

SPECIAL ISSUE

Clinical Use of Self-Compassion Within Mindfulness-Based Biofeedback in the Treatment of Veterans and Spouses: A Case Study

Urszula Klich, PhD

Shepherd Center, Atlanta, GA

Keywords: compassion, mindfulness-based biofeedback, biofeedback, stress management, veteran

Treatment of veterans necessitates the understanding of the cultural framework within which they operate. A clinical approach that is centered on teaching self-regulation while modeling self-compassion can assist veterans to assimilate into the civilian world. Compassion, recently emerging as a critical variable in the therapeutic benefit of mindfulness-based techniques, can be combined with biofeedback in order to maximize the advantageous psychological and physical changes that are seen with both. This article will present treatment considerations in a case in which compassion-based strategies within mindfulness-based biofeedback treatment were used with a veteran and his spouse.

In order to treat veterans, whether directly targeting posttraumatic stress disorder (PTSD) or not, it is important to understand the cultural framework within which they operate. Combat soldiers have cognitive schemas that define their concept of normality. A pattern of “negative alterations in cognitions and mood” related to persistent and distorted negative beliefs and expectations about oneself, the world, and blame for the traumatic event connotes PTSD (American Psychiatric Association, 2013). Yet, regardless of the presenting complaint for treatment, the veteran’s style of relating to him or herself and to the environment will impact clinical care. A chronic heightened state of arousal is adaptive for survival at war but considered maladaptive hypervigilance upon return. Mindfulness-based biofeedback (MBB) treatment can assist individuals to engage in more adaptive ways of interacting with themselves and their environment. Through the combined treatment of meditation and biofeedback, veterans can learn to attend to the present moment without hyper-focusing and achieve elements of regulation within the nervous system that are useful for living with greater wellbeing within the civilian environment.

Effective and multiculturally sensitive assessment and treatment necessitates a broader understanding of important factors in working with this population. This paper examines treatment-relevant aspects of military culture related to differences in affect, cognition, and body language of a soldier compared to a civilian. A case is presented to: (1) explore unique variables involved in the treatment of veterans, thereby enhancing the clinician’s ability to understand how a veteran’s cultural identity influences treatment; and (2) discuss the clinical use of self-compassion within MBB treatment to address these challenges.

Military Culture

Etiquette

Through the process of training, veterans have been previously resocialized to adhere to military cultural norms, values, and customs (Bradley, 2007). The overriding cultural principle of the military is one of pride for service and value in sacrifice. From the beginning of training, individuals in the military are reinforced for working toward the good of the group rather than for themselves. This is adaptive given that cohesive groups have higher rates of survival (Cacioppo, Reis, & Zautra, 2011). Personal goals are routinely sacrificed for the benefit of others and for the purpose of cooperative and effective collective action. Additionally, normative expectations guide behavior between those of different rank or status (Cacioppo et al., 2011), and these perceptions may impact interactions with clinicians. Understanding cultural norms and military etiquette is central to accurately interpreting and working with a veteran within the treatment setting.

Affect

The cultural difference in affect between veterans and civilians is also relevant in clinical work. Overall, greater

levels of emotional avoidance and lower levels of emotional expression are normative to military culture as compared to civilians (Hassija, Luterek, Moore, Naragon-Gaines, & Simpson, 2012; Mueller & Mazub, 1996). Members of the military often exhibit flat affect, and appear calm even under traumatic circumstances that would be expected to elicit a distressed appearance in the general population. When compared to the norm of more animated civilian affect, the expressions of veterans may be easily misinterpreted. Thus, the positive or negative valence of a veteran's response cannot be measured solely by affective features. Affect that is flat, appears vigilant, or incongruent with the topic may readily be misinterpreted as unmotivated, unfriendly, deceitful, or even hostile. In contrast, when viewed within the normative military context, it may be interpreted as respectful, focused, and dedicated to the present task.

