and Afghanistan reportedly experienced PTSD symptoms and related psychological problems like depression and anxiety. According to the National Center for PTSD (2011), many of these returning military service members will develop chronic PTSD and a lifetime of problems and setbacks (Abou & Goldwater, 2010; Bison, et al., 2007; Farmer & Chapman, 2007; Fisher & O’Donohue, 2009; Friedman, 2010; Hamblen, 2010; Holbrook, et al., 2010; Kilbourne & Kilbourne, 2011; Preston, 2007a, Preston, 2007b; Rand, 2010; Rizzo et al., 2009; Reuters, 2007; Schottenbauer et al., 2008; Spitzer et al., 2009; Tanielian & Jaycox, 2010). While the Rand study (Tanielian & Jaycox, 2010) and the National Center for PTSD (2011) have helped to mobilize mental health resources and services for America’s returning war heroes and veterans, these same studies have only slowly begun to work their way into the lives of millions of American civilians who have also experienced life-threatening events and PTSD. Ironically, the civilian population of PTSD victims in the United States is significantly larger than the military population, most of whom are female and many of whom have not benefited from increased services to PTSD victims (Kilbourne & Kilbourne, 2012).

PTSD victims, both military and civilian, are at risk for developing cascading neurobiological (e.g., hyperarousal of the sympathetic nervous system, altered noradrenergic, serotonergic, glutamatergic, and endogenous opioids, reduced hippocampus and anterior cingulated volume, excessive amygdala activity, etc.), medical (e.g., cardiovascular, pulmonary, liver, and arterial diseases, etc), and psychosocial effects (e.g., homelessness, substance abuse, unemployment, school dropout, higher suicidal risk and related mental health problems, problems with the criminal justice system, divorce), associated with PTSD (Friedman, 2010; Kilbourne & Kilbourne, 2011; Reuters, 2007; Spitzer et al., 2009; Tanielian & Jaycox, 2008, Tanielian & Jaycox, 2010; Teichner et al., 2002). The nature of many of the psychosocial effects associated with PTSD frequently pull individuals with PTSD into the legal system, civil and/or criminal, for a variety of reasons (e.g., disability determinations, insurance claims, alcohol and drug addiction, divorce and custody battles, and as victims or perpetrators of crimes, etc.) (Fairfax County Fire Rescue Department v. Mottram, 2002; Grover, 2007; Leeies, Pagura, Sareen, & Bolton, 2010; Lindahl, 2004; Mills, 2009; Robinson, 1992; Wald & Taylor, 2009) and often come to the attention of forensic psychologists. While there is little doubt that the neurobiological, medical, and psychosocial costs of PTSD continue to accumulate and in some cases multiply, no one knows for sure “how long the PTSD tail is” for military service members returning from the wars in Iraq and Afghanistan, let alone for the total population of civilian PTSD victims in the United States. Most disconcerting is the recognition that the “civilian tail of PTSD” is not likely to thin out anytime soon since the general population in the United States continues to grow and since there is widespread apathy regarding the social, cultural, and economic conditions fostering civilian PTSD.

What is PTSD?

Extreme psychological trauma cuts to the very core of one’s self, the very essence of human existence. Suddenly, unexpectedly, one’s whole life can be thrown into emotional upheaval, turned on its head, and dashed to pieces. It is oftentimes hard for traumatized clients to put into words the depth of their terror, the vast and empty space of their aloneness, or the unrelenting waves of emotional pain that they experience in their lives. Most of us can only imagine their terror and hope it never happens to us. Consider some hypothetical cases in point (any resemblance to real persons, living or dead, events, and/or locations is purely coincidental): when a combat service member sees one of his men literally blown up by an improvised explosive device (i.e., body parts strewn across the ground) or following a firefight discovers he has killed a small group of children; when a young woman is kidnapped, gang raped, and her genitalia disfigured with a carving knife; when a young woman is tied and bound like a wild animal and forced to have sex with her captors and beg for...
her life; when a wife and mother is choked until she loses consciousness because her husband thinks she has spent too much money on groceries for the kids; when a prepubescent girl is forced to have sex for years with her step-father because he threatens to kill her mother and siblings; when a teenage boy is struggling to keep from drowning in the ocean and just before losing consciousness believes he talked to his deceased and beloved sister; when a young mother of three awakes from her sleep and discovers the death of her newborn; when two young sisters are awakened in the middle of the night by the police knocking on their door, removed from their home, and never see their allegedly neglectful and abusive parents again; when a young man stands up for his girlfriend at a party and then is assaulted and nearly bludgeoned to death with a knife; when a young man returns home from work and discovers his expecting wife dead on the living room floor with their baby still in her womb and no heartbeat.

