
Beyond Borderline Personality Disorder: The Mindful Brain

Vanessa H. Chafos and Peter Economou

Numerous studies have showed an improvement in symptoms characteristic of borderline personality disorder (BPD) when mindfulness-based interventions were integrated into the daily lives of individuals with BPD. Although these studies have examined the etiology and diagnostic prognosis of BPD, and have discussed the use of mindfulness-based treatments, few researchers have attempted to interpret the neuroscientific findings, which have showed an increase in gray matter in key areas of the brain in clients with BPD who engaged in mindfulness practice. Some clients who had originally met a minimum of five of the DSM-IV-TR diagnostic criteria for BPD no longer did so upon engaging in mindfulness-based treatment. This article highlights the efficacy of mindfulness-based interventions with an emphasis on meditation, which leads to overall better psychological functioning in clients with BPD in three key areas: impulsivity, emotional irregularity, and relationship instability.

KEY WORDS: *borderline personality disorder; emotion regulation; meditation; mindfulness*

Borderline personality disorder (BPD) was first recognized in the DSM-III (American Psychiatric Association, 1980). BPD is a mental health condition characterized by four distinct features: emotion dysregulation, impulsivity, relationship instability, and distorted self-image. It is suspected that childhood trauma may lead to mood irregularity and interpersonal instability (Eckrich, 1985; van Dijke, Ford, van Son, Frank, & van der Hart, 2013). Environmental factors yielding the diagnosis of BPD contribute to neuroanatomical changes and include experiences of trauma such as parental loss, neglect, abuse, or rejection (Johnson, 1991; Lis, Greenfield, Henry, Guilé, & Dougherty, 2007). For example, sexual and physical abuse during childhood correlates highly with a BPD diagnosis (Hong, Iardi, & Lishner, 2011).

Personality disorders such as BPD are often seen as the most challenging to treat; therefore, many clinicians avoid such clients. This article discusses neuroimaging findings with regard to BPD and its symptoms, focusing primarily on meditation as a mindfulness-based intervention that is a significant adjunctive therapy to psychotherapy. Mindfulness is a state of being in the present moment, with purpose, and without judgment (Kabat-Zinn, 1993).

BPD PREVALENCE

BPD has consistently been found to be the most common of all personality disorders, with estimates

ranging from 1 percent to 2 percent of the general population, and some researchers have suggested that BPD rate can be as high as 6 percent (Rizvi, Steffel, & Carson-Wong, 2013; Zanarini, 2012). Approximately 10 percent of the population is diagnosed with at least one personality disorder (Zanarini, 2012). Many people with a personality disorder (an Axis II diagnosis) also suffer from a clinical syndrome (Axis I diagnosis), which is harder to treat because of social dysfunction and associated risks of personality disorders (J. E. Grant, Flynn, Odlaug, & Schreiber, 2011). Although the personality disorder may be the cause of the Axis I diagnosis (more studies are needed to support this; see J. E. Grant et al., 2011; Zimmerman & Mattia, 1999).

As a client with BPD approaches later adulthood, the symptoms of BPD decrease (Kreisman & Straus, 2010). Kreisman and Straus (2010) attributed this decrease in symptoms to the client with BPD maturing or learning how to better cope with the symptoms. Another study found that approximately 86 percent of clients with BPD achieved sustained relief from their symptoms more than 10 years after treatment, and half of those achieved sustained relief within the first two years (Kreisman & Straus, 2010).

Katsakou et al. (2012) found evidence that confirmed just under 50 percent of patients who originally met diagnostic criteria of BPD no longer met these criteria six years later, and after 10 years

only 26 percent of patients met these criteria. Paris (2009) found that by the age of 50, 90 percent of clients with BPD improve or recover, and no longer meet diagnostic criteria for BPD. According to Mason and Kreger (2010), longitudinal studies have showed a promising prognosis for those with BPD. Overall, these studies have suggested that some clients who had originally met a minimum of five of the DSM-IV-TR (American Psychiatric Association, 2000) diagnostic criteria no longer met the diagnosis upon engaging in mindfulness and evidence-based treatments. Clients with BPD appeared more capable of engaging in healthy relationships, were less impulsive, and had a more stable mood (Baerentsen, Hartvig, Stodkilde-Jorgensen, & Mammen, 2001; Bedics, Atkins, Comtois, & Linehan, 2012; Brambilla et al., 2004; Katsakou et al., 2012).