In clinical treatment, a common goal is to assist clients in improving overall coping and functioning and generalizing these adaptive skills beyond presenting problem(s). As such, variation in affective expression is equally important to consider in the larger social context and suggests a benefit of including military spouses in treatment. This is especially true in light of findings that low levels of positive affect and high levels of negative behavior observed in the veteran population are associated with decreased marital satisfaction. In contrast, high levels of positive affect are thought to buffer the effects of high levels of negative behavior (Johnson et al., 2005; Knobloch & Theiss, 2011). Thus, effective treatment warrants consideration of affect expression in clinical work.

In biofeedback treatment, individuals learn about their emotional state by attending to and managing physiological reactivity (Yucha & Montgomery, 2008). There have been attempts to measure such reactivity and its effects within the context of relational therapy (Gottman & Levenson, 2002). However, few formal studies have been carried out with interventions directly attending to modification of sympathetic nervous system arousal. In a study examining emotionally laden interactions between relationship partners, Perrone-McGovern and colleagues (2014) found that empathy toward partners involved increased physiological activity. Furthermore, differences in arousal were observed based on the individual's strategy of conflict resolution.

The forthcoming case will explore the use of self-compassion strategies within an MBB treatment protocol. It will discuss the relevance of considering cultural variables of military etiquette (cooperative effort and status) and affect expression in the treatment of veterans, with regard to interpreting progress and assisting with generalizability to improve functioning in the real world, such as in marital interactions.

Integrating Compassion with Mindfulness-Based Biofeedback

The beneficial healing properties of compassion have recently come to light in the west, but have been adopted within eastern medicine for centuries. Much of the initial curiosity in the treatment benefits of compassion came out of the work with mindfulness meditation programs. Compassion was found to further moderate symptoms related to stress reduction within mindfulness-based treatments (Kuyken et al., 2010; Shapiro & Carlson, 2009). Recent review of the literature summarizes extensive benefits of compassion for personal and interpersonal well-being (Neff & Seppala, in press). Clinical interventions incorporating compassion have been shown to produce significant reductions in pain and psychological distress compared to a control group receiving standard care (Carson et al., 2005). A review of recent studies supports the benefit of using compassion meditation in clinical populations showing reduction in negative mood states such as depression, anxiety, and stress in a variety of psychiatric and medical conditions (Hofmann, Grossman, & Hinton, 2011). Compassion skills also enhance immune functioning (Pace et al., 2009, 2010), and more recently have become the focus of research investigating their potential protective benefits following trauma (Kearney, McDermott, Malte, Martinez, & Simpson, 2013; Kearney et al., 2014). It is further suggested that compassion training can have a significant impact on a community level (Neff & Seppala, in press; Saunders, 2013), which may be especially applicable for the veteran population.

Traditionally, compassion practices engage systematic changes in attitude toward self and others through loving-kindness, understanding, and acceptance (Germer, 2009; Madden, 2010; Neff, 2003). This is in line with clinical goals of teaching self-regulation in which the skills are intended to generalize into the real world. Combining biofeedback with compassion practice, which entails a cognitive component, can maximize resources and access to treatment when formal psychotherapeutic intervention may not be as feasible. The following case will examine integration of essential skills of compassion and self-compassion within biofeedback treatment, including self-talk, visualization, and modeling (Klich, 2015) as they were taught to a veteran and his spouse.

Case: Veteran and his Spouse

The patient with a history of prior military experience was seen for psychological assessment of factors related to his pain and consideration of treatment with psychophysiological complementary medicine techniques. To assist him with

developing adaptive coping strategies in conjunction with improved ways of relating to his environment, a compassion-infused mindfulness-based biofeedback approach was utilized.

The following biofeedback instruments were used for training purposes: the Nexus 10 with respiration sensor, photoplethysmographic detection sensor, thermal sensor, skin conductance sensor, and Surface Electromyographic (sEMG) sensor. To simplify feedback for the patient and his wife, emWave® by HeartMath (HeartMath, Inc., Boulder Creek, CA) was used with the ear sensor as well as a portable stress thermometer for home use. Physiological coherence is derived from heart rate variability (HRV), which is the normal, naturally occurring variations or changes in the amount of time between heartbeats. Coherence is a measure of the pattern in the heart's rhythm and reflects an orderly and harmonious synchronization among various systems in the body, such as the heart, respiratory system, and blood pressure rhythms. Coherence is quantified as the amount of synchronization of heart rhythm and breathing that occurs around 0.1 Hz, which is in the low frequency band of HRV. In the emWave biofeedback instrument, high coherence is reflected by a green bar and will be referred to as percentage of time spent in this physiological state.