Individuals with such horrifying and traumatizing life experiences are at risk for developing PTSD, and when they do, they routinely report remembering certain aspects of the traumatic life-threatening event(s) “as if it happened yesterday.” Traumatic memories generally live on in the individual as vivid and graphic recollections of certain disconnected fragments of the traumatic life-threatening event(s). For example, when recounting a childhood sexual molestation, an adult would not typically recall the whole event from start to finish, an adult would, like most PTSD victims, typically recall in graphic detail certain fragments or segments of the sexual molestation (e.g., “I remember walking onto the patio… then his hands on my upper leg and smelling his alcohol breath… then I remember being back home trying to fall asleep in my bed… waking up the next morning in my room”). In cases of chronic PTSD, such individuals frequently develop an idiosyncratic and elaborate pattern of avoidance throughout their lifetimes, in that they avoid certain people, situations, and relationships that remind them of the traumatic life threatening event. It is as if each victim has a secret trauma self, a trauma identity hidden behind the curtain of his or her openly public self and fueled by unforgettable memories, traumatic re-enactments, and elaborate avoidance rituals.

PTSD is defined in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5, American Psychiatric Association, 2013) by five criterion conditions. First, the person has been exposed to an actual or threatened traumatic event (e.g., death, serious injury, or sexual violence). Second, in the presence of generalized stimuli, the individual experiences involuntary, intrusive thoughts (recurrent images, flashbacks, and/or dreams). Third, the individual experiences a numbing of general responsiveness and persistently avoids stimuli associated with the traumatic event. Fourth, the individual experiences negative alterations in cognitions and mood associated with the traumatic event. Fifth, the individual experiences an increase in arousal (i.e., difficulty sleeping, irritability, difficulty concentrating, hypervigilance, and/or an exaggerated startle response). The duration of symptoms must be evident for at least one month. There is clinically significant distress or impairment and the disturbance is not due to the physiological effects of a substance. In addition, dissociated symptoms (depersonalization or derealization) may be indicated.

Who is Affected by PTSD?

While combat PTSD has become the face of PTSD in contemporary American society, in reality there are many faces of PTSD: men, women, children, combat veterans, first responders (firefighters and police officers), and millions of individuals around the world who are impacted each year by natural and man-made disasters (Kilbourne & Kilbourne, 2012). In the United States there are actually greater numbers of individuals inflicted with PTSD in the general population than in all of the U.S. Armed Forces combined (Kilbourne & Kilbourne, 2012). Such information can be extrapolated from the National Comorbidity Survey replication (NCS-R) (2005), which indicated a 6.8% lifetime prevalence rate (LTP) for PTSD (Schnurr & Gradus, 2011) in the general population in the United States or approximately 21.7 million individuals who currently have or had PTSD when that same LTP rate is applied to current U.S. Census figures (319.3 million as of November 26, 2014, US and World Population Clocks, 2014). The National Center for PTSD, U.S. Department of Veteran Affairs...
(2011) states the lifetime prevalence rate for PTSD for women and men in the general population is 9.7% and 3.6%, respectively (NCS-R, 2005). These figures indicate that women are approximately 2.7 times more likely than men to have experienced PTSD in their lifetimes or approximately 13.7 million females who have or had PTSD as per current U.S. Census figures (U.S. and World Population Clocks, 2014). (Some caution needs to be exercised in applying LTP rates from a previous population study to current population figures due to changes in population, culture, and events within the population. However, previous LTP rates are a useful marker for understanding extant trends."

These stark civilian figures in the tens of millions stand out in sharp relief when compared to: 1) the 300,000 military service members who were deployed in Iraq and Afghanistan since 2001 and estimated to have PTSD and related psychological symptoms (Tanielian & Jaycox, 2008, Tanielian & Jaycox, 2010), and 2) the approximately 500,000 veterans treated by the Veteran’s Administration for PTSD as of the fiscal year ending September 30, 2012 and spanning nearly a half dozen American wars (Freking, 2013).

These same civilian figures are even more alarming when we consider the real possibility that they might constitute a significant underestimation of the PTSD problem in the general population. For example, another way to appreciate the higher rate at which women are likely to experience PTSD in the general population is to examine the rate at which women versus men are victimized in relation to type of interpersonal victimization and corresponding population rates. Tjadenand Thoennes (2000) reported the following victimization rates. Rape: Women 7.7% (7,753,669) and Men 0.3% (278,244); Physical Assault: Women 22.1% (22,254,037) and Men 7.4% (6,863,352); Rape and/or physical assault: Women 24.8% (24,972,856) and Men 7.6% (7,048,848); Stalking: Women 4.8% (4,833,456) and Men 0.6% (556,488); Total victimized: Women 25.5% (25,677,735) and Men 7.9% (7,327,092). These data, while more than ten years old, indicate that women are approximately 3.5 times more likely than men to be victimized in general and therefore more likely to experience non-accidental life-threatening situations, which today we know are associated with extreme psychological trauma and PTSD (Kilbourne & Kilbourne, 2012). The discrepancy between PTSD reporting and victimization reporting in the general population strongly suggests that women may under-report PTSD and may do so for a variety of reasons (e.g., lack of knowledge about PTSD, shame associated with self-disclosure, education level, acceptance of fate, and/or fear of reprisal to themselves or to their children). In light of victimization studies, the lifetime prevalence rates of PTSD for women may be as much as double the rates indicated in National Comorbidity Studies (2005).

