Article

Self-Defense Training as Clinical Intervention for Survivors of Trauma

Violence Against Women
2014, Vol. 20(3) 293–308

DOI: 10.1177/1077801214526048
vaw.sagepub.com
SAGE

Gianine D. Rosenblum[1] and Lynn S. Taska[2]

Abstract

A well-designed self-defense curriculum, congruent with psychophysiologically informed trauma research and treatment, and integrated with input from therapists, can serve as an important adjunctive treatment. We provide a detailed description of such a program modified to be an experiential, psychoeducational intervention for female survivors of trauma. Recent research on the role of blocked motor responses in the development of pathology post-trauma is explored as a potential explanatory mechanism for the therapeutic benefits of self-defense training. Through specific examples and descriptions of teaching methods, we examine how this intervention compliments and augments traditional psychotherapeutic treatment of trauma sequelae.

Keywords

personal safety, posttraumatic stress disorder, self-defense, trauma, treatment, women

We have worked in collaboration with self-defense training (SDT) instructors for over a decade to develop a curriculum tailored to female trauma survivors. Preliminary data on pre- and post-class measures showed reductions in shame and symptoms of Posttraumatic Stress Disorder (PTSD) and depression (Rosenblum, Taska, & Cermele, 2008). This article seeks to provide an in-depth description of the self-defense (SD)

[1]Private Practice, Lawrenceville, NJ, USA
[2]Private Practice, Lawrenceville, NJ, USA

Corresponding Author:
Gianine D. Rosenblum, Psychotherapy at the Atrium, 133 Franklin Corner Rd., Lawrenceville, NJ 08648, USA.
Email: giarosenblum@gmail.com

teaching methodology, as well as an explication of the relationship between teaching practices, therapist involvement, and PTSD pathology, and to propose some of the pathways by which elements of the curriculum remediates clinical pathology. In addition, we highlight some of the ways in which SDT has the potential to impact trauma survivors negatively, and strategies for providing SDT that minimize that risk.

Increasingly, the study of PTSD has focused on the body and more specifically *movement* as a primary locus of treatment (e.g., Levine, 1997; Ogden, Minton, & Pain, 2006; Rothschild, 2000; van der Kolk, 1994, 2006b). This shift in approach is in response to research on the neurobiological nature of traumatizing experiences and their sequelae. This research indicates that what is traumatizing is the blockage of effective behavioral escape responses in the presence of highly threatening events, creating a state in which intense emotional responding becomes divorced from effective coping (van der Kolk, 2006).

A thorough articulation of the diversity of clinical presentation within the PTSD diagnosis, and the differences between single incident versus chronic/developmental trauma, is beyond the scope of this article. Generally speaking, when a traumatic event occurs, the perception of physical or psychological threat initiates brain activity to stimulate defensive reactions to bring the organism to safety via a fight, flight, or freeze response. Forced immobilization, whether due to psychological (e.g., coercion, threat, interpersonal relationship dynamics) or physical restraint, leads to massive autonomic arousal and hyperstimulation of the hypothalamic-pituitary axis. Under normal circumstances, cortisol is released and ultimately down-regulation occurs, allowing the alarm reaction to cease and the organism to return to homeostasis. In PTSD, this intense autonomic arousal becomes associated with a state of immobilization rather than action. In addition, the cortisol response is impaired and the alarm is never turned off. The individual lives in a state of perpetual hyperarousal and hypervigilance (Rothschild, 2000; van der Kolk, 2006). Due to stimulus pairing and classical conditioning, future, previously benign, environmental and internal emotional and sensory stimuli may be interpreted as threat and also become associated with immobility. Furthermore, this state of hyperarousal is also associated with the suppression of activity in language centers of the brain (van der Kolk, 1996). Thus, individuals may have difficulty expressing themselves in words and verbal information (e.g., "talk therapy") may be less effective in altering internal experiences.

Numerous body-based therapies are being explored in efforts to address the body-based nature of the trauma response; yoga (e.g., Emerson, Sharma, Chaudhry, & Turner, 2009; Gelbarg & Brown, 2005) and drama (Kisiel et al., 2006) therapies are two examples. Another type of body-focused intervention is SDT. Recently, researchers have examined the benefits of SDT in clinical and non-clinical populations (see Brecklin & Ullman, 2005; David, Simpson, & Cotton, 2006). SDT is appealing, in part, because it has great face validity for addressing the needs of survivors of interpersonal violence. It makes intuitive sense to teach survivors ways of responding to the threat of physical assault that may prevent re-victimization. Indeed, researchers have found that students of SDT report increases in self-efficacy for successfully

defending themselves against assault (David et al., 2006; Fraser & Russell, 2000; Ozer & Bandura, 1990).

