

## CASE REPORT

# An Institutional Case Study: Emotion Regulation With HeartMath at Santa Cruz County Children's Mental Health

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Emotion regulation, HeartMath, mental health, children

## Disclosure

The author completed the ICMJE Form for Disclosure of Potential Conflicts of Interest and had no conflicts to disclose.

## ABSTRACT

This case study from Santa Cruz County Children's Mental Health Agency (CMH), California, reviews the use of measurement of heart rate variability (HRV) to enhance emotional regulation of patients. CMH serves seriously emotionally disturbed youths, many of whom have been separated from their parents for a prolonged period or have been vulnerable without the consistent presence of their caregivers. In this study, the HRV pattern was calculated as high coherence, medium coherence, or low coherence. According to Thurber et al, heart rhythm coherence "is experienced as a calm, balanced, yet energized and responsive state that is conducive to everyday functioning and interaction, including the performance of tasks requiring mental acuity, focus, problem solving and decision making, as well as physical activity and coordination."<sup>1(p39)</sup> In the HeartMath program, there was a game in which high coherence was rewarded with a rainbow that dropped coins into a vessel. When coherence was low, the rainbow and coins disappeared until coherence was reached again. We measured HRV using a finger or ear sensor in individual sessions using a computer-based program from HeartMath Institute, Boulder Creek, California.

After juvenile offenders overcame their initial fear of being hooked up to a potential lie detector, I instructed them in "Quick Coherence"<sup>1</sup> and asked them to imagine breathing into the area of their heart. The participants created a library of positive feelings, thoughts, and memories on which they could focus. After a period of positive focus and rhythmic breathing, the clients were often able to move into medium or high coherence. In this state, they noticed that they felt calmer. I explained that they could use this tool to improve their mood. I also practiced alongside the youths in order to demonstrate the technique.

The detained youths learned quickly, requested repeated sessions, and learned to combine breathing with recalling the good people, places, foods, and feelings in their lives that sustained them. We could also decrease coherence through the use of negative words such as "loss of privileges" on their side or "pay cut" on mine and then move back to coherence with suggestions of positive mental images.

## BACKGROUND

Santa Cruz County Children's Mental Health Agency (CMH) serves seriously emotionally disturbed youths who "are at risk of out of home placement" with the goal to "help families achieve positive outcomes, reduce out of home placements, maintain family and foster care stability, and decrease the return to a juvenile detention center or psychiatric hospitalization."<sup>2</sup> The different programs collaborate with probation, social services, school treatment, and other programs within the community. Clinicians support the individual youths in the context of their families and community, which requires work with the parents and the family system, networking with other agencies, and locating or establishing support in the community. Rather than working from a therapy office only, the clinicians act in a variety of settings and engage a great range of participants, from children and their families to probation officers, social workers, and teachers. This combination of complex client situations and a systems-oriented approach requires the use of flexible and efficient interventions and a high level of flexibility, resourcefulness, and resilience from the clinicians.

The client population treated at CMH consists of

children and youths who have experienced a high level of traumatization and stressors. Many of the participating youths have been separated from their parents for a prolonged period or have been vulnerable without the consistent presence of their caregivers.

One 16-year-old participant disclosed in the course of a case study<sup>3</sup> that he had lived through the following stressful and traumatic events:

- Abandonment by parents to grandparent at the age of 4 years
- Beatings by the father and older brother
- Witnessing domestic violence
- Setting fires as a young child
- Involvement in an auto accident with no subsequent medical care
- Childhood sexual exploitation
- Racism and poverty
- Being bullied for attending resource classes
- Witnessing violence by gang-related peers
- Being a passenger in high-speed auto chases
- Being the target of shootings at home and when riding a bike
- Forced, armed take-down by the police

The effects of such disturbing experiences at a young age can bring about severe emotional disturbances, conduct problems, and defense reactions, even in the face of non-threatening situations.<sup>4</sup> In order to reach a tolerable level of stimulation, clients often engage in a protective response such as “flight,” “fight,” “freeze,” “submit,” or “attach,”<sup>5</sup> instead of being able to stop and think before acting. Clinicians working with such traumatized young people need a variety of tools and techniques to use as resources to support clients and their families in reaching a tolerable level of stimulation. Once the clients achieve a sense of safety, they can learn creative problem-solving skills such as accepting support, connecting, participating, exploring, and regulating their emotions.<sup>3</sup> Bessel van der Kolk stated in his recent lecture on trauma treatment that measuring and learning how to regulate heart rate variability (HRV) is an easy way to notice and actively counteract a sense of “being out of control—out of whack and physiologically disoriented,”<sup>6(p10)</sup> which is common in people who have been traumatized.