In a national sample of 13 to 18-year-old adolescents, the National Comorbidity Survey Replication – Adolescent Supplement (Merikangas et al., 2010) found a similar higher lifetime prevalence rate of PTSD for female adolescents (8%) than male adolescents (2.3%). If we examine population by age and sex for 2010 (U.S. Census Bureau, 2010 Census Summary File 1), there was a total of 42.7 million 10 to 19 year olds, or 22.3 million male 10 to 19 year olds and 21.3 million female 10 to 19 year olds. Using the LTP rates for 13-18 year old males, 2.3%, and females, 8%, we arrive at roughly 513,000 male children and teenagers with PTSD and 1.7 million female children and teenagers with PTSD, respectively. However, Hamblen and Barnett (2010) contend that studies of the general population indicate that 3-15% of girls and 1-6% of boys could meet the criteria for PTSD, which translates to as many as 2.5 million boys and 4.8 million girls ranging from under 5 years to 19 years old with PTSD (U.S. Census Bureau, 2010 Census Summary File 1). The National Child Abuse and Neglect Data System (NCANDS) (Child Maltreatment 2011) estimates nationally 6.2 million children in 2011 were referred to Child Protective Services across 45 reporting states in the United States, but does not break down their data by age and gender, nor by PTSD. While there are no explicit and rock solid population studies of children and teenagers with PTSD in the United States, the aforementioned population estimates are plausible and suggest we are dealing with a sizable problem in the United States that is under-reported, under-studied, and under-acknowledged.

First responders are another domestic population that may likely underreport PTSD. Firefighters are a good case in point. They frequently encounter, sometimes repeatedly, PTSD-inducing situations
like explosions, rescues, medical emergencies, fires, automobile accidents, terrorist acts, natural disasters, and hazardous conditions (U.S. Department of Homeland Security & U.S. Fire Administration National Fire Data Center, 2007). Approximately 55.2% to 60% of the above emergencies are emergency medical services (EMS) (Del Ben et al, 2006; U.S. Department of Homeland Security & U.S. Fire Administration National Fire Data Center, 2007) and are potentially PTSD-inducing situations to the firefighters themselves, not just to the victims for whom they provide emergency services. Studies by Del Ben et al (2006) and Tull (2008) have indicated that 7% to 37% of firefighters meet criteria for PTSD and that these rates may actually be higher in the firefighter population than those in other professions.

How Do You Treat PTSD?

There is an extant and growing body of professional literature regarding evidence-based treatments for PTSD. Evidence-based treatments can be divided into certain psychotropic medications and certain psychosocial interventions (Abou & Goldwater, 2010; Bison et al., 2007; Farmer & Chapman, 2007; Fisher & O’Donohue, 2009; Friedman, 2010; Hamblen, 2010; Holbrook et al., 2010; Preston, 2007a; Preston, 2007b; Rizzo et al., 2009; Ruzek & Friedman, 2009; Schottenbauer et al., 2008). Psychotropic medications that target specific inhibitory neurotransmitters (e.g., serotonin and GABA) have been found to significantly benefit some PTSD clients. For example, SSRI (i.e., selective serotonin reuptake inhibitors) antidepressants (e.g., Zoloft, Paxil, Lexapro, or Celexa, etc.) or mood stabilizers targeting gamma-aminobutyric acid (GABA) (e.g., Topamax, Lamictal) have been found to benefit some PTSD clients (Friedman, 2010; Preston, 2007a; Preston, 2007b; Ruzek & Friedman, 2009). Several hypertension medications have also been found to help reduce particular symptoms associated with PTSD. For example, Prazosin (Miller & Pharm, 2002; PubMed Health, 2010; Raskind et al., 2007; VA Research Currents, 2007) has been found to lessen nightmares and Inderal (Stanford School of Medicine, 2011a) has been found to reduce agitation for some patients with PTSD, respectively. In practice settings, certain atypical antipsychotics (e.g., Abilify and Seroquel target both serotonin and dopamine, and each has its own specific actions) are used by some psychiatrists to treat clients with concurrent mood disorders and chronic PTSD.