In addition to its face validity, the enactments of threatening scenarios in SDT are in keeping with other role-play treatments or exposure and avoidance prevention treatment strategies. Exposure therapies have substantial empirical support as a modality of choice for treating the symptoms of PTSD (e.g., Falsetti & Resnick, 2000; Foa, 1997; Foy et al., 2000; Rothbaum, Foa, Murdock, Riggs, & Walsh, 1992; Sherman, 1998). In addition to the need to address the conditioned freeze response and provide therapeutic exposure to trauma triggers, trauma treatment seeks to ameliorate shame and irrational self-blame for the traumatic event, both of which are powerful predictors of symptom severity (Feiring & Taska, 2005; Feiring, Taska, & Lewis, 2002). Addressing beliefs regarding alienation, stigma, and being "damaged goods" are important goals of trauma treatment (Turner, McFarlane, & van der Kolk, 1996). Although these issues may be most obvious in survivors of interpersonal/sexual violence, extreme social disconnection, and a sense of being different from others can result from any form of trauma. These features promote social withdrawal, which further compounds psychopathology. Across therapeutic modalities, psychological intervention in the aftermath of trauma generally emphasizes a number of critical factors including helping clients to utilize adaptive coping skills, regulate affect, increase the capacity to attend to current experience, make new meanings out of past experiences, maintain appropriate interpersonal boundaries, prevent future victimization, and increase the capacity for intimacy and social connection (Cohen, Mannarino, & Deblinger, 2006; Rothbaum & Foa, 1996; van der Kolk, McFarlane, & van der Hart, 1996).

It is our contention that a well-designed SD curriculum dovetails with the goals of psychophysiologically informed trauma treatment and can serve as an important adjunctive treatment modality. Although there is a developing body of research examining the benefits of SDT, to date most articles are cursory in describing the SD curriculum used and in delineating the relationship of SDT components to the intended benefit. For example, David et al. (2006) described their SDT program in a single paragraph as follows: "(a) 1 hour of psychoeducation on facts about sexual assault and role play practice exercises on assertive communication and boundary setting, (b) 1 hour of physical self-defense training with two self-defense specialists, (c) 1 hour of group debriefing" (p. 559). Fraser and Russell's (2000) study of Model Mugging is one of the few to describe the SDT in some detail and examine process elements in the curriculum that can be linked to its positive outcomes. Their study focused specifically on the group process in SDT, finding, among other benefits, that this aspect fostered social connection and validation, and improved affect regulation via social connection and support.

The SDT Curriculum

Impact™ Basics (IMPACT™ International, 2012) is a curriculum that provides training in comprehensive personal safety and SD skills. This 16- to 20-hr intervention

utilizes a transformational learning approach (Portnow, Popp, Broderick, Drago-Severson, & Kegan, 1998) to "[instill] dependable self protective skills and a strong sense of personal efficacy to execute them well" (Ozer & Bandura, 1990, p. 473). The Impact™ system was initially developed with the input and expertise of a wide array of professionals including martial artists, law enforcement personnel, psychologists, adult education experts, engineers and teachers, and shares roots with Model Mugging, a course studied by several authors (e.g., Fraser & Russell, 2000; Ozer & Bandura, 1990). Impact International™ is an international organization with chapters across the United States, the United Kingdom, and Israel (IMPACT™ International, 2012). Impact™ chapters frequently have self-identified trauma survivors in their classes. In 1999, we began working with the Impact™ chapter in New York City, Prepare, Inc., to adapt the program to be used with trauma specifically as an adjunct to ongoing psychotherapy (Rosenblum, Cermele, & Taska, 2007; Rosenblum & Taska, 2010; Rosenblum, Taska & Cermele, 2007;). We have since then provided five such classes to therapy clients, four of which have included pre- and post-class data collection efforts. Classes met weekly, for 4 to 5 hours. Class size ranged from 10 to 16 participants. Participants were civilian women ranging in age from 16 to 65 (*M* age = 38), all of whom had experienced multiple assaults in childhood and/or adulthood. The most frequent diagnoses were PTSD (79%), Major Depressive Disorder (56%), and/or Dissociative Identity Disorder (21%). None of the women had taken SDT in the past. There was no attrition. When a missed class occurred, the student was provided a brief review and the instructors adjusted the role-plays as needed to meet the student at her level.

Impact™ Basics training mimics the physiological and psychological conditions of real life situations of threat, ranging from verbal harassment to realistic assault situations. Realistic verbal and physical role-play scenarios provide in vivo exposure and response to threat cues and opportunities for mastery experiences, both of which are components of successful anxiety reduction interventions. The instructors are trained to create scenarios that generate highly aroused states of perceived threat and a safe environment for exposure and acclimation to this arousal. Teaching new responses to threat occurs through multiple sensory-motor systems as well as cognitively, to maximize the likelihood of recall under stress. Students watch demonstrations, are coached through paced drills, and gradually progress to self-generated execution of techniques in realistic scenarios, where they respond to threatening behavior and physical aggression enacted by instructors. Students achieve mastery of skills including environmental awareness and situation assessment, appropriate body language, modulation of tone of voice, choice of language to address assailants, and finally, full force physical techniques.

