A Proposal for a Mindfulness-Based Trauma Prevention Program for Social Work Professionals

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The pervasiveness of traumatic events and the increasing awareness of their persistent and sometimes devastating effects on individuals and populations has repositioned trauma from a peripheral topic of interest for social workers to a mainstream subject of study. This article explores the personal and professional challenges that mass trauma presents to social workers and provides a rationale for, and description of, a proposed mindfulness-based trauma prevention program. This program is designed to guide social workers and other health professionals in learning effective self-directed techniques to maintain equanimity in the face of danger and human suffering, thereby reducing the incidence of secondary trauma and posttraumatic stress disorder. Components of the program include mindfulness of breathing, body scan, and trauma-releasing exercises.

Keywords: trauma; posttraumatic; cultural trauma; vicarious trauma; prevention

The tragic results of natural disasters, poverty, and violence have been experienced throughout human history. Historically, large extended families and communities have buffered persons from the effects of trauma through the provision of emotional and psychological support (Kessler, 2000; Stamm, Stamm, Hudnall, & Higson-Smith, 2004). In more recent times, the avenues of support have dwindled, yet increased hardship and traumatic experiences from disaster have increased. Professionals who work in traumatic environments often feel isolated, overworked, and powerless, thus increasing the possibility of being vicariously traumatized while offering services to communities that are victims of tragedy (Levy, Stewart, & Krown Buirski, 2003; McCann & Pearlman, 1990). Increases in suicide, burnout, heart disease, cancer, and even death are considerably higher among health professionals due to occupational hazards, whether emotional or physical (McCann & Pearlman, 1990). This article describes the effects of mass trauma on social workers and other professionals working in trauma environments and suggests a model program to assist professionals in dealing effectively with the potentially damaging effects of trauma to the caregiver. Although professionals who work with human suffering cannot always prevent disaster and tragedy, they can utilize tools to lessen the long-term impact of traumatic experiences that may impair all aspects of their lives.

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THE IMPACT OF TRAUMA ON SOCIAL WORKERS

Trauma has been defined as a physical and/or emotional wound or shock that creates substantial, lasting damage to a person's psychological development (Alexander, Eyerman, Giesen, Smelser, & Sztompka, 2004). The social work profession is charged with helping people navigate the labyrinth of individual and cultural trauma, the so-called psychosocial aspects of trauma (Minczak, 2002). Trauma environments are common and familiar places for social workers, and the social work profession has established a respected place among the marginalized and oftentimes traumatized peoples of our society.

DIRECT VERSUS VICARIOUS TRAUMA

The direct or firsthand experience of traumas such as disaster, emergency, and sudden death are obvious and therefore more easily identifiable to helping professionals. However, many helping professionals are less aware of the more subtle effects of vicarious or secondary trauma (used synonymously) they have experienced from their clients (Cunningham, 1999, 2003; Eiksson, Kemp, Gorsuch, Hoke, & Foy, 2001; Follette, Polusny, & Milbeck, 1994; Ursano, Fullerton, Vance, & Kao, 1999). Vicarious trauma refers to an individual's own psycho-emotional reactions due to his or her exposure to others' traumatic experiences. This phenomenon was previously diagnosed as burnout or countertransference (Figley, 1995) and therefore dealt with as an individual psychological issue. For professionals who are constantly working with traumatized populations, vicarious trauma becomes a much more serious issue because it can potentially compromise the caregivers' health and well-being (McCann & Pearlman, 1990), including increased incidence of secondary posttraumatic stress and posttraumatic stress disorder (PTSD).

IMPACT OF VICARIOUS TRAUMA ON PROFESSIONAL CAREGIVERS

Studies of vicarious trauma have been conducted on numerous professional groups who work primarily and consistently with marginalized populations. This research has exposed the extent and the degree of secondary trauma on social workers (Adams, Matto, & Harrington, 2001), nursing faculty (Raingruber & Kent, 2003), child welfare workers and school counselors (Dane, 2000; Schauben & Frazier, 1995), and domestic violence workers (Iliffe, 2000). These studies have demonstrated that professionals in these fields experience higher than normal degrees of vicarious trauma. When individuals engage in trauma-inducing professions for extended periods of time, not only the individuals themselves but also the very institutions and organizations in which they are working can develop trauma-based behaviors. The latter is referred to as "trauma based organizational dynamics" (Sexton, 1999), or "traumatized organizational culture" (Bell, Kulkarni, & Dalton, 2003). The most damaging effect of trauma on an organization is the breakdown in professional relationships among team members and organizational cohesiveness.