Evidence-based psychosocial interventions are primarily exposure therapies that ask the individual to remember and imagine various aspects of the traumatic life-threatening event, and have generally been shown to be effective in treating some individuals with PTSD. Cognitive behavioral treatment with prolonged exposure, for example, indicates the best-documented therapeutic efficacy and involves encouraging and guiding a person with PTSD “to imagine, narrate, and emotionally process the traumatic event within the safe and supportive environment of the clinician’s environment” (Rizzo et al, 2009, p. 278). Another promising exposure technique, Eye Movement Desensitization and Reprocessing (EMDR) has been found to help some clients suffering from PTSD, although multiple methodological concerns remain to be addressed (Edmund & Rubin, 2004; Seidler & Wagner, 2006; Van Etten & Taylor, 1998). EMDR directs the client to hold in mind some of the images, cognitions, and sensations associated with the traumatic event while also tracking in their visual field the moving finger of the therapist (Jennings, 2004). The objective is to re-categorize the traumatic memories so that it is a continuous story, rather than a disconnected collection of fragmented memories. Additionally, there are numerous ancillary psychosocial treatments that have been empirically validated with other clinical populations and applied to clients with PTSD. These include but are not limited to family therapy, support groups, vocational rehabilitation, educational/training programs, and chemical dependency programs when appropriate.

In actual practice, the above evidence-based psychotropic and psychosocial treatments are frequently applied in conjunction with one another, sometimes sequentially and sometimes simultaneously in what is referred to as combined treatment and oftentimes by different practitioners with various degrees of communication and coordination (e.g., Cognitive Behavior Therapy (CBT) and psychiatric medications are often used to treat PTSD and tend to complement one another in the psychological treatment of PTSD).
treatment of a variety of different psychiatric disorders). The best evidence
to date indicates, both clinically and empirically, that the aforementioned
psychotropic and psychosocial treatments generally reduce symptoms
and improve quality of life for many individuals inflicted with PTSD.
More specifically, psychotropic medications that target specific inhibitory
neurotransmitters (e.g., serotonin and GABA) and exposure therapies
(e.g., CBT and EMDR) that target specific trauma symptoms, behaviors
and/or situations are likely to reduce traumatic stress and benefit some
PTSD clients.

Yet, despite the progress being made in the treatment of PTSD, there
are several limitations and shortcomings, which nonetheless remain. For
example, while most clients with PTSD benefit in some way from the
various evidence-based treatments (i.e., partial remissions are the norm),
there is clearly no objective and independent documentation of full
remissions, and the general pattern of recovery varies from one individual
to the next. Some clients are more likely to drop out of treatment than
others, some relapse unexpectedly following treatment completion,
and some experience symptom exacerbation or do not benefit at all.
Many clients with PTSD do in fact develop a chronic disorder requiring
maintenance treatment and support, and which is associated with
cascading neurobiological, medical, and psychosocial effects. The above
findings have led some researchers and practitioners to conclude that
PTSD is a chronic psychiatric disorder (Bison et al, 2007; Friedman, 2010;
Hamblen, 2010; Schottenbauer et al, 2008). Meichenbaum (2013) has
more recently echoed this concern by stating, “there is no cure for PTSD.”

The differential response to evidence-based PTSD treatments, both
psychotropic and psychosocial, is no small concern and draws into sharp
relief some rather striking gaps in the clinical research on PTSD. For
example, there are no systematic studies of the efficacy of combined
treatment on PTSD that control experimentally and/or statistically for co-
variation amongst various interventions (e.g., psychotropic medications,
exposure therapies, support groups, and rehabilitation services, etc.),
particularly in relation to high risk groups (e.g., women, children,
combat soldiers, first responders). There are no systematic studies of the
temporal sequence of PTSD treatments along the trauma trajectory (e.g.,
emergency psychiatric medications, crisis counseling, and evidence based
treatments, medical and psychosocial) and how they affect the onset,
course and prognosis of PTSD. There are no large scale epidemiological
studies, based on random and representative sampling of high-risk
groups in the general population, in relation to type of life-threatening
event (e.g., man-made versus natural disasters), the conceptual subtypes
of PTSD (e.g., acute, chronic, delayed, complex), likelihood and type of
treatment(s) received (e.g., exposure therapy, psychiatric medications,
combined), and/or the onset and course of cascading neurobiological,
medical, and psychosocial effects. There are no systematic outcome studies
of evidence-based treatments that compare different types of measured
symptom change (e.g., PTSD symptoms in the DSM-5, intuitive measures
of PTSD symptoms, or psychometric measures, which were never part
of the PTSD diagnostic criteria (e.g., MMPI-2) and which might account
for inconsistent and inflated efficacy claims. There is a general paucity of
credible replications across the board, most likely due to the conspicuous
overreliance on nonprobability sampling (i.e. convenience sampling)
and small sample sizes, a pervasive systematic error of 20th century
psychological experimentation.

However, by far the most conspicuous gap in the clinical research and
literature on PTSD pertains to the glaring absence of research, development,
and testing of systematic prevention and early intervention strategies to treat
PTSD.

Why Are There No Systematic Prevention
and/or
Early Intervention Strategies for PTSD?