Psychoeducation, including accurate statistics on interpersonal violence typology, incidence, and prevalence as well as specific information on the risks of victimization by known assailants and intimates, is woven into the curriculum of every class. The curriculum also emphasizes teaching about the predatory behavior patterns typical of perpetrators (for descriptions of these patterns, see de Becker, 1997). Students are educated about the strategies predators use to select targets for victimization (e.g.,

targeting an isolated person who appears unaware of her surroundings), strategies (e.g., lies, manipulation, threats, coercion) predators use to increase the likelihood of the success of an assault, and means of responding mentally, verbally, and physically to reduce the success of these strategies. Students are taught about the socialization of gender violence and the ways in which socialized behaviors impact women's vulnerability. Throughout the training, instructors emphasize that responsibility for assault always lies with the assailant, and that no action or inaction ever locates fault with a victim of interpersonal violence. The curriculum focuses on prevention via awareness of self, others, and the environment, and appropriate responses to early levels of threat.

The Therapeutic Teaching Team

The team typically includes one female lead instructor, two male instructors who wear body armor, and at least one therapist. The body armor "suit" allows male instructors to receive full force blows and enact highly realistic responses to students' SD actions.

The Role of Instructors

Lead instructors and male instructors receive over 100 hours of training and have achieved certification as Impact™ Instructors. Certification requirements are nationally standardized by Impact™. Male instructors are trained to develop a repertoire of different predatory behaviors typically exhibited by men who assault women. These include both verbal (what the assailant says) and non-verbal (the assailant's physical energy, postures, gestures, body positioning) behaviors, as well as motivational factors (the assailant's internal goal, for example, to harass, to intimidate, to get the woman to turn her head and look, to rape, to rob, to murder). Each of these dimensions is manifested by the instructor in external behavior to create a character that presents a sense of personalized threat to the student during the role-play. The instructors adjust the intensity of each of these dimensions, and thereby the level of perceived threat, to meet the needs of the individual students and the progress of the class. The role-plays are given varying degrees of context (e.g., outside/inside, in your office, your home, a parking lot, party, bar, street corner, hiking trail), and the characters varying relationships with the student (a stranger, friend of a friend, your colleague, a boyfriend, another parent at little league, a homeless person, a salesperson). These elements further adjust the intensity and threat presented by the role-play. The pacing of the fights and the amount of coaching provided are also adjusted to provide increasing challenge. The overall level of challenge is adjusted for the group in an arc across each 4- to 5-hr class, across the entire 16- to 20-hr curriculum, as well as across the specific experience of each individual student. Teaching team meetings occur prior to and following each class where the progress of each student is reviewed, and instructors create specific plans for role-play scenarios, characters, behaviors, and contexts.

While all three instructors provide didactic teaching, the lead (female) instructor is responsible for one-on-one coaching of students through the role-play scenarios and physical fights. This includes demonstration of all verbal and physical skills,

instruction on body language, tone of voice, facial expression, and choice of words for responding to threat. Coaching of body language and verbal skills is of equal importance to physical fighting skills. Not all role-plays progress to physical fights; some conclude with successful verbal boundary setting by the student. During drills and role-plays/fights, the lead instructor may help position the student's body or physically cue a student to alter their motor response. The lead instructor stands near the student providing ongoing support, encouragement, and verbal prompting to students, as needed, during role-play scenarios. By so doing, the lead instructor plays a critical role, literally helping to create a new, adaptive, cognitive and motor script for safety seeking responses to threat during moments of high fear arousal. As the student internalizes this script and exhibits new motor responses, the lead instructor fades verbal and physical support. Most students can respond unassisted by the end of the training. Occasionally, the lead instructor will participate in role-play scenarios if it is desirable for the perceived threat to come from a female. At these times, male instructors serve as coaches. The behavior of all instructors in coaching and depicting threatening characters is carefully thought out and implemented, as is the interplay between lead and male instructors. At no time do students role-play with one another.

The Role of Therapists

At least one psychologist is present in all therapeutic classes. Therapists, having completed Impact™ assistant instructor training, assist the instructors, frequently demonstrating techniques, and are typically the first to participate in a role-play scenario. This offers the opportunity for observational learning and provides the message to students that the therapists are willing to "practice what they preach." The therapists offer themselves as coping, not mastery, models, with the goal of increasing the clients' self-efficacy and skill acquisition. Bandura (1986) and others have shown observing a successful model similar to oneself (one who may make mistakes and have some challenges when trying the new behavior) makes one more likely to believe one can perform as well as the model. Therapists are also available to clients who need additional assistance in grounding and returning to their window of tolerance (Siegel, 1999; see below) following a role-play scenario. Therapists do not offer in-depth processing and the goal of therapist contact is always to keep the student engaged in the class.

In addition, the therapists solicit referrals from their own and colleagues' practices, educating referring clinicians about class structure and curriculum, and screening potential referrals. Clients who are appropriate for this intervention are currently stable and have sufficient affect tolerance to experience strong affect while maintaining realistic appraisals of current environments, and circumstances, as well as a sense of self. Prior to class, clients work with their referring clinician to define a support system. Referring clinicians can work with clients to identify trauma triggers that may be activated in class, and establish plans to help students address activated triggers safely and effectively during and following classes. This may include pre-planned therapeutic contacts, plans to engage in extra self-care activities, or increased use of grounding

strategies. Referring clinicians may also work with clients to design custom role-play scenarios for use during classes. Although not mandatory, permission for communication between the referring clinician and the SD teaching team is typically initiated, which facilitates both the inclusion of appropriate trauma material for class and feedback to the clinician.