MEDITATION AND EMOTIONAL IRREGULARITY

Meditation promotes a state of psychological well-being (Hill & Updegraff, 2012). Hill and Updegraff (2012) found that meditation influences awareness of one's emotional experience, in turn improving emotional regulation, which then decreases severity of BPD symptoms (Hill & Updegraff, 2012). Studies using these treatments suggested that those who practice meditation are more open to experience, have a better internal state of awareness, and are able to regulate their emotions more effectively (Barnes, Brown, Krusemark, Campbell, & Rogge, 2007). Bedics et al. (2012) found that study participants with BPD who practiced meditation had a more positive intrapsychic change and felt a greater self-affirmation, self-love, and self-protection and less self-scrutiny during treatment and at the follow-up one year later (Bedics et al., 2012). Sachse, Keville, and Feigenbaum (2011) assessed 22 participants in an eight-week adapted Mindfulness-Based Cognitive Therapy (MBCT) intervention and found that MBCT is effective in attentional control. Williams, Duggan, Crane, and Fennell (2006) have also found MBCT to be effective in decreasing suicidality by teaching clients how to cope better in times of crisis.

BIOLOGICAL MEASURES OF BPD

Studies examining the biological contexts suggested that meditation activates both hemispheres of the brain, increasing functioning of regions that deal with emotion regulation (Shao & Skarlicki 2009). New, Perez-Rodriguez, and Ripoll (2012) found

consistent disparities between the individuals with and without BPD in studies using structural brain imaging. Specifically, they found a loss of gray matter in the anterior cingulate gyrus, hippocampus, orbital frontal cortex, and amygdala (Hazlett et al., 2005; Minzenberg, Fan, New, Tang, & Siever, 2008; New et al., 2012; Tebartz van Elst et al., 2003). Lis et al. (2007) found that the hippocampus and amygdala were as much as 16 percent smaller in clients with BPD when compared with those of individuals without BPD. Findings from this study suggested that clients with BPD suffered a hippocampus reduction of between 13 percent and 20 percent (Lis et al., 2007); other research has also found reductions in the size of the amygdala of between 8 percent and 24 percent among clients with BPD (Brambilla et al., 2004; Schmahl & Bremner, 2006).

Emotion Regulation

Minzenberg et al. (2008) used functional magnetic resonance imaging (fMRI) to observe alterations in the amygdala and anterior cingulate cortex when clients with BPD are exposed to pictures of emotional stimuli. Twelve unmedicated participants with BPD and 12 healthy controls were used. The findings concluded that there was an increased response in the amygdala when shown fearful faces. The anterior cingulate cortex was underactive in the clients with BPD, which suggested there was an abnormal amount of neurons in the circuit regulating emotions. This study was repeated using anatomical MRI on the same participants; findings were consistent. That is, gray matter density was increased in parts of the amygdala and decreased in the anterior cingulate cortex (Minzenberg et al., 2008).

Self-injury

A study conducted by Niedtfeld et al. (2012) investigated the biological responses subsequent to self-injurious behaviors that produce a soothing effect. It was hypothesized that affective instability was due to hyperreactivity of the limbic system and a dysfunction in the prefrontal regions. The study examined BPD-affected participants' pain processing and its connection to functional brain structures using fMRI. In addition, the researchers induced negative affect by the presentation of negative visual stimuli and pain with the application of thermal stimuli. The outcome demonstrated differences in the

amygdala, insula, and anterior cingulate cortex compared with non-BPD participants. There was an increased negative correlation between limbic, paralimbic, and prefrontal regions. The study provided further evidence on how pain lessens limbic activity in the prefrontal areas and may act as an attentional distractor. This study suggested that individuals with BPD benefit from healthier coping skills, such as the use of meditation, to lessen limbic activity to induce better emotional regulation (Niedtfield et al., 2012).