Simply put, the research and treatment emphasis regarding PTSD
has almost entirely focused upon post-trauma and post-diagnosis
interventions. Evidence based treatments for PTSD (e.g., various exposure
therapies and certain SSRI anti-depressants) do not begin in principle
and in practice until after the individual has been inflicted and diagnosed
with PTSD. Even in cases of an Acute Stress Disorder (ASD) (DSM-5, American Psychiatric Association, 2013), which shares many of the symptoms of PTSD and which often precedes temporally the development of full-blown PTSD along the trauma trajectory, the same evidence-based treatments for PTSD are applied to ASD post-trauma and post-diagnosis and based upon the inclinations of the individual practitioner. We should not be too surprised. Practitioners who treat psychological trauma, ASD, and PTSD do not carry “crystal balls” in their hands, and they have been primarily trained to treat mental disorders, not prevent them.

Alternatively, we need to focus more on risk-prevention and early intervention strategies in the treatment of PTSD for the following reasons: 1) efficacy studies of PTSD treatments and clinical reports are punctuated with partial remissions, not full remissions, 2) chronic PTSD is an ever-present risk for those inflicted with PTSD and overwhelmingly associated with cascading neurobiological, medical, and psychosocial effects, 3) certain groups of individuals (e.g., women, children, and combat soldiers) are at significantly higher risk for PTSD than others, and 4) PTSD is frequently a comorbid diagnosis with other DSM-5 diagnoses (e.g., mood, psychotic, personality, or substance abuse disorders), which necessitates comprehensive and costly treatment plans. (PTSD may even go undiagnosed and function as a diagnostic outlier, thus obfuscating and confounding effective mental health treatment.)

If we ever hope to get a clinical jump on the onset, course, and prognosis of PTSD we need to start treatment earlier. There may only be a small window of time when combined evidence-based treatment, such as targeted cognitive behavior therapy and targeted psychiatric medications, can be implemented and optimized to prevent the full fledged development of PTSD and a chronic course of progressive deterioration. In sum, what is direly needed in the treatment of PTSD is two-fold. First, an empirically based prevention strategy before a traumatic life-threatening event occurs. Second, an empirically based early intervention and treatment strategy that immediately follows a traumatic life-threatening event and that is administered prior to the onset of PTSD.

### What Forensic Psychologists Can Do

At the interface of psychology and law, forensic psychologists, and especially clinical forensic psychologists, can assume a critical role in preventing, identifying, and treating PTSD, primarily because PTSD in the civilian sector so often involves the court system. Forensic psychologists can do this by shifting the discussion of PTSD away from an almost exclusive emphasis on post-trauma and post-diagnosis treatment to include the importance of risk-prevention, early intervention, and evidence-based treatment. They can do this by shifting the focus away from single-modality treatment to multi-modality treatment. From a forensic psychology perspective, then, PTSD treatment requires a broad approach to treatment, an approach that focuses on the full continuum of care and necessarily involves multiple care providers. **PTSD treatment requires a continuum of care and a multi-modality approach (CCMM).**

Clinical forensic psychologists in particular can take the following specific actions to prevent, identify, and treat PTSD. First, clinical forensic psychologists can provide education and training to individuals at risk or with PTSD as well as to professionals who serve those at risk or with PTSD (e.g., medical, mental health, education, Child Protective Services (CPS), military, and law enforcement professionals). For example, clinical forensic psychologists have been increasingly relied upon by the court system to provide specialized court ordered classes for a wide range of psychological issues before the court (e.g., anger management, domestic violence, child sharing, parenting, theft workshops, and sex offenses). It is a natural progression, then, for clinical forensic psychologists to provide Trauma Preparedness Training (TPT) for individuals at risk or with PTSD (e.g., women, children, combat soldiers, and first responders, etc.) regarding the nature, course, prognosis, treatment(s), and cascading effects of extreme psychological trauma and PTSD.

TPT can educate and empower individuals at risk to:

1. take precautionary measures to avoid conditions and/or situations associated with extreme psychological trauma and PTSD,
2) understand and normalize their reaction to a life-threatening traumatic event,
3) know what specific actions to take to get help and the best possible available treatment following a traumatic life-threatening event, and
4) help those already inflicted with PTSD to better understand and manage their treatment (i.e., given available knowledge and resources).

TPT can also be used to train professionals (i.e., judges, police officers, ER workers, firefighters, probation/parole officers, CPS case managers, nurses, teachers, physicians, psychologists, etc.) who interact with the legal system and provide services to those at risk or with PTSD.

As part of the National Preparedness Program, the U.S. Homeland Security (2012) has prioritized projects to enhance first responder safety (i.e., firefighters) and terrorism prevention capabilities. Trauma Preparedness Training (TPT) can be incorporated into the National Preparedness Program and serve to facilitate critical information sharing, first responder safety, and terrorism prevention in a number of ways: 1) establish local, state, and federal TPT centers, 2) establish national standards and standardized TPT procedures, 3) establish an exchange network between local, state, and federal TPT centers, and 4) establish empirical methods to assess, evaluate, predict, and prevent first responder “trauma” and terrorist induced “trauma.” TPT can thus reduce the risks and effects of psychological trauma for both victims and first responders by increasing the preparedness of a nation to cope with man-made and natural disasters as well as terrorist attacks.