During class, the assisting therapists maintain a non-intrusive, facilitative presence. The assisting therapists may facilitate appropriate disclosures to instructors, help tailor the instructor's coaching, and encourage clients to challenge themselves as planned. Assisting therapists also attend to students' reactions throughout class and adjusts their involvement with the students as needed. A therapist would have greater involvement, for example, if the student experiences a flashback, wishes to leave the room, or has multiple personalities and presents as an alter. In all cases, the therapist's goal is to provide help with grounding and stabilization and return the student back to participation in class as quickly as possible.

Assisting therapists also amplify the beneficial effects of experiences during role-play scenarios by echoing the coaching of instructors. When students are not engaged in a role-play themselves, the therapists encourage use of breathing, physical grounding, attending to the instructors, and providing support to fellow students. Therapists help students interpret and make meaning out of their reactions. By helping students integrate their reactions into a functional response system, therapists help students achieve adaptive responding, for example, "*It makes sense that you are angry, he was using words to distract and disempower you. You can use that angry energy to fuel your kicks in the next fight.*" Importantly, therapists help prevent non-therapeutic traumatic re-enactments, by helping students with appropriate re-scripting, for example, "*Let's find words today to express your needs and set boundaries that are right for you*"; contextualizing, for example, "*You were a little girl then, you are a strong adult woman now*"; and meaning making, for example, "*You can understand how these events have shaped your reactions to things since this event.*"

Despite the triggering nature of SDT, the scrupulous care taken to keep students working within their window of tolerance helps prevent escalation of symptoms. The window of tolerance is the range of emotional arousal an individual can process without a disruption in their functioning (Siegel, 1999). As needed, instructors adjust the pace or intensity of students' individual experiences to keep them engaged in class. A central goal of participation is for the student to achieve success in executing even small increases in safety seeking motor responses.

With guidance from the referring and assisting therapists, students are encouraged to use the class as an opportunity to tackle highly feared and otherwise avoided scenarios from their own lives. However, instructors and assisting therapists do not make assumptions about what a student is ready to handle. A student may in fact "hold back" and not provide the most disempowering or frightening material for use in class. This choice is always respected and viewed as the student's own efforts to stay within their window of tolerance (Rothschild, 2000).

Class Process

Instructors meet to discuss the needs, strengths, and areas of challenge for each student prior to each class. Therapist input to these meetings allows for even greater understanding of each student's triggers and window of tolerance. For example, one student was spoken to in calm, measured tones by her abusive father. At times, the calm teaching tones of the instructor acted as a fear trigger, which interfered with skill acquisition. For this student, a more vigorous and directive vocal tone was used during teaching and hushed tones were used during actual fight scenarios when it was desirable for the fear structure to be activated (Rauch & Foa, 2006).

Attention is also paid to the dynamics of the group as a whole. For example, observing the window of tolerance for each student informs decisions about the order of student participation. Students with lower tolerance are typically selected for role-plays earlier in the sequence, reducing the anticipatory anxiety of watching others' scenarios. Students with higher thresholds can benefit from watching others, without becoming overwhelmed themselves.

The most detailed level of customization of class process occurs when students, in consultation with therapists, request custom scenarios. This is an optional part of the curriculum and becomes available in the final class. The student may specify that a role-play include particular characters, verbal and non-verbal behaviors, settings, and context cues. In this way, students may re-enact and re-script an actual assault or particular trigger experiences. For example, a student who experienced a home invasion and assault may request that the instructor refer to the setting as her home/bedroom and provide the instructor with the words or phrases used by the actual assailant. The student is then able to fight the assailant and experience an outcome of safety and strength, thus integrating information incompatible with the fear structure laid down during the trauma (Rauch & Foa, 2006). Similarly, a student who reports a more generalized fear trigger, for example, feeling paralyzed when someone touches her face, may request that specific trigger be incorporated into her role-plays, providing repeated exposure and re-scripting opportunities.

As with the classes Fraser and Russell (2000) describe, the group process aspect of the SDT curriculum is of critical importance. Students are encouraged to engage actively even when they themselves are not participating in a role-play. Mutual verbal encouragement (e.g., cheering, applauding) is modeled by instructors and actively promoted among students. When a student is victorious, the return from the fight to the line of students is acknowledged as a metaphor for the "return to safety." Students yell "911" at that point to symbolize the social group responding to facilitate safety. This runs directly counter to the experience of the individual who may not have received social support or assistance following the traumatic event. Class begins and ends with a group "check-in," which provides an opportunity for students to connect to the group and describe their current state. It is not, however, an opportunity for cross-talk and in-depth processing of experience. Class members are given an in-class buddy and are asked to talk (verbally, not virtually) with their buddy at least one time between classes.

Clinical Rationale

Preliminary findings on the assessment of changes in PTSD symptomatology, shame, self-blame, the belief that the self is worth defending, and other cognitions have been reported elsewhere (Rosenblum et al., 2008) and are beyond the scope of this article. Consistent anecdotal reports from participants and referring clinicians include significant shifts in shame, of being more present in the body, and viewing the self as worthy of defending.