Brain Plasticity and the Use of Meditation

Several studies have suggested that the use of meditation without relying on medication has a significant effect, at the biological level, thanks to the brain's plasticity. Luders, Toga, Lepore, and Gaser (2009) used high-resolution voxel-based morphometry on 22 participants with BPD and 22 control participants and detected that the right orbito-frontal cortex had a significant increase of gray matter among participants with BPD. They also found larger volumes of gray matter in the right thalamus, the left inferior temporal gyrus, and the right hippocampus, whereby indicating that these key regions of the brain correlate with emotional regulation and response control (Luders et al., 2009).

Hölzel et al. (2011) found increases of gray matter in the left hippocampus, posterior cingulate cortex, temporo-parietal junction, and cerebellum in participants with BPD as compared with the control group. These are regions of the brain associated with emotion regulation and impulsivity (which are affected by BPD), as well as learning and memory (Hölzel et al., 2011).

Long-Term Meditation: Neuroimaging Findings

Vestergaard-Poulsen et al. (2009) used voxel-based morphometry of whole brain MRI to examine 10 healthy participants who engaged in long-term meditation practice versus 10 controls with no meditation experience. Findings showed that sustained attention in long-term meditators resulted in higher amounts of gray matter in the lower brain stem. The medulla oblongata had the greatest increase in gray matter among those who meditated. There was also an increase in gray matter in the anterior cerebellum, left superior gyrus, inferior frontal gyrus, and left fusiform gyrus, suggesting

that the structural changes had an impact on autonomous control (Vestergaard-Poulsen et al., 2009).

Halsband, Mueller, Hinterberger, and Strickner (2009) also suggested differences in gray matter in brains of long-term meditators (those who had practiced meditation for six months or longer), finding an increase of gray matter in the left superior and inferior frontal gyri, the left fusiform gyrus, the lower brain stem, and the bilateral anterior lobes of the cerebellum (Halsband et al., 2009).

Long-Term Meditation and Lower Pain Sensitivity

J. A. Grant, Courtemanche, Duerden, Duncan, and Rainville (2010) found a positive correlation between pain sensitivity, cortical thickness, and meditation practice by studying the difference between Zen practitioners (17 people) and nonmeditators (18 people). Participants were assessed by applying moderate heat pain and then taking fMRI readings. The study concluded that those who meditate were able to withstand pain longer than control participants and had a lower baseline to heat-pain sensitivity (J. A. Grant et al., 2010). Longer-term meditation practice (eight weeks or longer) was associated with more gray matter in the anterior cingulate gyrus, the lower area of the somatosensory cortex, and the right hemisphere (J. A. Grant et al., 2010).

MEDITATION EFFECTIVENESS IN TREATING BPD

Ivanovski and Malhi (2007) suggested that meditation is effective in the treatment of BPD and reduces suicidal and self-injurious behaviors. In addition, meditation was found to be effective in treating anxiety disorders and depression and reducing substance abuse (though the studies on substance abuse were limited to incarcerated populations). Ivanovski and Malhi (2007) indicated that neuroimaging studies show volumetric and functional changes in key areas of the brain following meditation. There seems to be increased activation in the prefrontal cortex; basal ganglia; hippocampus; left frontal, paracentral, and inferior parietal lobes; right temporal lobe; superior right gyrus paracentralis; prefrontal cortex; and anterior cingulate cortex (Baerentsen et al., 2001; Ivanovski & Malhi, 2007; Lazar et al., 2003; Lazar et al., 2005; Ritskes, Ritskes-Hoitinga, Stodkilde-Jorgensen, Baerentsen, & Hartman, 2003). Decreased activity was found in the occipital superior gyrus, right occipital cortex, left prefrontal

lobe, posterior cingulate cortex, and right central cortex (Baerentsen et al., 2001; Ivanovski & Malhi, 2007; Lazar et al., 2003; Ritskes et al., 2003).