Second, clinical forensic psychologists can emphasize early intervention strategies in the treatment of PTSD. When it pertains to PTSD, early intervention should be the signature practice of forensic psychology in general and clinical forensic psychology in particular. Clinical forensic psychologists, for example, should presume the conditions of extreme psychological trauma are potentially present for all man-made and natural disasters, especially in all instances of rape, sexual molestation, physical abuse and/or assault, the victims of which are usually women and children. Clinical forensic psychologists should routinely refer individuals who have been victimized by crimes known to be associated with life-threatening psychological trauma for a pre-PTSD screening (PPS) and appropriate follow-up treatment when necessary. It only takes one month for PTSD to develop under fairly diverse conditions and may only take the same amount of time for PTSD to progressively deteriorate into a chronic psychiatric disorder associated with cascading neurobiological, medical, and psychosocial effects. The sooner appropriate treatment is provided to those who have experienced a traumatic life-threatening event, the more likely they will return to an acceptable level of functioning, and the less likely they will be to develop a chronic traumatic stress disorder.

Perhaps more importantly, given the overwhelming evidence of neurobiological involvement underlying a traumatic life-threatening event (Kilbourne & Kilbourne, 2011; Ruzak & Friedman, 2009), mental health practitioners in general and clinical forensic psychologists in particular should immediately refer individuals who experience a traumatic life-threatening event to a licensed physician, preferably a psychiatrist, for emergency psychiatric medications. Table 1 below shows some of the dissociation and central processing distortions associated with a life-threatening traumatic event and first summarized by Kilbourne and Kilbourne (2011).

An immediate medical referral may be the single best way to minimize and begin to treat the brain insult sustained when the brain is flooded with neurotransmitters and stress hormones and prevent the development of full-blown PTSD along the trauma trajectory. There is in fact some research that suggests certain traditional medications (Inderal, morphine, and benzodiazepines) and nontraditional medications (marijuana) (Holbrook, et al., 2010; Korem & Akirav, 2014; Kilbourne & Kilbourne, 2011) may lessen the traumatic reaction and/or trauma memory following a high-stress event.

Third, clinical forensic psychologists can routinely emphasize evidence-based and multi-modality treatment (e.g., psychosocial and psychotropic medications). Even more importantly, clinical forensic psychologists can improve the treatment of PTSD by requiring greater specificity in both PTSD research and PTSD treatment. Post-trauma and post-diagnosis
<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Clinical Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Distortions</td>
<td>Time is slowed down, speeded up, or both; standing still, or lost. Ex.: Time seems to last forever even though it was just a few minutes, even a few seconds.</td>
</tr>
<tr>
<td>Perceptual Distortions</td>
<td>Magnified, high-definition perceptual distortions (i.e. visual, auditory, olfactory, gustatory, tactile or kinesthetic) and changes in the figure-ground relationship. Ex.: (1) collapse of the perceptual field and sharp focus on a perceptual object, as if the object has become larger relative to the collapsed perceptual field; or (2) expansion of the perceptual field as if the object has become smaller relative to the expanded perceptual field.</td>
</tr>
<tr>
<td>Derealization/Depersonalization</td>
<td>The traumatic event(s) is experienced as different from a normal state of awareness. The traumatic event is reported as unreal, dream-like, or like watching a movie. The person may report they were not their usual self or outside of themselves.</td>
</tr>
<tr>
<td>Fragmented and Vivid Memories (Paradoxical Memories)</td>
<td>Fragmented and disconnected memories (e.g., gaps between events) juxtaposed with vivid, detailed memories (e.g., for some event or an aspect of some event), often lasting for years, even decades later.</td>
</tr>
<tr>
<td>Distorted Physical Sensations</td>
<td>Heightened body sensations associated with physiological change (e.g. stress, dehydration, fatigue, illness, injury, hypothermia, or hyperthermia) or the complete absence of any body sensation.</td>
</tr>
<tr>
<td>Distorted Cognitions</td>
<td>Survival and life value beliefs. Fixation on a single thought or simple phrase (cognitive narrowing), magnified clarity and high resolution (cognitive enhancement), and guides to action (cognitive prescriptions).</td>
</tr>
<tr>
<td>Distorted Emotions</td>
<td>Profound state of shock, helplessness, and/or numbness. Emergence of a generalized emotional state in the individual's everyday life, such as panic, nervousness, or anger.</td>
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*Table 1: Dissociation and Central Processing Distortions Associated with a Life-threatening Event (Kilbourne and Kilbourne, 2011)*
PTSD research and treatment tends to be nonspecific and tends to suggest that “one size fits all.” Far too often clients in practice settings (private and public) bear little resemblance to the research subjects in clinical trials. The methodological limitations of much PTSD clinical research (e.g., small sample sizes, nonprobability and non-representative sampling, limited research subject information, confounding of variables, and a paucity of credible replications) is a major factor contributing to disparate outcome studies, problematic generalizations, and the consistent differential response to treatment.