Through SDT, students with PTSD are able to enact and experience previously blocked motor responses in the presence of threat, and by their direct physical/verbal action, to counter the conditioned immobilization from the original trauma(s). Students experience reductions in feelings of shame and self-blame via education, correction of inaccurate or unhelpful cognitions, exposure to an accepting social group, and corrective social feedback (Fraser & Russell, 2000).

Specifically, instructors (a) teach and coach students to enact and experience appropriate fight responses when under threat (addresses blocked motor responses); (b) support students to tolerate negative affect when under stress, while exhibiting safety responses (addresses blocked motor responses, affect tolerance, and shame reduction); (c) provide corrective feedback in a direct, non-shaming manner (addresses shame reduction and social connection); (d) provide in-depth, accurate psychoeducation about violence, socialization, and SD (addresses shame and stigma reduction); (e) create a social climate that stresses and reinforces the importance of mutual support among students (addresses shame/stigma reduction, and social connection).

Integrated Body Experience

Importantly, for the experience to be maximally beneficial, it is not sufficient for a student to simply perform the desired motor response. Following Steele and Ogden (2009), we believe that for therapeutic outcomes, bodily experience must integrate a number of related components, each of which is actively facilitated by the SDT instructors. As described by Steele and Ogden, an integrated body experience requires

1. experiencing the body and all parts of the body as belonging to oneself,
2. consistency in movement and action,
3. awareness of and responsiveness to physical sensations and the utilization of sensation to guide decision making,
4. movements of the body to be integrated and purposeful, and
5. experiencing the body as in control and engaged in the present moment not the past.

It is essential, therefore, that the student *remains aware of where her body is, what it is doing, and that it is herself taking action*. Instructors take care that the student is not detached from her bodily experience. Instructors watch for indications that the student has "checked out," even slightly, and provide gentle feedback to the student

about her bodily state to encourage somatic integration. For example, instructors cue students to look at their feet and hands and recognize these parts as them. Instructors ask whether the student feels disembodied or whether it feels like they themselves are acting. Instructors continue gentle cueing until the student reports an increase in a sense of "being present" and in connection with her body.

As integration requires *consistency in movement and action*, students are trained to do a given technique the same way each time. Similarly, there is instructor consistency within a class and consistency from class to class. Instructions about body movements are given clearly and concretely using consistent language with students repeating the movements numerous times, with coaching, until they achieve consistency in movement without coaching.

Integration also requires *awareness of and responsiveness to physical sensation and the use of sensation to guide decision making*. Instructors ask students to notice and report what they are experiencing in their bodies, with a non-judgmental stance toward whatever is reported. Instructors then tie the individual's sensory experience to the current situation and to whatever adaptive strategies are available to the student, for example, "You feel your hands shaking, you feel your legs shaking—ground your stance more firmly. You feel nauseous—let's regulate your breath."

To achieve *physical movement with the body under one's own control*, instructors help students focus on the goals of their actions. Instructors guide students such that most motor responses are organized toward a purpose, rather than just "happening." Instructors help students identify the goals of their actions (e.g., to execute a kick), and help students shape their movements, reducing motor responses to those applicable to goal.

Integration ultimately requires an *experience of the body as engaged in the present moment, rather than re-experiencing past trauma*. Instructors use verbal and nonverbal cues to anchor students in the present moment, remind them that they are in a class, and they can fight and create a different outcome in the present. Instructors acknowledge that history cannot be re-written. Students are encouraged to experience and note the differences between current and past experiences, and discouraged from becoming immersed in a past they cannot alter.

The Window of Tolerance

Another crucial element of therapeutic SDT is *maintenance of students' physiological control within the "window of tolerance"* (e.g., Ogden et al., 2006; Siegel, 1999). As previously stated, the window of tolerance is the range of emotional arousal individuals can process without a disruption in their functioning. For some, this range is narrow; for others, high levels of emotion can be tolerated without dysfunction. Outside the window of tolerance access to rational thought, abstract thinking, and self-reflection is impaired, and learning, meaning making, and elaboration on learned information (e.g., "I won this fight, what does that say about me?") are not possible (Arnsten, 1998). Inappropriate levels of arousal interfere with learning and deprive students of the integrative experience necessary for long-term change. Furthermore, the

disorganized, out of control sensations people experience when arousal is beyond their window of tolerance may be distressing in and of itself, and can lead to a harmful, escalating spiral of arousal. This window of tolerance conceptualization is consistent with the work by Foa and colleagues on Emotional Processing Theory (EPT; for example, Rauch & Foa, 2006). EPT states that to resolve PTSD symptoms, the fear structure created during the trauma must be activated (i.e., the person must be experiencing the fear state), while information incompatible with the fear is integrated to modify that structure. EPT also specifies that both underactivation (too low levels of arousal) and overactivation (excessive levels of arousal) will prevent successful modification of the fear structure. A therapeutic SDT curriculum achieves activation of the participants' fear structures while maintaining therapeutically desirable levels of arousal.

It is important to note that the consideration of window of tolerance is not exclusive to SDT. Therapeutic interventions of any kind can be compromised when the pace exceeds the individual's capacity to remain integrated. If external stimuli are too arousing or too much internal material is elicited at once, the window of tolerance is exceeded. At best, therapeutic benefit is lost; at worst, re-traumatization may take place (Rothschild, 2000). Thus, maintaining an appropriate pace and attention to the student's state are critical. To serve the goals of integrated learning and long-term change, SDT instructors strive to keep students' experience within their individual window of tolerance.