MEDITATION AND PSYCHOTHERAPY

Traditional treatment modalities have been limited in effectiveness with BPD, including psychotherapy (Ben-Porath, Peterson, & Smee, 2004). Mindfulness meditation is one of the core components of dialectical behavioral therapy (DBT), and several randomized controlled trials (RCTs) have found that DBT is an effective treatment in decreasing BPD symptoms (Ben-Porath et al., 2004). The integration of meditation into psychotherapy has also increased over recent years (for example, mindfulness-based stress reduction, mindfulness-based cognitive therapy, and acceptance commitment therapy), and studies have showed benefits to individuals' mental health and well-being (Hawley et al., 2014; Hayes-Skelton, Roemer, & Orsillo, 2013; Kabat-Zinn, 1993). Treatment protocols are augmented by meditation as it could be used universally, therefore making it a viable option in integrating with traditional treatment to help decrease BPD symptoms; or for any client presenting with difficulties in emotion dysregulation, impulsivity, and relationship instability. There are various forms of meditation a practitioner can implement, either as homework or within a session. Forms of meditation can be found in practices of mindfulness, vipassana, transcendental meditation, Zen, and Taiost meditation (Baerentsen et al., 2001; J. A. Grant et al., 2010).

Meditation influences awareness of one's emotional experience, in turn improving emotional regulation, which decreases severity of BPD (Hill & Updegraff, 2012). Using meditation with or without psychotherapy, clinicians may help clients decrease unhealthy and maladaptive behaviors and live more fulfilling, stable, and autonomous lives. As clients continue to practice meditation, their neural networks will continue to change for the better and maladaptive behaviors will continue to decrease. Longitudinal studies have found a positive correlation between those diagnosed with BPD and the improvement of symptoms when meditation was integrated into a client's daily life (Katsakou et al., 2012; Kreisman & Straus, 2010).

Furthermore, some findings (Hazlett et al., 2005; Katsakou et al., 2012; Lis et al., 2007) suggested that those who originally met criteria for the BPD diagnosis no longer met the DSM-IV-TR criteria

following the incorporation of meditation into one's daily life (American Psychiatric Association, 2000; Halsband et al., 2009; Kreisman & Straus, 2010; Paris, 2009). Other studies have showed that clients may no longer fit the criteria simply due to their symptoms decreasing or maturing due to older age (Zanarini, 2012). Of significant highlight in this article, neuroimaging studies have found significant relationships between clients with BPD who practiced meditation and those who have not practiced meditation, yielding a good prognosis of BPD whereby many of the symptoms abate (Murakami et al., 2012; Sachse et al., 2011; Vestergaard-Poulsen et al., 2009).

LIMITATIONS

Shortcomings noted in studies discussed in this literature review included small sample sizes and a change in research design during the course of the study or during follow-ups. Furthermore, participants were not eliminated from the study if they had an Axis I diagnosis comorbid with BPD. There was less of a focal point on the five facets of mindfulness independently (that is, observing, describing, acting with awareness, nonjudging of inner experience, and nonreactivity to inner experience) and more of an emphasis of meditation in its entirety and its relationship to brain structures in BPD-affected participants. We highlight the focus on meditation in this article, but there are hundreds of other methods to foster mindful living (that is, mindfulness-based interventions).

CONCLUSION

There is extensive research that has examined somewhat controversial issues, such as the etiology of BPD, diagnostic prognosis, and the use of mindfulness-based interventions as a treatment option (Samuel et al., 2012; Zanarini, 2012). Studying these aspects of the disorder has yielded insight into BPD pathology, treatment and interventions, and possibly prevention of BPD. We postulate that clinicians can incorporate aspects of meditation with their clients, especially those who present with cluster B personality traits. The writing is on the wall; the research indicates that meditation practices significantly affect individuals on biological and psychological levels. Meditation as an adjunctive therapy to psychotherapy can reduce BPD symptoms (emotion dysregulation, impulsivity, and relationship instability) to help clients lead a life worth

living. As a bonus, it is a cost-effective and handy tool to add to any clinician's toolbox. **SW**