We will never be able to predict with absolute certainty the individual event in a psychology experiment, clinical trial, or a given real-life setting (i.e., psychology is a stochastic science, not a deterministic science like classical physics [Kilbourne, Kilbourne, & Goodman, 2014]). However, we can “get closer” to knowing statistically what a given individual is likely to do in a particular PTSD psychology experiment or how a given individual is likely to respond to a particular PTSD treatment by: 1) insisting upon representative probability sampling from known clinical populations of individuals who are likely to experience extreme psychological trauma and who are at known risk for PTSD (e.g., child abuse victims reported to Child Protective Services, physical assault, domestic violence, and/or rape victims [most of whom are women], combat service members, first responders, and victims of natural and man-made disasters, etc.), 2) loading the psychology experiment or clinical trial with “enriched subject information” (e.g., age, race, gender, education, income level, trauma history, medical and medication history, etc.) to fine-tune our understanding(s) of the individual’s response to the experimental conditions or the clinical trial, and 3) utilizing Markov Chain and Sigma Process calculations within targeted treatment conditions, subsequent to significant between-groups comparisons, to make individual probability statements regarding treatment outcomes (see Kilbourne, Kilbourne, & Goodman, 2014, for a demonstration of how Markov Chain and Sigma Process calculations can be used to make individual probability statements in the social sciences). Combining representative probability sampling, “enriched subject information,” and explicit mathematical and statistical probability calculations (e.g., Markov Chain and Sigma Process Calculations) can both increase our confidence in the validity and reliability of clinical trials and provide useful information regarding the likely response of individuals to targeted treatments. In sum, increased research specificity will result in increased treatment specificity and help to advance our knowledge of PTSD.

Clinical forensic psychologists can also facilitate and improve the treatment of PTSD by recognizing and emphasizing individualized and comprehensive treatment plans, which by definition emphasize different modalities of care (e.g., psychotropic and psychosocial). Individualized and comprehensive treatment plans should be built on a firm foundation of evidence-based treatments, both psychotropic and psychosocial. Evidence-based treatments at the core of individualized and comprehensive treatment plans allows then: 1) ancillary treatments (e.g., drug counseling, rehabilitation, occupational therapy, family therapy, support groups, education plans, etc.) to be fully integrated and coordinated into an evidence-based core of care; 2) different care providers to “partner” around a coordinated focus of treatment; 3) a wide net of client care to include differences in gender, sexual orientation, culture and ethnicity, religious preference, income, educational, occupation, and geographic region; and 4) clients to assume a more active role in their treatment (i.e., helps the client to take responsibility for the management of their mental health needs).

In addition to treatment specificity and individualized and comprehensive treatment plans, clinical forensic psychologists can facilitate and advance the treatment of PTSD by embracing, not rationalizing, the limitations of exposure therapy and psychotropic medications. Sometimes science is at its best when we reach a brick wall and we are compelled to re-examine many of our untested assumptions and taken for granted beliefs. For example, it is not at all evident how either exposure therapies or psychotropic medications directly address the avoidance behaviors that are a criterion condition of the DSM-5 diagnosis of PTSD (American Psychiatric Association, 2013). Avoidance behaviors (e.g., taking a different route to work each day or avoiding large crowds, etc.) and constricted relationships (e.g., not dating, breaking up with a significant other, or leaving one’s family) tend to fuel progressive deterioration and chronicity. Quite frequently the aforementioned
avoidance behaviors are driven by erroneous trauma beliefs originating on or around the time of the life-threatening traumatic event.

Following a traumatic life-threatening event, for instance, individuals generally try to make sense of what happened to them and try to figure out some way to avoid it happening to them again. Two common trauma beliefs associated with PTSD are mistaken attributions of responsibility (“I was not paying close enough attention,” “I should have known better,” “I am not a good judge of character”) and mistaken attributions of survival (e.g., “I have to be vigilant all the time,” “I cannot depend on anyone and have to be completely independent,” “I cannot be involved in intimate relationships with others,” or “I will never be the same and need to just accept my fate”). Personal misattributions or the fundamental attribution error (Heider, 1958; Jones & Harris, 1967; Ross, 1977) occur because the individual erroneously attributes causality and survival to themselves (e.g., “I was not paying attention and therefore I must always be alert”) rather than to the situation (e.g., the distinctiveness and power of the situation, the unpredictability of a traumatic life-threatening event, the chance of survival, etc.). Exposure therapies (e.g., CBT and EMDR), as the entry point to therapy for many PTSD clients are ideally suited to be modified to include a relearning component. Any relearning component would necessarily need to focus on the cognitive restructuring of erroneous trauma beliefs (i.e., misattributions), the extinguishing of avoidance behaviors, and the reinforcement of healthy relationships with others (i.e., relationship repair). Some treatment providers combine EMDR with CBT to challenge cognitive distortions and trauma beliefs.