A MINDFULNESS-BASED TRAUMA PREVENTION PROGRAM FOR PROFESSIONAL CAREGIVERS

The proposed trauma prevention program is based on the rationale that social workers as well as other professional caregivers such as firefighters, police, physicians, and other service providers should learn effective self-directed techniques to maintain equanimity in

the face of danger and human suffering, thereby reducing the incidence of secondary or vicarious traumatization and secondary PTSD.

The Mindfulness-based Trauma Prevention Program contains a set of three simple exercises designed to be practiced in sequential order, as follows: (a) mindful breathing and body scan, (b) trauma-releasing exercises, and (c) a repetition of mindful breathing and body scan.

These exercises will be described below, along with rationales based on research on mindfulness, PTSD, and neurogenic tremors.

MINDFULNESS

Mindfulness is the ability to experience the present moment without judgment. The practice of mindfulness involves training in attending to present-moment experiences and may involve attending to an aspect of present-moment experience such as the breath, sounds, or an external object such as a candle flame. When thoughts or emotions distract the mind from the present moment, then one simply brings the mind back to the present. The Mindfulness-based Stress Management Program developed by Kabat-Zinn (1990) uses several types of mindfulness practice, including mindfulness of body (the body scan), breath, walking, and eating. The body scan exercise involves sequential attention to various parts of the body, without judgment, usually over a 20- to 45-minute period, although shorter periods are used in the Mindfulness-based Trauma Prevention Program.

Kabat-Zinn delineates seven foundations of mindfulness practice: (a) nonjudging—being aware of judging and reaction to inner and outer experiences; (b) patience—understanding and accepting that sometimes things must unfold in their own time; (c) beginner's mind—seeing everything as if for the first time; (d) trust—taking responsibility for being yourself and learning to listen to and trust your own being; (e) nonstriving—realizing that there is no goal other than for you to be yourself; (f) acceptance—seeing things as they actually are in the present; and (g) letting go—releasing thoughts, feelings, and situations that the mind seems to want to hold on to (Kabat-Zinn, 1990).

Mindfulness is a useful tool for regulating emotions by increasing awareness and developing flexibility and adaptability in responding to one's emotional experiences. Mindfulness encourages acceptance rather than avoidance of one's experiences and decreases rumination about past and future events that can exhaust one's energy. A study that measured stress in health care professionals before and after an 8-week mindfulness meditation program found a decline in emotional exhaustion over the two time points, indicating improvement following mindfulness meditation training (Galantino, Baime, Maguire, Szapary, & Farrar, 2005).

Studies have shown that suppressing thoughts or reducing the frequency of certain thoughts actually increases the occurrence of those thoughts (Gross & Levenson, 1993; Wegner & Smart, 1997; Wegner & Zanakos, 1994). Flack, Litz, Hsieh, Kaloupek, and Keane (2000) found that emotional numbing and hyperarousal symptoms in individuals with PTSD are strongly associated, and they posited a causal relationship between emotional numbing and chronic hyperarousal. Clients with trauma histories may evidence attention deficits and functional impairments characterized by limited awareness and emotional numbing (Sachinvala et al., 2000). When one is mindful and accepts sensations and thoughts that arise, one may likely reduce emotional numbing.

Clients suffering from PTSD have been reported to experience problems with attention and memory (Bremner et al., 1993). PTSD patients performed significantly worse on three attention subtests and three out of four memory subtests of the Cognitive Evaluation Protocol (Sachinvala et al., 2000). A study of army personnel following deployment to the

Iraq war found evidence of PTSD-related memory and attention deficits in the absence of comorbid disorders (Vasterling et al., 2006). Mindfulness may enhance attentional skills and thereby increase memory encoding. One study in which elementary school children were trained in mindfulness practice found an increase in selective attention, or the ability to choose the object of attention (Napoli, Krech, & Holley, 2005, p. 113).