Self-Talk

The patient presented with significant self-criticism and judgment, which are often seen in therapy as clients work towards changing undesirable habits and traits. It is widely accepted that a person's manner of interacting with the world, including one's attitude toward oneself, will be reflected in that individual's physiology. This was observed during biofeedback treatment as the patient was confronted with "imperfections" and became irritated and forceful with himself. Consistent with his military training, achievement had been strongly tied into the notion of survival. He appeared to be in a perpetual problem-solving mode, which resulted in little time for celebrating or benefiting from what was going well. This manner of relating persisted in his life and interpersonal relationships, clearly defining his focus and perceptual bias. Compassion strategies were engaged in MBB treatment given the relevancy of their premise of acceptance of "humanness" and emphasizing the idea that there is a natural prevalence of and diversity in individual quirks and imperfections.

While he was confronted with challenges in self-regulation during biofeedback (BF) training, the client was exposed to flaws consistent with his humanness and this challenged him to work through judgment and adopt

acceptance. During respiration training, the client was prompted to silently repeat compassionate statements during exhalation. Initially, the patient was offered the following three statements: "May I feel safe. May I feel loved. May I live with ease." As he continued treatment the patient's invitation to himself evolved into "May I feel patience." Later, he directed statements to his wife and children and, eventually, expanded these statements to include all children and then all beings. At the outset of treatment, the client questioned the validity of these phrases. With prompting, he was able to suspend judgment in accordance with mindfulness techniques. Along with the benefit of the tangible results of biofeedback he was able to persevere. He began to see a clear value to the practice, which allowed him to improve his consistency of practice and therefore gain momentum in biofeedback skill training.

In line with the essential skills of compassionate self-acceptance, this client's treatment goal was to move from hyper-focus on somatic complaints to a successively more spacious view closer in line with the totality of himself and others in the world. Engaging the spouse in this process promoted nurturing as the spouse was able to share her perception of her husband as an easily frustrated but at the same time loving, caring individual who is highly driven to help others. Self-acceptance was further developed during a compassion-focused group as the client was exposed to additional viewpoints specific to the goal of allowing for imperfections. During one group activity, members were invited to contemplate how their expectations, beliefs, and judgments about a difficult situation may have led to an increase in their distress. They were prompted to consider whether the intensity of distress could have been reduced had they let go of some of their expectations. In this instance, the client learned that inflexible or rigid self-concepts made things more difficult and resulted in increased distress. During biofeedback, he was then able to observe the tangible benefit of letting go of expectations with a corresponding reduction in unpleasant sympathetic nervous system arousal.

Visualization

Visualizations conducive to increasing self-compassion as well as compassion toward others were incorporated in MBB. This was salient, as his schematic sense of self has been conditioned in the military to revolve around externally mediated factors. Likewise, his self-appraisal often followed a dichotomous thinking set such as "good-bad, right-wrong, correct-incorrect, helped-hurt." Through compassion-focused visualization techniques he

was gently coached to form an expansive view of the gray zone, in which much of human behavior lies.

Since this client held a strong faith practice, we began with soliciting an image of God, which he naturally trusted as potentially beneficial. Coupling a visualization that effortlessly arouses compassion and acceptance allows the individual to more readily imagine receiving loving-kindness and compassion. This primes the process of generating the ability to focus it on him or herself. As this client practiced visualizations, biofeedback was used as a barometer to gauge sympathetic nervous system arousal and provide tangible evidence of visualization assisting him in successful self-regulation.