## METHODS

I discovered HeartMath in 2009 as a mental health client specialist in the local juvenile detention facility searching for ways to fill the minds of my literally captive audience with useful skills and to support them in changing problematic behaviors. Word about HeartMath circulated among the supervisors and managers at CMH, and in 2010, the Institute of HeartMath was invited to train 20 clinicians in HeartMath interventions. After the initial training with HeartMath, CMH actively supported the continuation of the use of the new tools and knowledge. The agency purchased laptops for the work with clients and in the field and installed games and the software for measuring HRV on the computers at the office. The trained clinicians showed the tools and techniques to their interested peers. The supervisors instructed their supervisees on how to use the tools and techniques with individual clients and their families. Virtually all of CMH’s clinicians are currently using the emotion regulation tools and techniques with their clients.

## RESULTS

After the training, we began using conscious breathing and focusing on a positive emotion to open CMH staff meetings. Over a 2-year period of focus on self-regulation and mindfulness, the aggressive, questioning tone of the meeting shifted and it became important to be calm and regulated within the work community. Instead of competing, we became more curious. Supervisors reported positive outcomes when using self-regulating techniques in difficult encounters with their staff.

Clinicians used HeartMath as an emotion-regulation tool with their clients and found it easy to integrate into their sessions. In the process of this explora-

tion, they described unique ways in which they used the techniques and tools. One clinician used HeartMath in preparation for trauma work and eye movement desensitization and reprocessing (EMDR). Another clinician integrated emotion regulation techniques into a 5-to-10-minute personal practice before beginning work to encounter clients from a coherent inner perspective. Someone had younger clients imagine a nose in the middle of their chest to help with heart-centered breathing. Others described the use of HeartMath in small groups by handing out the hand-held devices and encouraging participants to reach coherence together while focusing on a common goal. One clinician emphasized the use of visual aids and metaphors and discussed the use of drums to illustrate heart rhythm changes.

CMH clinicians adjusted emotion regulation tools and techniques and were inspired to expand upon them, depending on personal needs, preferences, and treatment styles. One example of the creative illustration of stress and coherence is displayed in Figure 1.

## LIMITATIONS

Clinicians continued exploring effectiveness and obstacles to the successful use of emotion regulation tools with their clients. Some clinicians were puzzled by the fact that some children who seemed highly dysregulated were easily able to display a coherent state. Other mental health staff mentioned that once the novelty of the techniques and tools wore off, there was no practicing of the techniques outside the sessions. Others found the game setup frustratingly complicated or observed that some clients displayed performance anxiety during the computer games, especially when losing rewarding images they had previously gained. Some clinicians had a hard time explaining what was being measured and how, and others struggled with discussing the term *coherence* and its benefits. The discussions, tutoring, and explanations created a vibrant community of learning in the agency.

## DISCUSSION

Most of the clinicians noticed that their clients responded with interest to the tools and techniques and shared stories about the positive effect of focusing on emotion regulation. Several of the clinicians described experiences with children and adolescents who integrated the self-regulation tools they learned in their lives outside the therapy sessions: After practicing emotion regulation, a 6- and 7-year-old brother-sister team helped prepare handouts for the parents of their classmates and became so confident that they taught the technique to their whole school class. A client with social phobia used the techniques successfully before challenging herself to make social contact. A conduct-disordered and hyperactive adolescent demonstrated to his uncle his ability to race a car during HeartMath’s “Dual Drive” computer game with the words, “the more you relax, the more you can