Those suffering from PTSD avoid stimuli that may elicit unpleasant emotions and memories. Karekla, Forsyth, and Kelly (2004), who studied clients suffering from panic attacks, found that those clients who scored high on avoidance measures, compared to their less avoidant counterparts, expressed greater panic symptoms in response to a laboratory challenge (Follette, Palm, & Pearson, 2006, p. 51). Mindfulness facilitates awareness of emotions and memories that arise in the present moment, fostering more open communication between the unconscious and the conscious, as one learns to allow and objectively observe the ongoing contents of one's experiences without interference (Napoli, 2007, p. 3).

When we are mindful, we call upon our "internal observer" or "witness." When trauma is unconsciously internalized, one is controlled by behaviors that foster physical and emotional stress. However, when one processes traumatic memories mindfully by focusing on the present moment, one can increase psychological flexibility and reduce emotional avoidance and suppression (Follette et al., 1994, p. 56). Simply stated, this is unfiltered awareness of experiences.

MINDFUL BREATHING AND BODY SCAN

To avoid reliving a traumatic experience, humans create a false sense of security by repressing the emotions associated with the traumatic experiences, thus diverting attention away from the body (Scaer, 2005). A simple, safe, and noninvasive route to reconnect to the human body is through the breath, or more specifically, through *mindful breathing*. One of the most effective and commonly used tools for developing a mindfulness practice is "noticing the breath." The rhythm of the breath is one of the most obvious physical indications of a person's emotional and mental state. When relaxed, the breathing reflects an emotional calm and indicates a state where the attention can be focused. In the Trauma Prevention Program, the participant is instructed to simply notice the breath and observe whether it is stifled, restricted, smooth, regulated, shallow, or even unnoticeable. By attending to the breath, the mind becomes calm and is less likely to fall prey to intrusive thoughts and "mindless chatter" that take us out of the moment. This allows awareness to emerge.

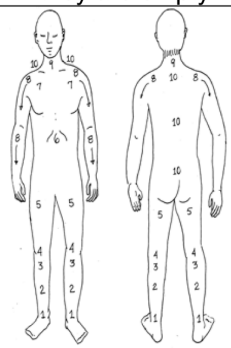
In day-to-day life, one does not usually focus on what is happening in the body unless one feels pain. The 10-point *mindful body scan* is a 3-minute exercise that invites the participant to "simply notice what's happening now" as he or she scans specific points in the body, in sequence (Reynolds & Lee, 1992) (see Figure 1). The mindful breathing and body scan set the stage for the trauma-releasing exercises, described below.

Neurogenic Tremor Research

Research on the instinctual reactions of mammals during and after exposure to traumatic events has provided scientists with considerable insight into human reactions and responses to danger (LeDoux, 1996). The greatest contribution of posttrauma reactions in humans comes from the field of neuroscience (Van der Kolk, 2004). When humans, like other mammalian species, are confronted with life-threatening situations, physiological responses occur to prepare the person to engage in life-preserving actions (Levine, 1997). These human reactions to trauma are the same bioneurological responses that occur in other mammalian species (Vasterling et al., 2006). It is now accepted that the instinctual

Three part breath

Slowly take a breath in through your nose. Notice how the breath moves from the lungs, from your abdomen, ribs, chest and shoulders. Notice your belly filling up like a balloon. When you exhale, let the breath ooze out of your lungs slowly, like a balloon losing its air, until they are empty.



Body Scan

It is best to stand but sitting or lying down is fine if this is more comfortable for you. Begin the body scan with mindful breathing. Simply notice your breath before you start and during your body scan.

Notice what is happening in your body before Trauma Releasing Exercises

1. Focus on your feet. Are you leaning on one foot, leaning back or forward?
2. Focus on your ankles. What do you notice?
3. Focus on your calves and shins. What do you notice?
4. Focus on your knees. Are they locked or relaxed? If they are locked, soften them with a very slight bend.
5. Focus on you thighs, hips and belly. What do you notice?
6. Focus on your belly and ribs. What do you notice?
7. Focus on your chest. When you breathe in, does the breath come in easily or does it feel restricted?
8. Focus on your shoulders and arms. What do you notice?
9. Focus on you neck, throat and head. What do you notice?
10. Focus on your lower, middle, and upper back. What do you notice?