Overarousal and disintegration are indicated by disorganized, chaotic, disjointed motor activity. When this is observed, instructors work to keep students within or return them to their window of tolerance. A reduction in pace, complexity, or level of demand may increase tolerance in a given moment. When students appear overwhelmed, disorganized, and not in control of their responses, instructors encourage a "pause and settle" moment. Instructors pause the action if needed; they cue students to engage breathing and stabilize the body via stance and positioning (e.g., find physical support via bent knees, both feet/hands placed on the mat, lowering the shoulders). Ogden et al. (2006) describe increasing awareness of the feet and legs and their connection to the ground as a "core somatic resource," which provides "both psychological and physical solidity and stability" (p. 225). Creating a more stable and organized body posture helps shift the student back into their window of tolerance by providing a set of kinesthetic cues that run counter to the perceived experience of threat and total helplessness. Each time a student is helped to return to her window of tolerance while continuing to pursue safety in the face of threat, there is the potential for the window to widen, leading a subsequent exposure to the same experience to be less arousing and more easily tolerated with less outside help. As SDT class progresses, each student is helped to attempt more challenging cues and responses as her window of tolerance grows.

The following summarizes teaching strategies we employ in our Impact ™ classes, which are consistent with the therapeutic goals of body-based trauma treatment:

1. *Grounding*. Pauses, which encourage reconnection/awareness with breath, lower body connection to the ground, eye contact with supports, grounding in the here and now (reconnect to the present, out of the original trauma).
2. *Pacing*. Pacing at a level at which a student can maintain integration throughout the exercise. The class progresses through increasing levels of intensity and arousal. This graduated progression is specific to each student. Less arousing class practices provide opportunities to increase affect tolerance that may be translated into better integration.
3. *Control and organization*. Coaching encourages the use of organized, controlled, focused movement whenever possible. Deliberate pacing at a predictable and consistent rhythm, and breath in synchrony with movement is also modeled and supported.
4. *Body awareness*. Students' attention is directed toward their bodies. Students are encouraged to heighten awareness of their bodies throughout class, pause or breathe between techniques, and move consciously from one position to the next. Students are reminded to ground in-between techniques and attend to the position of their bodies.
5. *Body alignment*. Good body alignment facilitates mental organization, and creates feedback loops that counter the previously encoded faulty messages (e.g., The sensation of "my body feels strong" challenges the belief "I am weak"). The repetitive use of stable, grounded body positions provides opportunities for students to return arousal to their window of tolerance.
6. *Kinesthetic feedback*. Students understand, kinesthetically, how well-organized movement feels (just as a child suddenly feels her balance on a bicycle) and benefit from that sensation. Chaotic, disorganized movements (e.g., flailing arms) can be distressing and encourage disconnection from the body. Passive postures of immobilization (e.g., body curled up) increase feelings of helplessness and defeat. Instructors work with students to achieve organized, strong, connected bodily experiences.
7. *Consistent, brief verbal phrases cue specific motor responses*. Repeated brief cue phrases are more likely to be internalized and retained when stress is limiting language processing. In addition, a state dependent, conditioned response connecting the phrase to the posture helps students quickly access the desired motor response when under stress. Students will then integrate and use this internal cue on their own as instructors fade verbal and physical coaching.
8. *Regrounding of students after intense arousal*. Students are not left in an overaroused state. Following a role-play scenario, instructors ask a student to pause and reconnect with their breath, ground her lower body, and scan the environment actively, breaking the tunnel vision that may be engaged during periods of high stress. Students are returned to the group, and receive positive feedback and support. Students may spontaneously seek each other out to give and receive additional comfort. If needed, the therapist assisting the class may provide further assistance in grounding and restoring equilibrium.

Shame and Self-Blame

In addition to body-based responses, many trauma survivors have lived with feelings of shame, self-blame, and self-loathing, which are easily triggered in interpersonal interactions. Establishing a non-judgmental atmosphere of physical and psychological safety within the class is essential for therapeutic benefit. At the outset, instructors and students contract to respect each other's confidentiality, even after the course is completed.

Throughout class, instructors have the opportunity to provide corrective feedback in a direct, non-shaming manner, which is important to individuals who may have been the target of shaming and blame from others and also frequently experience intense self-doubt. For many individuals, a vacuum of feedback will be rapidly filled with an automatically occurring negative self-talk related to traumatic immobilization, perceptions of the self as weak, helpless, incompetent, and unable to trust self or others, and other self-defeating cognitions. Instructors provide clear, direct, corrective messages to these inaccurate, self-defeating cognitions. This includes feedback on physical technique, for example, "*That was excellent, great body positioning. Now I'd like you to try for more power. You can get more power by using your voice.*" It also includes feedback that directly addresses students' beliefs about their overall strength, power, competence, and self-worth, for example, "*You can do this technique, you are strong enough, I'm going to help you do it twice, and then you will do it on your own. We will work* on*it until you get it because I know you can.*" These direct communications also give the implicit message: "You are worth the effort to teach."