REFERENCES

- American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3rd ed.). Washington, DC: Author.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.
- Baerentsen, K. B., Hartvig, N. V., Stodkilde-Jorgensen, H., & Mammen, J. (2001). Onset of meditation explored with fMRI. *Neuroimage*, *13*, S297.
- Barnes, S., Brown, K., Krusemark, E., Campbell, W., & Rogge, R. D. (2007). The role of mindfulness in romantic relationship satisfaction and responses to relationship stress. *Journal of Marital and Family Therapy*, *33*, 482–500.
- Bedics, J. D., Atkins, D. C., Comtois, K. A., & Linehan, M. M. (2012). Treatment differences in the therapeutic relationship and introject during a 2-year randomized controlled trial of dialectical behavior therapy versus nonbehavioral psychotherapy experts for borderline personality disorder. *Journal of Consulting and Clinical Psychology*, *80*, 66–77.
- Ben-Porath, D. D., Peterson, G. A., & Smee, J. (2004). Treatment of individuals with borderline personality disorder using dialectical behavior therapy in a community mental health setting: Clinical application and a preliminary investigation. *Cognitive and Behavioral Practice*, *11*, 424–434.
- Brambilla, P., Soloff, P. H., Sala, M., Nicoletti, M. A., Keshavan, M. S., & Soares, J. C. (2004). Anatomical MRI study of borderline personality disorder patients. *Psychiatry Research: Neuroimaging*, *131*(2), 125–133.
- Eckrich, S. (1985). Identification and treatment of borderline personality disorder. *Social Work*, *30*, 166–171.
- Grant, J. A., Courtemanche, J., Duerden, E. G., Duncan, G. H., & Rainville, P. (2010). Cortical thickness and pain sensitivity in Zen meditators. *Emotion*, *10*(1), 43–53.
- Grant, J. E., Flynn, M., Odlaug, B. L., & Schreiber, L. (2011). Personality disorders in gay, lesbian, bisexual, and transgender chemically dependent patients. *American Journal on Addictions*, *20*, 405–411.
- Halsband, U., Mueller, S., Hinterberger, T., & Strickner, S. (2009). Plasticity changes in the brain in hypnosis and meditation. *Contemporary Hypnosis*, *26*(4), 194–215.
- Hawley, L. L., Schwartz, D., Bieling, P. J., Irving, J., Corcoran, K., Farb, N. A., et al. (2014). Mindfulness practice, rumination and clinical outcome in mindfulness-based treatment. *Cognitive Therapy and Research*, *38*(1), 1–9.
- Hayes-Skelton, S. A., Roemer, L., & Orsillo, S. M. (2013). A randomized clinical trial comparing an acceptance-based behavior therapy to applied relaxation for generalized anxiety disorder. *Journal of Consulting and Clinical Psychology*, *81*, 761–773.
- Hazlett, E. A., New, A. S., Newmark, R., Haznedar, M. M., Lo, J. N., Speiser, L. J., et al. (2005). Reduced anterior and posterior cingulate gray matter in borderline personality disorder. *Biological Psychiatry*, *58*, 614–623.
- Hill, C. L., & Updegraff, J. A. (2012). Mindfulness and its relationship to emotional regulation. *Emotion*, *12*(1), 81–90.
- Hölzel, B. K., Carmody, J., Vangel, M., Congleton, C., Yerramsetti, S. M., Gard, T., & Lazar, S. W. (2011). Mindfulness practice leads to increases in regional brain gray matter density. *Psychiatry Research: Neuroimaging*, *191*(1), 36–43.
- Hong, P. Y., Ildardi, S. S., & Lishner, D. A. (2011). The aftermath of trauma: The impact of perceived and anticipated invalidation of childhood sexual abuse on borderline symptomatology. *Psychological Trauma: Theory, Research, Practice, and Policy*, *3*(4), 360–368.