Figure 1. Mindful breathing and body scan
Source. Napoli, 2006.

reactions of humans to traumatic events is an "evolutionary relic" of our more primitive mammalian heritage (LeDoux, 1996, p. 163). This realization of neurological changes and bodily reactions suggests that both the mind and the body must receive attention to successfully recover from PTSD symptoms (Porges, 1995; Scaer, 2005).

When animals in the wild experience a traumatic event, they pass through their freeze response by tremoring (Levine, 1997). This alleviates any PTSD reactions and allows the animal to become fully mobile and functioning again (Levine, 1997; Scaer, 2005). A study was performed on mice that were deliberately traumatized. Half of the mice were allowed to tremor naturally after the trauma, and the other half were prevented from tremoring. It was discovered that the mice that were not allowed to successfully go through their natural tremoring process had a reduced resiliency to subsequent life-threatening experiences (Porges, 1995).

Muggenthaler's research (2001) into mammalian tremors recognized that these tremors involved an expenditure of energy at a particularly vulnerable time of physical stress. She realized that there is a brief window of recovery in which the body only uses recuperative mechanisms after a traumatic event. It is within this small window of recovery that mammals tremor. Muggenthaler postulates that these tremors therefore are somehow involved in the survival process. She believes that for these tremors to have survived the evolution of the species, there must be a survival advantage to this behavior (Muggenthaler, 2001).

Neurogenic tremors are commonly reported as disturbing symptoms among humans and are recognized as diagnostic features of Panic Attacks (300.21), Social Phobias (300.23), Generalized Anxiety Disorder (300.02), and Post Traumatic Stress Disorder (309.89) in the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 2000). The onset of these tremors can often be attributed to traumatic or stressful events (Smaga, 2003; Walters & Hening, 1992). Until recently, this tremoring was considered a pathological expression of the nervous system. However, new theories of neurogenic tremors suggest that it is the body's natural mechanism to extinguish the hyperstartle response and restore the homeostasis of the body after the traumatic event has ended (Levine, 1997; Muggenthaler, 2001; Scaer, 2005).

TRAUMA-RELEASING EXERCISES

Trauma-releasing exercises (TREs) were designed to engage the primitive mammalian survival mechanism used to recover from a traumatic event. The same tremors found in other mammalian species can also be easily evoked in the human species through a series of five simple exercises. The exercises produce a slight fatigue in the major muscle groups of the legs and pelvis. This is done by isolating the muscle groups and exercising them individually. A full explanation of this method can be found in Figure 2. The induced muscle discharge in the form of tremors is used to extinguish somatic procedural memory, thereby mitigating ongoing symptoms of trauma (Scaer, 2005).

Usually, when one experiences a traumatic event, attention is moved out of conscious awareness because the situation is overwhelming and the conscious mind does not know how to process this experience. However, the reactions from the event are stored in the body through primitive and instinctual postures of defense (Conger, 1994; Van der Kolk, 1994). This instinctual posture not only causes the nervous system to react but it also produces changes in muscle tone and reflexive reactions (Scaer, 2005). The muscles may become more powerful or more flaccid; they may rigidify if the freeze response is activated or begin to tremor after the danger has subsided. The primary muscles involved in this process are known as the flexor muscles. Collectively these muscles contract to roll the body forward into a ball. This forward bending movement helps to protect the core or underbelly of the body (Koch, 1981). The core flexor muscles of the startle response known as the psoas muscles are particularly vulnerable to later motor dysfunction and chronic contraction. The psoas muscles, connecting the spine, pelvis, and legs, are one of the most primitive core muscles used intrinsically in flexor responses of the startle reflex (Koch, 1981). Procedural memory for repetitive psoas activation causes chronic tension and increased baseline levels of arousal, postural dysfunction, and back pain (Scaer, 2005).

Exercise #1

Place one foot on the seat of a chair. With the standing foot – raise your heel as high as possible then lower your foot to the floor. Repeat this about 10 times. Repeat this same exercise with the other foot. When finished vigorously shake the leg to relax the muscles.