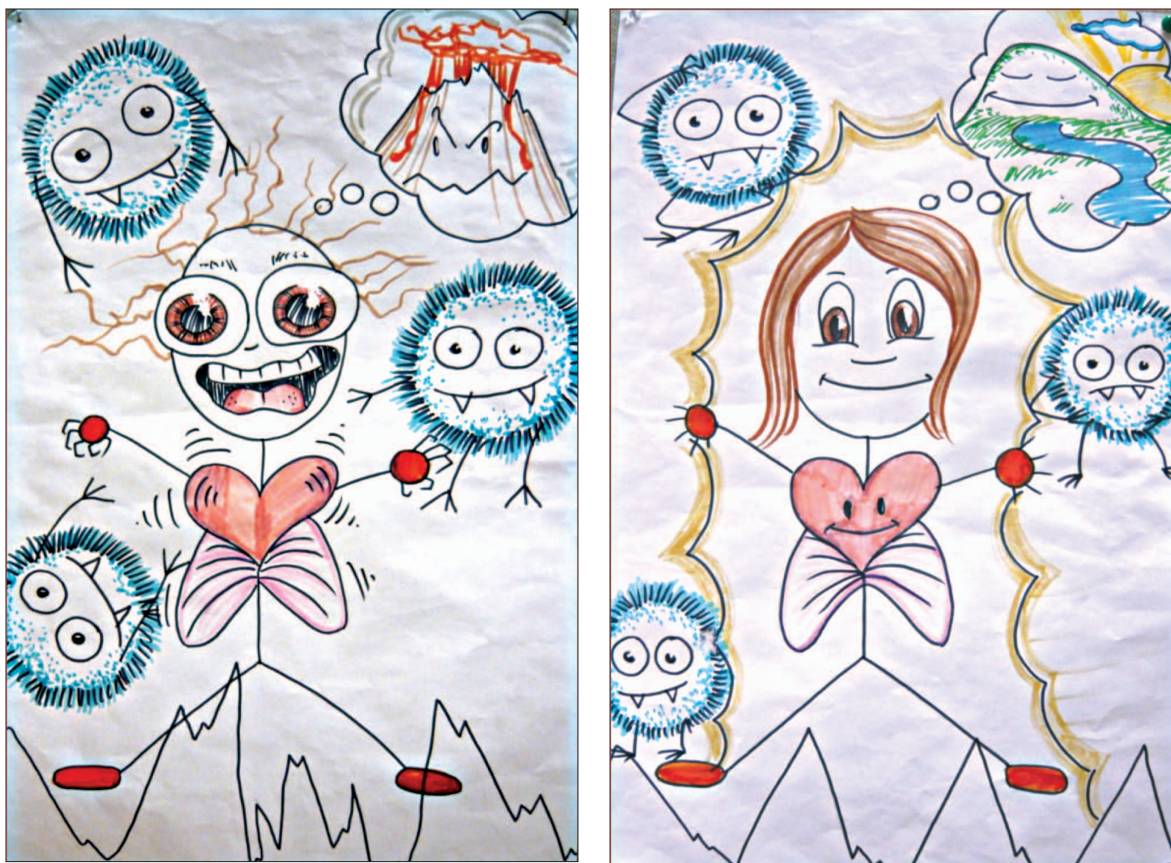
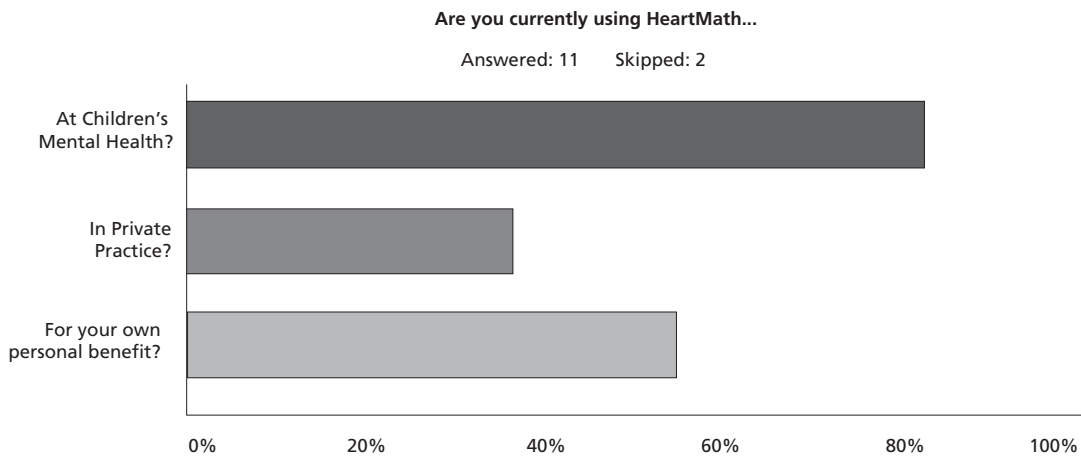


Figure 1 Stress and coherence. (Reprinted with permission from Rhiannon Soto.)