The benefits of an individual's work in compassion can be extended toward assisting the person to be more balanced in relationships. He was coached to use visualization and loving-kindness statements to expand his compassion practice to others, beginning with his children, then his wife, and ultimately toward all other human beings. Compassion-based visualization strategies helped him to balance mindful awareness between himself and others. Within the relational component of treatment, the patient was encouraged to visualize the human aspects of his wife and extend loving-kindness toward her. For example, he was challenged to visualize her receiving news of his various health conditions and having to juggle supporting him while still taking care of their children. This paved the way for him to feel more empathetic toward her emotional and behavioral disposition. During loving-kindness practice he would silently repeat, "May my wife be happy. May she feel loved. May she live with ease."

Modeling Compassion

Veterans, whose military training has promoted excellence in problem solving, are often critical of themselves and others. For such patients it can be helpful to supplement direct teaching with modeling of compassionate thought and action. In one instance when I, the clinician, was 10 minutes late, the patient made note of the tardiness by looking at his watch referencing military time. This military-cultural norm about punctuality was important for the patient, and likely to be an issue that would occur during the course of civilian life. I took the opportunity to reveal my internal dialog to expose him to other possibilities for self-talk, stating: "While I was walking to get you, I used the time to take a few extended breaths so that I could let go of the stress of rushing. I reminded myself that I can only do the best I can at any moment and that people will likely understand." During training,

opportunities were seized to intentionally model self-compassion.

Interventions Considered Within Cultural Context

External Focus: Self-Sacrifice and Rank

Teaching respiration using biofeedback necessitated attention to the culture of achievement entrained in his military experience. Despite instruction and pacing at six breaths per minute, the patient reduced his respiration to 1.5 breaths per minute emphasizing that he took it seriously. We discussed the difference between breathing in the context of military operations, during which the lives of others may have depended on it and sustained respiration for health benefit. Mindfulness-based language was used to encourage openness to a new experience that would be necessary for training.

Further, I recommended compassionate self-talk to assist him to switch the emphasis from his efforts being for the good of all, to first being for his own good. He would repeat, "in order to take care of others, I must take care of myself." For this purpose, he adopted the metaphor "I have to put my oxygen mask on first." Consistent with the military culture of attending to rank, the patient was notably respectful to this clinician, often taking care to underscore that he intended to do what he was told and take it seriously. In response, care was taken to validate his knowledge, but at the same time loosen his attachment to mastery of breathing as part of his identity of success or pleasing others. To help him reduce self-judgment and increase intrinsic motivation, the patient was exposed to the compassion-based concept that the desire to do well is a normal human desire, and was refocused to the practice of self-compassion statements.

Affect

Consistent with his military cohorts, this patient's affect routinely appeared vigilant, flat, and incongruent with the topic. He had difficulty accurately assessing his own physiological state, often rating himself as not being able to achieve self-regulation properly despite the fact that he demonstrated an improvement in heart rate coherence. In fact, during one session he reported a subjective sense of beginning to feel revved up despite his progress since the start of his training. On baseline recording during this session he demonstrated high coherence (as measured by concentrating his heart rate variability around 0.1 Hz in the low frequency range) 45% of the time, and he progressed to

exhibiting high coherence nearly 80% of the time by the end of training without recognizing his progress.

This patient's acquisition of benefit from increased HRV can be understood in light of his tactical military training in that breathing intentionally is associated with having to do so during times of impending threat. So, as sympathetic nervous system (SNS) regulation improved, as noted through multiple measures, he misinterpreted his own physiological relaxation as a threat. Over the course of treatment, he showed improvements in his accuracy of self-assessing how well he performed with markers of reduced physiological arousal including GSR and vasodilation (measured via peripheral hand temperature). Not surprisingly, he also demonstrated improved self-awareness. Correspondingly, his affect and body language began to reveal greater variation and closer congruence with his self-assessment and the self-regulatory data.