Exercise #2

Slowly bend down and touch the ground while standing on one leg. Bend your standing knee as deeply as you can and then straighten it. Repeat this process for 5-10 times, depending on the strength of your legs. This exercise can be modified by holding onto the back or the seat of a chair rather than bending down to the floor.

Exercise #3

Stand with your legs spread apart. Bend forward until you touch the ground. Slowly walk your hands over to one foot. Then walk your hands over to the other foot. Now walk your hands back to the middle and reach between your legs behind you. Hold each position for three deep breaths. You might begin to feel some mild shaking in your legs. Allow this to happen. Slowly come back into a standing position.

Exercise #4

Sit with your back against the wall as though there was a chair underneath you. After a few minutes, you might begin to feel some quivering in these muscles. If it becomes slightly painful, move up the wall about two more inches. The quivering may get slightly stronger and the pain will begin to subside. You should try to find a position where your legs are quivering and there is no pain. After five minutes come off the wall and hang over forward. Keep your knees slightly bent while you touch the ground.

Exercise #5

Lie with your feet together and knees relaxed open as far as possible. Lift your pelvis off the ground for one minute being sure to keep your knees open. Set your pelvis down on the floor and slightly close your knees. Continue to close your knees a few inches every two minutes.

The quivering may get stronger. If you find it pleasant and comfortable allow the quivering to continue. At any point if you are uncomfortable with it, straighten your legs out on the floor and relax.

Figure 2. Trauma-releasing exercises
Source. Berceli, 2005.

Trauma-releasing exercises were designed by David Berceli over a 5-year period of observing large populations of traumatized people in five war-torn countries of Africa and the Middle East. This observation revealed an instinctual somatic pattern of defense that transcended cultural expressions—a purely human contraction against life-threatening

danger. After studying the flexor muscle pattern that contracts toward the fetal position during danger, it was possible to design exercises to relax that specific muscle group, thereby restoring a sense of physical comfort that reportedly extended to greater psychological calmness.

The tremoring exercise involving this specific muscle pattern was developed by observing the natural tremor reactions of individuals during intensely dangerous situations such as aerial bombings, shootings, and tank shelling. Children often tremored freely, and adults often froze the mechanism as a way of not appearing frightened. This natural tremoring of the body as well as the socialized behavior of controlling these tremors is commonly found in our culture. It is not uncommon to hear phrases such as, "I was so frightened my jaw was quivering," "My hands were shaking so bad I couldn't calm myself down," "My legs were trembling as I gave my speech," "I was so angry I shook," "After birthing, my body shook all over uncontrollably."

EXPERIENCES OF TRAUMA-RELEASING EXERCISES

Trauma-releasing exercises have been used with very favorable results in 19 countries of Africa and the Middle East over the past 15 years to reduce the hyperarousal symptoms of PTSD (Berceli, 2005) (see Figure 2). The value of these exercises is that they can be done individually or with large groups at a single time. The exercises are easy to follow, and the results can be reproduced without the guidance of a therapist. This is an important consideration when working with large traumatized populations who do not have access to counseling services or providers. Although this technique has been used successfully with very encouraging results in war countries, it has only recently been tested in a pilot study with social work students who were experiencing stress in their agency internships (Berceli & Holley, 2005, unpublished research). In this pilot study, a 30-question self-evaluation form used to assess pre- and postresults from an 8-week TRE protocol showed improvement in the mean total of the overall score ($p < .01$). Each of the three subcategories of physical tension, psychological disturbance, and emotion disturbance also showed improvement at the $p < .01$ levels.

The TRE technique has been used for the reduction of PTSD symptoms from developmental traumas as well as PTSD from traumatic events. Continued use of these exercises appears to develop a deep sense of relaxation so that additional traumas require a reduced time of recovery. Use of the exercises does not prevent the instinctual activation of the hyperstartle reaction during a traumatic event but rather it seems to disengage that reaction more quickly after the traumatic event has ended, thus helping to restore the body's homeostasis more quickly and thereby reducing the recovery time from traumatic events. Initially, the TRE protocol will take about 1 hr to complete. However, as the individual trains the body and brain in this routine through simple repetition, the entire routine can be reduced to 20 min.