It is a goal of class to facilitate the internalization of new resources and access experiences of "triumph," while students' traumatic memories are stimulated within their window of tolerance (Ogden & Minton, 2000). It is emphatically *not* a goal to trigger abreactions or elicit re-experiencing of traumatic memories. Instructors give permission and validation for emotional expression and encourage students to view emotions as sources of power. However, they also work to establish a class social norm that students' varied emotional and physical responses are all normal. The group process of class works to provide normalization, social support, and the reduction of stigma, reducing negative self-statements students may experience if they perceive they are not responding "normally" or "properly" to their experiences.

Conclusion

Fraser and Russell (2000) provide numerous examples of the benefits of SDT as follows: feelings of empowerment, decreases in shame and stigmatization, belief in the ability to maintain physical safety, and feelings of increased control, assertiveness, and trust in boundary-setting abilities. Ozer and Bandura's (1990) findings were similar; women's personal safety self-efficacy and their personal safety skills all increased following SDT. In a small clinical sample, David et al. (2006) found SDT students reported improved risk assessment skills, enhanced confidence and assertiveness, and decreased feelings of vulnerability, fear, and anxiety, as well as decreases in PTSD

and depressive symptomatology. Our preliminary analyses of pre–post data (Rosenblum et al., 2008) also support the value of well-executed SDT as a powerful adjunct to treatment in individuals with PTSD, anxiety, and depressive disorders. When we first offered this curriculum in clinical practice, we found that our colleagues were more apprehensive than our clients about utilizing SDT in treatment. We are encouraged by the increased interest in SDT in research and practice, and excited that the burgeoning research on the role of the body in trauma response and treatment continues to scientifically validate the processes we have watched unfold in our classes. As van der Kolk (1994) poignantly stated, the body does indeed keep the score. Thankfully, it is only halftime. The score can change.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

References

Arnsten, A. F. T. (1998). The biology of being frazzled. *Science*, *280*, 1711-1712.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.

Brecklin, L. R., & Ullman, S. E. (2005). Self-defense/assertiveness training and women's responses to sexual attacks. *Journal of Interpersonal Violence*, *20*, 738-762.

Cohen, J., Mannarino, A. P., & Deblinger, E. (2006). *Treating trauma and traumatic grief in children and adolescents*. New York: Guilford Press.

David, W. S., Simpson, T. L., & Cotton, A. J. (2006). Taking charge: A pilot curriculum of self-defense and personal safety training for female veterans with PTSD because of military sexual trauma. *Journal of Interpersonal Violence*, *21*, 555-565.

de Becker, G. (1997). *The gift of fear*. New York: Dell.

Emerson, D., Sharma, R., Chaudhry, S., & Turner, J. (2009). Trauma-sensitive yoga: Principles, practice, and research. *International Journal of Yoga Therapy*, *19*, 123-128.

Falsetti, S. A., & Resnick, H. S. (2000). Cognitive behavioral treatment for PTSD with comorbid panic attacks. *Journal of Contemporary Psychotherapy*, *30*, 163-179.

Feiring, C., & Taska, L. S. (2005). The persistence of shame following sexual abuse: A longitudinal look at risk and recovery. *Child Maltreatment*, *10*, 337-349.

Feiring, C., Taska, L. S., & Lewis, M. (2002). Adjustment following sexual abuse discovery: The role of shame and self-blame attributional style. *Developmental Psychology*, *38*, 79-92.

Foa, E. B. (1997). Trauma and women: Course, predictors, and treatment. *Journal of Clinical Psychiatry*, *58*(Suppl. 9), S25-S28.

Foy, D. W., Glynn, S. M., Schnurr, P. P., Jankowski, M. K., Wattenberg, M. S., & Weiss, D. S. (2000). Group therapy. In E. B. Foa, T. M. Keane, & M. J. Friedman (Eds.), *Effective treatment for PTSD: Practice guidelines from the International Society for Traumatic Stress Studies* (pp. 155-175). New York: Guilford Press.

Fraser, K. L., & Russell, G. M. (2000). The role of the group in acquiring self-defense skills: Results of a qualitative study. *Small Group Research*, *31*, 397-423.

Gelbarg, P. L., & Brown, R. P. (2005). Yoga: A breath of relief for Hurricane Katrina refugees. *Current Psychiatry*, *4*(10), 55-67.

IMPACT™ International. (2012). Retrieved from http://www.impactselfdefense.org/

Kisiel, C., Blaustein, M., Spinazzola, J., Schmidt, C. S., Zucker, M., & van der Kolk, B. (2006). Evaluation of a theater-based youth violence prevention program for elementary school children. *Journal of School Violence*, *5*(2), 19-36.

Levine, P. (with Frederick, A.). (1997). *Waking the tiger: Healing trauma*. Berkeley, CA: North Atlantic Books.

Ogden, P., & Minton, K. (2000). Sensorimotor psychotherapy: One method for processing traumatic memory. *Traumatology*, *6*(3), 1-20.

Ogden, P., Minton, K., & Pain, C. (2006). *Trauma and the body: A sensorimotor approach to psychotherapy*. New York: Norton.