Interventions in a Relational Context

Treatment expanded to include the patient's wife in BF to assist the couple to increase accuracy of their interpretation of, and control over, each individual's dysregulation in response to the partner. Initial conjoint biofeedback assessments revealed baseline HRV coherence scores of the patient as 100% high coherence while his wife was noted to be at 100% low coherence. With BF and loving-kindness practice, the wife was able to improve to 20% high coherence showing improved SNS regulation with a corresponding report of greater ease. The patient appeared to be able to regulate throughout variations in the level of emotionally laden material discussed, and correctly read his spouse with observations reflecting his vigilance and military experience. He stated that the spouse was not blinking, held a rigid posture, and had fidgeted with her hands. On the other hand, the spouse was unable to evaluate her own physical and emotional state beyond offering that she was not fully relaxed. This is notable as the same individual was able to accurately assess her husband's level of arousal through vigilant observation.

With coaching in diaphragmatic breathing and guided by visual feedback on her physiology, the spouse was able to improve her heart rate variability and her accuracy of self-assessment. She reported periodic thoughts, variations in her attention, and ability to focus throughout the session. This was reflected in her pattern of HRV, which changed throughout the session. At the same time, the patient spontaneously began to coach his wife on diaphragmatic breathing, muscle relaxation, and mindfulness-based prompts to bring the mind back to the present moment. He reported seeing his wife as human and reflecting on

them being in this together, suggesting a move from rank-driven perception toward an experience of equality and mutual effort. In the end, the couple left smiling and appearing more at ease, reflecting shifts in affect for both individuals.

Occasional moments of decompensation during the treatment sessions were used to assist the patient in working through challenges to apply self-compassion strategies. This occurred once when the patient presented with irritated mood and appeared revved up, citing traffic as the reason. We discussed coping with triggers and engaging tools for de-escalation and prevention of rapid escalation. We utilized thermal biofeedback and he was able to catch himself as he was vasoconstricting, reflecting his ability to regulate sympathetic nervous system arousal. He continued recording his peripheral temperature on a daily basis with a portable device and utilized relaxation strategies with the purpose of vasodilation during conversations with his wife. At the same time, he and his wife were coached in discrete communication techniques such as utilizing "I statements" and talking about their own feelings, versus evaluating or blaming the other, which facilitated the patient processing difficult material without further escalation. This was reflected in the patient's ability to limit vasoconstriction. For example, on one occasion his peripheral temperature was 85°F when initially hooked up, decreased to 81°F during marital interaction, increased above 85°F with coaching, and ended with a reading of 93°F. Simultaneously, his wife was able to raise her hand temperature from 88°F up to the 90s, ultimately keeping her hand temperature at 93°F, and then raising it up to 95°F when allowed to breathe without speaking.

Results/Outcome

Benefits reported by the patient and observed in clinical treatment included:

1. Greater comfort and less hyper-alertness in group settings attributed to self-regulation training.
2. Being able to create homeostasis in his body, which he describes as feeling balanced. Being able to notice when he begins to feel arousal, and then to address it.
3. A greater chance of an improved physical and emotional outcome both for himself and others.
4. Reduction in escalation of anger, fear, and overall intensity in emotional dysregulation and reduced self-deprecation.
5. Awareness that loving-kindness exercises were instrumental in teaching reduction in self-judgment as well as

judgment towards others, and overall increased tolerance to differences in opinions.

6. Reduction in pain and increased tolerance for emotional and physical discomfort.
7. Planning for and setting boundaries between the patient and his spouse for self-care, which resulted in reduced reactivity towards each other's mood fluctuations.

Discussion

There is growing evidence that cultivating compassion can have physical and psychological benefits. Compassion and mindfulness-based strategies can be a powerful adjunct to biofeedback treatment with veterans. They can be readily incorporated into biofeedback treatment, without necessitating complex long-term psychotherapy.