A CCMM approach to PTSD holds out the best possibility of reaching the largest numbers of individuals impacted by extreme psychological trauma, which is often associated with activities involving the legal system, and the best possibility of providing such individuals with effective care along each point of the trauma trajectory. It is quite plausible that shifting the treatment of PTSD away from an almost exclusive focus on post-trauma, post-diagnosis, single-modality treatment to a more integrated and balanced CCMM approach will decrease rates of PTSD in general and chronic PTSD in particular. We can certainly expect to better educate the general public regarding the magnitude of the problem and the diversity of conditions that foster PTSD. And hopefully we can work toward curtailing some of the sky-rocketing costs associated with both health and mental health care, which can sap the collective will to provide much-needed treatment to tens of millions of Americans.

Conclusion

The present paper proffered a unique forensic psychology perspective to treat PTSD and introduced a new standard of care for mental health treatment at the interface of psychology and law. A continuum of care and multi-modality (CCMM) approach to PTSD was recommended whereby treatment was expanded to include: 1) risk prevention, early intervention(s) and specific evidence-based treatment, and 2) individualized and comprehensive treatment plans consisting of different modalities of care and the partnering of different care providers. A CCMM approach to PTSD constitutes a significant departure from the current overreliance on post-trauma, post-diagnosis and single-modality treatment. It is particularly germane given population estimates which indicate there are literally tens of millions of individuals with PTSD in the general population and given the fact that these figures are not abating, in light of the continued growth of the U.S. population and the cultural reluctance to address the enormity of the problem. There are also solid grounds for recognizing both the benefits of evidence-based PTSD treatments, psychotropic and psychosocial, as well as the striking limitations in what evidence-based PTSD treatments are currently accomplishing.

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While not all components of a CCMM approach are currently in place, it is the case that many of them are (e.g., evidence based and ancillary treatments) and others can be implemented (trauma preparedness training, PTSD screenings, and early interventions) with little effort or few changes to the current practices of forensic psychologists. Forensic psychologists, for example, should implement and/or recommend:

1) pre-PTSD screenings for all cases involving crimes and activities associated with extreme psychological trauma,
2) early intervention(s) following a traumatic life-threatening event,
3) the use of specific evidence-based practices to treat PTSD, both psychosocial and psychotropic, and
4) a preference for individualized and comprehensive treatment plans.

They should collaborate with forensic physicians to insure the availability of emergency psychiatric medications when appropriate.

In sum, forensic psychologists in general and clinical forensic psychologists in particular need to partner with other forensic professionals and organizations to insure that individuals with mental health needs who enter into the legal system receive the best available mental health care. The present paper has argued that a continuum of care and multi-modality (CCMM) approach is the best way to achieve that end regarding the treatment of PTSD. Early aggressive combined treatment following a traumatic life-threatening event, analogous to early aggressive treatment of HIV (Brown, 2013), may hold out the best hope for reversing the psychiatric march along the trauma trajectory toward PTSD.
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Brock Kilbourne, Ph.D. received his doctorate from the University of Nevada, Reno in 1983. He completed two postdoctoral fellowships (NATO Postdoctoral Fellowship, University of Heidelberg and NRC National Academy of Science, Naval Health Research Center, San Diego, CA). Dr. Kilbourne was licensed to practice psychology in 1988 (CA Lic. #PSY10467). He worked for 14 years as a clinic supervisor (administrator-practitioner) with the Department of Behavioral Health, San Bernardino County, and CA, USA while maintaining a part time private practice. Dr. Kilbourne is currently in full time private practice in oceanside, CA (El Camino Psychology Services, PC) where he works with civilian and military clients. Dr. Kilbourne has over twenty-five years of clinical experience working with chronic psychiatric populations.

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Jerry Goodman, Ph.D. has over 20 years of experience as a Statistician and Data Analyst. Dr. Goodman received his Ph.D. (specialties: Research Methods/Statistics and Demography) from the University of Texas at Austin. In addition to a BA and MA in these specialties also from the University of Texas at Austin, he holds a BS in Engineering (Computer Design) from UCLA. Dr. Goodman has provided statistical and analytical expertise for numerous research projects in the fields of health, behavior, demography and marketing. Dr. Goodman served as biostatistician for the San Diego Co. Health Dept., a Sr. Statistician with the Nielsen Co., and a Sr. Researcher/Demographic Analyst for a multi-county planning agency (Council of Governments).
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