- Ivanovski, B., & Malhi, G. S. (2007). The psychological and neurophysiological concomitants of mindfulness forms of meditation. *Acta Neuropsychiatrica*, *19*(2), 76–91.
- Johnson, H. (1991). Borderline clients: Practice implications of recent research. *Social Work*, *36*, 166–173.
- Kabat-Zinn, J. (1993). Mindfulness meditation: Health benefits of an ancient Buddhist practice. In D. Goleman, & J. Garin (Eds.), *Mind/body medicine* (pp. 259–276). Yonkers, NY: Consumer Reports.
- Katsakou, C., Marougka, S., Barnicot, K., Savill, M., White, H., Lockwood, K., & Priebe, S. (2012). Recovery in borderline personality disorder (BPD): A qualitative study of service users' perspectives. *PLOS One*, *7*(5).
- Kreisman, J. J., & Straus, H. (2010). *I hate you—Don't leave me: Understanding the borderline personality* (rev. and updated). New York: Perigee/Penguin Group.
- Lazar, S. W., Kerr, C. E., Wasserman, R. H., Gray, J. R., Greve, D. N., Treadway, M. T., et al. (2005). Meditation experience is associated with increased cortical thickness. *Neuroreport*, *16*, 1893.
- Lazar, S. W., Rosman, I. S., Vangel, M., Rao, V., Dusek, H., Benson, H., et al. (2003). *Functional brain imaging of mindfulness and mantra-based meditation*. Paper presented at the Society for Neuroscience, New Orleans.
- Lis, E., Greenfield, B., Henry, M., Guilé, J., & Dougherty, G. (2007). Neuroimaging and genetics of borderline personality disorder: A review. *Journal of Psychiatry & Neuroscience*, *32*(3), 162–173.
- Luders, E., Toga, A. W., Lepore, N., & Gaser, C. (2009). The underlying anatomical correlates of long-term meditation: Larger hippocampal and frontal volumes of gray matter. *Neuroimage*, *45*, 672–678.
- Mason, P., & Kreger, N. (2010). *Stop walking on eggshells: Taking your life back when someone you care about has borderline personality disorder*. Oakland, CA: New Harbinger Publication.
- Minzenberg, M. J., Fan, J., New, A. S., Tang, C. Y., & Siever, L. J. (2008). Frontolimbic structural changes in borderline personality disorder. *Journal of Psychiatric Research*, *42*, 727–733.
- Murakami, H., Nakao, T., Matsunaga, M., Kasuya, Y., Shinoda, J., Yamada, J., & Ohira, H. (2012). The structure of mindful brain. *PLOS One*, *7*(9).
- New, A. S., Perez-Rodriguez, M., & Ripoll, L. H. (2012). Neuroimaging and borderline personality disorder. *Psychiatric Annals*, *42*(2), 65–71.
- Niedtfeld, I., Kirsch, P., Schulze, L., Herpertz, S. C., Bohus, M., & Schmahl, C. (2012). Functional connectivity of pain-mediated affect regulation in borderline personality disorder. *PLOS One*, *7*(3).
- Paris, J. (2009). The treatment of borderline personality disorder: Implications of research on diagnosis, etiology, and outcome. *Annual Review of Clinical Psychology*, *5*, 277–290.
- Ritskes, R., Ritskes-Hoitinga, M., Stodkilde-Jorgensen, H., Baerentsen, K. B., & Hartman, T. (2003). MRI scanning during Zen meditation: The picture of enlightenment? *Constructivism in the Human Sciences*, *8*(1), 85–90.
- Rizvi, S. L., Steffel, L. M., & Carson-Wong, A. (2013). An overview of dialectical behavior therapy for professional psychologists. *Professional Psychology: Research and Practice*, *44*(2), 73–80.
- Sachse, S., Keville, S., & Feigenbaum, J. (2011). A feasibility study of mindfulness-based cognitive therapy for individuals with borderline personality disorder. *Psychology*