It is notable that there were times during which this patient reported a subjective sense of beginning to feel revved up despite improvement in his HRV coherence. While this is understandable given his overall dysregulation, the phenomenon was observed even when the patient exhibited other signs of sympathetic nervous system regulation such as warm peripheral hand temperature, low electrodermal activity; yet, at the same time, he exhibited varying levels of muscle tension and self-report. The response appears consistent with the phenomenon that occasionally individuals may exhibit the paradoxical effect of decreasing some aspects of sympathetic nervous system arousal during stress while triggering others. Such response fractionation can be related to learned helplessness (Gatchel, 1976, Gatchel & Proctor, 1976). The response can also be explained by the orienting reflex and adaptation to new experience. This patient's experience of unease may stem from an internal alert, which signals a detection of mismatch between his previous normal arousal state and more novel state of relaxation. This is similar to acclimating to loud city sirens and then being unable to sleep when in the quiet countryside. Despite improved nervous system regulation, the shift from what is familiar may bring about heightened awareness of a discrepancy from that which is familiar, which, in turn, can be emotionally experienced as discomfort (McCraty & Zayas, 2014; Miller, Galanter, & Pribram, 1960). Research continues to delve deeper into the nuances of physiological reactivity with the aim of increasing current understanding of autonomic dysregulation as well as adaptive responses to disorders such as PTSD (Ginsberg, 2016).

As much as this patient wished to relax, it also made him uneasy and afraid that he may miss something of importance. This finding speaks to the benefits of using

compassionate self-talk such as "May I live with ease" and "May I allow myself to rest." Furthermore, though this patient's wife was highly supportive and appeared very motivated, she did not practice the exercises on her own until she was able to learn about her own body through personal experience with biofeedback. This suggests that vicarious exposure through education and training of the partner may not be sufficient. It is recommended that future research explore the benefit of incorporating a component of biofeedback assessment and training with the relationship partner so as to further examine the potential increased effect on the client's entire system and to provide further direction for clinical treatment.

References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.
- Bradley, C. (2007). Veteran status and marital aggression: Does military service make a difference? *Journal of Family Violence*, 22, 197–209.
- Cacioppo, J. T., Reis, H. T., & Zautra, A. J. (2011). Social resilience: The value of social fitness with an application to the military. *American Psychologist*, 66(1), 43–51.
- Carson, J. W., Keefe, F. J., Lynch, T. R., Carson, K. M., Goli, V., Fras, A. M., & Thorp, S. R. (2005). Loving-kindness meditation for chronic low back pain: Results from a pilot trial. *Journal of Holistic Nursing*, 23, 287–304.
- Gatchel, R. J. (1976). The effect of voluntary control of heart rate deceleration on skin conductance level: An example of response fractionation. *Biological Psychology*, 4(4), 241–248.
- Gatchel, R. J., & Proctor, J. D. (1976). Physiological correlates of learned helplessness in man. *Journal of Abnormal Psychology*, 85(1), 27–34.
- Germer, C. K. (2009). *The mindful path to self-compassion: Freeing yourself from destructive thoughts and emotions*. New York: Guilford.
- Ginsberg, J. P. (2016). Editorial: Dysregulation of autonomic cardiac control by traumatic stress and anxiety. *Frontiers in Psychology*, 7, 945. Online <http://journal.frontiersin.org/article/10.3389/fpsyg.2016.00945/full>
- Gottman, J. M., & Levenson, R. W. (2002). A Two-Factor model for predicting when a couple will divorce: Exploratory analyses using 14-Year longitudinal data. *Family process*, 41(1), 83–96.
- Hassija, C. M., Luterek, J. A., Moore, S. A., Naragon-Gaines, K., & Simpson, T. (2012). Impact of emotional approached coping and hope on PTSD and depression symptoms in trauma-exposed sample of veterans receiving outpatient VA mental health services. *Anxiety, Stress & Coping*, 25(5), 559–573.
- Hoffmann, S. G., Grossman, P., & Hinton, D. E. (2011). Loving-kindness and compassion meditation: Potential for psychological intervention. *Clinical Psychology Review*, 13, 1126–1132.
- Johnson, M. D., Cohan, C. L., Davila, J., Lawrence, E., Rogge, R. D., Karney, B. R., . . . Bradbury, T. N. (2005). Problem-solving