Ozer, E. M., & Bandura, A. (1990). Mechanisms governing empowerment effects: A self-efficacy analysis. *Journal of Personality and Social Psychology*, *58*, 472-486.

Portnow, K., Popp, N., Broderick, M., Drago-Severson, E., & Kegan, R. (1998). Transformational learning in adulthood. *Focus on Basics*, *2*(D), 22-27.

Rauch, S., & Foa, E. (2006). Emotional Processing Theory (EPT) and exposure therapy for PTSD. *Journal of Contemporary Psychotherapy*, *36*, 61-65.

Rosenblum, G. D., Cermele, J. A., & Taska, L. S. (2007, March). *IMPACT™ Basics as clinical intervention*. Paper presented at Association for Women in Psychology Conference, San Francisco, CA.

Rosenblum, G. D., & Taska, L. S. (2010). *Best practices for IMPACT Basics: Essential strategies for teaching survivors of trauma*. Unpublished manuscript. Private practice, Lawrenceville, NJ.

Rosenblum, G. D., Taska, L. S., & Cermele, J. A. (2007, July). *IMPACT™ Basics as clinical intervention*. Paper presented at IMPACT™ Conference, Loveland, CO.

Rosenblum, G. D., Taska, L. S., & Cermele, J. A. (2008, March). *Self-defense training as a clinical intervention in survivors of interpersonal violence*. Poster presented at the American Psychological Association Summit on Violence, Washington, DC.

Rothbaum, B. O., & Foa, E. B. (1996). Cognitive-behavioral therapy for posttraumatic stress disorder. In B. A. van der Kolk, A. C. McFarlane, & L. Weisaeth (Eds.), *Traumatic stress* (pp. 491-509). New York: Guilford Press.

Rothbaum, B. O., Foa, E. B., Murdock, T., Riggs, D., & Walsh, W. (1992). A prospective examination of post-traumatic stress disorder in rape victims. *Journal of Traumatic Stress*, *5*, 455-475.

Rothschild, B. (2000). *The body remembers: The psychophysiology of trauma and trauma treatment*. New York: Norton.

Sherman, J. J. (1998). Effects of psychotherapeutic treatments for PTSD: A meta-analysis of controlled clinical trials. *Journal of Traumatic Stress*, *11*, 413-435.

Siegel, D. J. (1999). *The developing mind: How relationships and the brain interact to shape who we are*. New York: Guilford Press.

Steele, K., & Ogden, P. (2009, June). *Divided mind, divided body: Interventions for working with dissociative parts in traumatized individuals*. Paper presented at 20th Annual International Trauma Conference, Boston, MA.

Turner, S., McFarlane, A. C., & van der Kolk, B. A. (1996). The therapeutic environment and new explorations in the treatment of PTSD. In B. A. van der Kolk, A. C. McFarlane, & L. Weisaeth (Eds.), *Traumatic stress* (pp. 537-558). New York: Guilford Press.

van der Kolk, B. (1994). The body keeps the score: Memory and the evolving psychobiology of posttraumatic stress. *Harvard Review of Psychiatry*, *1*, 253-265.
van der Kolk, B. (1996). The body keeps the score: Approaches to the psychobiology of posttraumatic stress disorder. In B. A. van der Kolk, A. C. McFarlane, & L. Weisaeth (Eds.), *Traumatic stress* (pp. 214-241). New York: Guilford Press.
van der Kolk, B. (2006a). Clinical implications of neuroscience research in PTSD. *ANNALS of the New York Academy of Sciences*, *1071*, 277-293.
van der Kolk, B. (2006b, April). *Frontiers of trauma treatment*. Paper presented at New Jersey Psychological Association Conference, Iselin, NJ.
van der Kolk, B. A., McFarlane, A. C., & van der Hart, O. (1996). A general approach to treatment of posttraumatic stress disorder. In B. A. van der Kolk, A. C. McFarlane, & L. Weisaeth (Eds.), *Traumatic stress* (pp. 417-440). New York: Guilford Press.

Author Biographies

Gianine D. Rosenblum is a licensed psychologist in private practice in Lawrenceville and Metuchen, NJ, specializing in the treatment of trauma sequelae. She is a graduate of Rutgers–The State University of New Jersey (PhD, 1995). She has served on the faculties of the Institute for the Study of Child Development, UMDNJ–Robert Wood Johnson Medical School, and the Sarah Lawrence College Human Genetics Program. Her previous publications are in the areas of child and adolescent development. She began her training in martial arts and self-defense in 1990, and she has been researching the beneficial effects of self-defense training on clinical populations since 2003.

Lynn S. Taska is a licensed psychologist in private practice in Lawrenceville, NJ, specializing in the treatment of trauma. She is a graduate of Rutgers–The State University of New Jersey (PhD, 1994). She has served on the faculties of UMDNJ–Robert Wood Johnson Medical School, UMDNJ–New Jersey Medical School and the College of New Jersey. For more than 10 years, she coordinated an NIMH-funded longitudinal research study of children who experienced sexual abuse in childhood. The study followed these children into adulthood to understand the complex factors association with adaptation. Her recent publications and presentations have centered on findings from this study.