and *Psychotherapy: Theory, Research and Practice*, 84(2), 184–200.

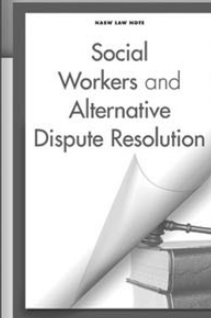
- Samuel, D. B., Miller, J. D., Widiger, T. A., Lynam, D. R., Pilkonis, P. A., & Ball, S. A. (2012). Conceptual changes to the definition of borderline personality disorder proposed for DSM-5. *Journal of Abnormal Psychology*, 121, 467–476.
- Schmahl, C., & Bremner, J. D. (2006). Neuroimaging in borderline personality disorder. *Journal of Psychiatric Research*, 40, 419–427.
- Shao, R., & Skarlicki, D. P. (2009). The role of mindfulness in predicting individual performance. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, 41(4), 195–201.
- Tebartz van Elst, L., Hesslinger, B., Thiel, T., Geiger, E., Haegele, K., Lemieux, L., et al. (2003). Frontolimbic brain abnormalities in patients with borderline personality disorder: A volumetric magnetic resonance imaging study. *Biological Psychiatry*, 54(2), 163–171.
- Van Dijke, A., Ford, J. D., van Son, M., Frank, L., & van der Hart, O. (2013). Association of childhood-trauma-by-primary caregiver and affect dysregulation with borderline personality disorder symptoms in adulthood. *Psychological Trauma: Theory, Research, Practice, and Policy*, 5(3), 217–224.
- Vestergaard-Poulsen, P., van Beek, M., Skewes, J., Bjarkam, C. R., Stubberup, M., Bertelsen, J., & Roepstorff, A. (2009). Long-term meditation is associated with increased gray matter density in the brain stem. *Neuroreport: For Rapid Communication of Neuroscience Research*, 20(2), 170–174.
- Williams, J. G., Duggan, D. S., Crane, C., & Fennell, M. V. (2006). Mindfulness-based cognitive therapy for prevention of recurrence of suicidal behavior. *Journal of Clinical Psychology*, 62(2), 201–210.
- Zanarini, M. C. (2012). Diagnostic specificity and long-term prospective course of borderline personality disorder. *Psychiatric Annals*, 42(2), 53–58.
- Zimmerman, M., & Mattia, J. I. (1999). Axis I diagnostic comorbidity and borderline personality disorder. *Comprehensive Psychiatry*, 40(4), 245–252.

Vanessa H. Chafos, MA, is a doctoral student in counseling psychology, Seton Hall University, South Orange, NJ, and research assistant, Felician College, and **Peter Economou, PhD**, is assistant professor, Felician College, Lodi, NJ. Address correspondence to Vanessa H. Chafos, Felician College, 262 South Main Street, Lodi, NJ 07644; e-mail: vchafos@hotmail.com.

Original manuscript received September 18, 2013
Final revision received March 20, 2014
Accepted April 28, 2014
Advance Access Publication July 28, 2014

Social Workers and Alternative Dispute Resolution

Part of a series of Law Notes published by NASW Press.



Social workers have a responsibility to manage conflict in a productive manner. Daily, social workers are involved with conflict resolution, whether advocating for clients, delivering services to clients, resolving conflicts in employment settings, or dealing with conflict within organizations.

In courts, social workers serve as fact witnesses, expert witnesses, or parties to lawsuits. Litigation can be costly and time consuming, and the strained relations associated with litigation leave social workers and others seeking other ways to resolve disputes.

Alternative dispute resolution (ADR) is a method of resolving disputes without litigation. The purpose of ADR is to allow parties to a dispute to settle their differences by discussion and agreement, permitting them to actively participate in and have control over the process and the solution.

This law note describes three methods of voluntary ADR—negotiation, arbitration, and mediation—and discusses the uses for these methods in the social work profession. It also provides answers to the following questions: In what areas do social workers practice as mediators? What are the ethical issues for social workers as mediators? How are ADR agreements enforced?

ORDER YOUR COPY TODAY!

ISBN: 978-0-87101-452-8. 2014.
Item #4528. 50 pages. \$22.99

1-800-227-3590 • www.naswpress.org

NASW PRESS

NASW
National Association of Social Workers

ADR14