Answer Choices	Responses
At children's mental health?	81.82%    9
In private practice?	36.36%    4
For your own personal benefit?	54.55%    6
<b>Total repondents: 11</b>	

Figure 2 Areas of use.

drive!<sup>13</sup>(p147) These emotion-regulation tools and techniques helped most of our young clients to understand their own capability vs feeling out of control. Most children enjoyed the music and the computer games and were open to using technology for learning self-regulation. The youths enjoyed competing against their parents in family sessions, discovering that everyone was had the same level of emotion-regulation skills. Many reported feeling calmer after using the tools and techniques, and they got better with practice.

CMH personnel also used these tools for their own personal benefit, as reflected in Figure 2. They used these techniques as preparation for their work, to calm down after a difficult day, to stop eating for comfort, to aid in breathing meditations, to prepare for a presentation, or to center the therapeutic focus on their personal ability to influence and regulate their mood and inner perspective. Many have started a daily meditation routine. One of the clinicians reported that she found the emotion-regulation techniques very helpful in staying calm while undergoing a complicated and invasive fertility treatment, which became successful. My own journey with HeartMath led me through the completion of my dissertation and its defense. I am still looking for new ways of using the tools and techniques, be it for deepening my own or group meditations or supporting my clients in finding and maintaining coherence.

## CONCLUSION

The high use of these tools and techniques indicates a difference between emotion regulation and other methodologies taught in workshops at CMH, which often have been limited to professional or clinical use. The difficult work with the complex issues of the client population may have increased CMH's clinicians' own need for self-regulation. Introduced to the tools and techniques and supported in their use by the agency, the working community of clinicians quickly realized the personal benefits of measuring and regulating HRV to deal with personal life issues as well as vicarious traumatization. In contrast to other agencies, a community of learning emerged at CMH after the introduction of these tools and techniques for emotion regulation. New and creative ways to use the tools and techniques emerged with their continued application by different clinicians with different needs and personal or professional styles. Suggestions for the future use of emotion-regulation tools and techniques on the agency level include a refresher training so that the community of learners can update their understanding and discuss their thoughts, experiences, and findings with experts in the field. Furthermore, an ongoing trauma-informed educational group can integrate theoretical knowledge about the clients' psycho-physiological treatment needs with applied support for the well-being of clients and clinicians alike by means of mindfulness, supportive community relationships, and emotion regulation.

## REFERENCES

1. Thurber M. HeartMath interventions for counselors, therapists, social workers, and health care professionals: establishing a new baseline for sustained behavioral change. Boulder Creek, CA: HeartMath LLC; 2008.
2. Cervine D. Santa Cruz County Health Services Agency. <http://www.santacruzhealth.org/cmhs/2children.htm>. Accessed February 18, 2014.
3. Lutz B. Rey: an intensive single case study of a probation youth with immigrant background participating in Wraparound Santa Cruz (dissertation). Chicago, Illinois: The Chicago School of Professional Psychology; 2012.
4. Ogden P, Minton K, Pain C. Trauma and the body: A sensorimotor approach to psychotherapy. New York: W. W. Norton & Company; 2006.
5. Fisher, J. Psychoeducational aids for working with psychological trauma. 6th ed. Watertown, MA: Center for Integrative Healing; 2008.
6. van der Kolk B, Buczinsky R. What neuroscience teaches us about the treatment of trauma [webinar]. Mansfield Center, CT: National Institute for the Clinical Application of Behavioral Medicine; April 24, 2013.

The screenshot displays the website for 'GLOBAL ADVANCES IN HEALTH AND MEDICINE'. The header includes the site name, tagline 'Improving Healthcare Outcomes Worldwide', and navigation links like HOME, ABOUT GAHMJ, AUTHOR INFORMATION, JOURNAL, SUBSCRIBE, ADVERTISE, VIDEO. A search bar is also present. The main content area is divided into sections: 'ABSTRACTS' with a link to 'Scientific Abstracts from the International Congress for Clinicians in Complementary & Alternative Medicine', 'case reports' with a link to 'Interested in case reports? The CARE guidelines help create transparent and complete case reports that offer early signals of effectiveness, adverse events, and cost.', and 'GLOBAL ADVANCES IN HEALTH AND MEDICINE: November 2014, VOLUME 2, NUMBER SUPPL'. Below these are lists of abstracts with titles and authors, such as 'P01.01. Living Well With Chronic Pain: A 4-session Group Intervention in Integrative Health, Initial Results' by Douglas Her. A 'Featured Interview' section highlights 'Ruth Q. Wolner, PhD: The Importance of Case Reports'. At the bottom, there is a 'GAHMJ NEWSLETTER SIGN UP' form with a 'Submit' button.

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