- skills and affective expressions as predictors of change in marital satisfaction. *Journal of Consulting and Clinical Psychology*, 73, 15–17.
- Kearney, D. J., McDermott, K., Malte, C., Martinez, M., & Simpson, T. L. (2013). Effects of participation in a mindfulness program for veterans with posttraumatic stress disorder: A randomized controlled pilot study. *Journal of Clinical Psychology*, 69(1), 14–27.
- Kearney, D. J., McManus, C., Malte, C. A., Martinez, M. E., Felleman, B., & Simpson, T. L. (2014). Loving-kindness meditation and the broaden-and-build theory of positive emotions among veterans with posttraumatic stress disorder. *Medical Care*, 52, S32–S38.
- Klich, U. I. (2015). The integration of mindfulness-based biofeedback and compassion in the healthcare setting. *Biofeedback*, 43(3), 111–116.
- Knobloch, L. K., & Theiss, J. A. (2011). Depressive symptoms and mechanisms of relational turbulence as predictors of relationship satisfaction among returning service members. *Journal of Family Psychology*, 25(4), 470–478.
- Kuyken, W., Watkins, E., Holden, E., White, K., Taylor, R. S., Byford, S., & Dalgleish, T. (2010). How does mindfulness-based cognitive therapy work? *Behaviour Research and Therapy*, 48(11), 1105–1112.
- McCraty, R., & Zayas, M. A. (2014). Cardiac coherence, self-regulation, autonomic stability, and psychosocial well-being. *Frontiers in Psychology*, 5, 1090. Retrieved from <http://journal.frontiersin.org/article/10.3389/fpsyg.2014.01090/full>
- Madden, R. M. (2010). *The three poisons: A Buddhist guide to resolving conflict*. Bloomington, IN: AuthorHouse.
- Miller, G. A., Galanter, E., & Pribram, K. H. (1960). *Plans and the structure of behavior*. New York: Holt, Rinehart and Winston.
- Mueller, U., & Mazub, A. (1996). Facial dominance of West Point cadets as a prediction of later military rank, *Social Forces*, 74(3), 823–850.
- Neff, K. (2003). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity*, 2(2), 85–102.
- Neff, K., & Seppala, E. M. (in press). Compassion, well-being, and the hypoegoic self. In K. W. Brown & M. Leary (Eds.), *Handbook of hypo-egoic phenomena*. Retrieved from <http://ccare.stanford.edu/research/peer-reviewed-ccare-articles/#sthash.YORWC3wo.dpuf>
- Pace, T. W. W., Negi, L. T., Adame, D. D., Cole, S. P., Sivilli, T. I., Brown, T. D., . . . Raison, C. L. (2009). Effect of compassion meditation on neuroendocrine, innate immune and behavioral responses to psychosocial stress. *Psychoneuroendocrinology*, 34, 87–98.
- Pace, T. W. W., Negi, L. T., Sivilli, T. I., Issa, M. J., Cole, S. P., Adame, D. D., Raison, C. L. (2010). Innate immune, neuroendocrine and behavioral responses to psychosocial stress do not predict subsequent compassion meditation practice time. *Psychoneuroendocrinology*, 35, 310–315.
- Perrone-McGovern, K. M., Oliveira-Silva, P., Simon-Dack, S., Lefdahl-Davis, E., Adams, D., McConnell, J., . . . Gonçalves, Ó. F. (2014). Effects of empathy and conflict resolution strategies on psychophysiological arousal and satisfaction in romantic relationships. *Applied Psychophysiology and Biofeedback*, 39(1), 19–25.
- Saunders, N. (2013). *Beyond civility: Growing compassionate love in communities*. Los Angeles: YMCA of the USA.
- Shapiro, S. L., & Carlson, L. E. (2009). Mindfulness-based interventions for physical health. In S. L. Shapiro & L. E. Carlson (Eds.), *The art and science of mindfulness: Integrating mindfulness into psychology and the helping professions* (pp. 75–91). Washington, DC: American Psychological Association.
- Yucha, C., & Montgomery, D. (2008). *Evidence-based practice in biofeedback and neurofeedback*. Wheat Ridge, CO: AAPB.



Urszula Klich

Correspondence: Urszula Klich, PhD, MyMindfulWayofLife.com, 67 Peachtree Park, Suite 103, Atlanta, GA 30309, email: DrKlich@MyMindfulWayofLife.com.