INTEGRATION OF MINDFULNESS WITH TRAUMA-RELEASING EXERCISES IN THE TRAUMA PREVENTION PROGRAM

In the Mindfulness-based Trauma Prevention Program, participants begin by noticing the breath and allow themselves without judgment to be aware of the present experience, whether it be pleasant or not, allowing the awareness to emerge without trying to control the experience. This is the starting point for individuals with PTSD to begin changing the habitual pattern of behavior of avoiding and controlling emotions and thoughts. Mindful

TABLE 1. Mindful Breathing and Body Scan

A. Repeat mindful breathing and body scan
B. Notice what is happening in your body after trauma-releasing exercises

breathing continues with the body scan, described above. The mindful breathing and body scan set the stage for the TREs by facilitating focused attention on the participants' present-moment experience. Mindful breathing continues during the TREs. Following the TREs, the participant may experience a greater sense of integration by once again mindfully focusing on the breath and repeating the 10-point body scan (Table 1). The participant is invited to notice whether there are any differences between the first and second body scan experience, and has the opportunity to integrate the physical and cognitive experiences that have occurred without judgment.

DISCUSSION

Due to the long-term effects of trauma and its generational transmission (Fossion, Rejas, Servais, Pelc, & Hirsch, 2003; Gardner, 1999; Motta & Jamie, 1997; Rowland-Klein & Dunlop, 1998), PTSD and its subsequent psychosocial disturbances and behaviors are likely to be a persistently debilitating reality for social workers and their clientele for the foreseeable future.

Although the professional and educational field of social work must prioritize particular intervention targets and strategies according to local needs, the common denominator that affects the populations most served by social workers is the high degree of traumatic experiences. Likewise, the stories, lives, and relationships of clients in traumatized communities consistently affect and influence, whether consciously or unconsciously, the psyche and emotions of the social worker. It is precisely for this reason that the field of social work should have a particular interest in traumatic studies and develop tools to help social workers work through the devastating effects of trauma.

The proposed three-step Trauma Prevention Program is a simple, transferable set of activities. Although research on the effectiveness of this program is now under way, anecdotal evidence suggests that this prevention program can greatly reduce the effects of direct and vicarious trauma that many social workers and other professional caregivers experience. By working and living in a culture of trauma, social workers and other professional caregivers are continually confronted by direct or vicarious trauma. Self-help protocols for the caregiver can assist practitioners in maintaining their psychological and physical health. Successful self-help protocols would help to ensure optimal benefit not only for the social work professional and the professional community of social workers but also for all helping professionals working in the field of trauma. A greater awareness of trauma and an active engagement in practicing preventative measures has the potential of protecting all professional caregivers in the cultural reality of trauma. With increased awareness of trauma, professional caregivers can also have a greater positive impact on the groups and individuals living within the subculture of trauma. Engaging social workers and other caregivers in the three-step Trauma Prevention Program may be one means of dealing with the devastating and often fatal effects of direct and vicarious trauma impacting their lives.

The Mindfulness-based Trauma Prevention Program is a versatile program. It is designed to be a self-help program, and in this regard, it can be carried out either alone or

with groups. The program can be carried out either by simply following the procedure outlined in this article or with the guidance of a therapist. It is important to realize, however, that this program could elicit emotions associated with the traumatic event. If individuals feel that their emotions may be too overwhelming, they may want to perform these exercises in the company of a trained therapist or supportive community. Individuals with physical or psychological medical histories should consult the appropriate medical health professional for specific guidance prior to using this or any exercise routine.

RECOMMENDATIONS

1. All health care professionals employed in stress-related environments should be aware of the necessity of learning and practicing some form of stress-reduction program such as the Mindfulness-based Trauma Prevention Program.
2. Employees of health care organizations in highly stressful environments should be trained to teach self-care awareness and methods.
3. Access to national and international workshops on self-care should be offered to continually update professionals working in stress- and trauma-inducing professions and environments.
4. Research on the short- and long-term effectiveness of trauma-prevention programs, such as the Mindfulness-based Trauma Prevention Program described above, should be a high priority for those engaged in trauma-related research.

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