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# Functional Somatic Symptoms in Children and Adolescents: The Stress-System Approach to Assessment and Treatment

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## Online Supplement 15.1

### Treatment Interventions: Working with the Mind

In this supplement to Chapter 15, we discuss the history of cognitive-behavioural therapy – the three waves of CBT – in more detail, and we provide the reader with additional references to resources pertaining to *working with the mind*.

### Additional Information About Cognitive-Behavioural Therapy

#### A Personal Note

Over the course of the first author's (KK's) career, she has watched with amusement as the CBT model has taken interventions from other traditions and subsumed them under the CBT umbrella. For example, when the first author was a psychiatric registrar, slow-breathing interventions were negatively labelled as *safety behaviours* by her CBT teachers. *Safety behaviours* were behaviours that made the patient feel safer but that were not seen as helpful in managing anxiety. The key focus was on the use of repeated

exposure to situations that the patient found anxiety provoking. Of course, this conceptualization came to be seen as too narrow (see section about the neurobiology of slow breathing in Chapter 14), and all of a sudden, classic CBT (second wave) models included slow breathing as part of the behavioural component of the CBT intervention (see, for example, Williams and Zahka 2017). Most recently, CBT (third wave) has changed itself yet again to include mindfulness in the treatment process (see below).

## The Three Waves of CBT

There have been three distinct waves of cognitive-behavioural therapy (CBT) with each wave reflecting ‘dominant assumptions, methods, and goals’ (Hayes 2004, p. 640; Brown et al. 2011).

The first wave – behavioural therapy, based on the work of Ivan Pavlov, Burrhus Frederic Skinner, and John Watson – focused on observing, predicting, and modifying behaviour to promote health and well-being. In the systems framework presented in this book, behavioural interventions are conceptualized as a distinct system level.

The second wave of CBT – based on the work of Albert Ellis and Aaron Beck – focused on the link between dysfunctional cognitions and maladaptive behaviours; the goal was to alter these existing maladaptive patterns and to develop more adaptive ones. In *Treating Somatic Symptoms in Children and Adolescents*, Nicole Williams and Sara Zahka (2017) describe an intervention using the second-wave CBT model. For other resources pertaining to CBT with children – and for managing comorbid anxiety – see Chansky (2008) and Rapee and colleagues (2000).

The third wave of CBT integrates mindfulness strategies – the work of Jon Kabat-Zinn (1990, 2003, 2005), based on Buddhist mindfulness teaching – into a diverse range of interventions, including Acceptance and Commitment Therapy, Mindfulness-Based Cognitive Therapy (MBCT), Trauma-Focused CBT, and Dialectical Behaviour Therapy (DBT). Top-down, mindfulness-based, emotion-regulation strategies are those in which the child utilizes intentional efforts to increase her attention and awareness capacities for better control of thoughts and feelings (Guendelman et al. 2017). While the

objective in second-wave CBT was a change in thinking and behaviour, the objective in mindfulness-based therapies (part of third-wave CBT) is quite different: to help the individual to learn to live with painful or unpleasant sensations and with pain in the world, and to accept how things are instead of suffering by trying to change them.

In this way, in third-wave CBT, the methods from second-wave CT may be used in some settings and patient groups, and mindfulness-based methods may be used in other settings and with other patient groups, and sometimes the approaches are used side by side. The wide-ranging techniques of third-wave CBT include affect labelling, mindful detachment, cognitive reappraisal, dereification (the idea that our beliefs and cognitions are interpretations and not the ultimate truth), and meta-awareness (Hayes and Hofmann 2017). The broader constructs and methods of third-wave CBT include acceptance-based procedures, decentering, cognitive defusion, values, and psychological-flexibility processes (Hayes and Hofmann 2017). These constructs underpin the various top-down strategies for managing emotion dysregulation and impulse control that are integrated into third-wave CBT interventions.

The adoption of top-down mindfulness strategies is particularly interesting. Third-wave CBT therapies practice interested attention (mindfulness) to internal experiences and emphasize acceptance instead of change of negative internal sensations and thoughts. Sometimes mindfulness strategies are practiced alongside first- and second-wave CBT strategies, and sometimes first- and second-wave CBT strategies appear to have been discarded altogether (e.g., see Mindfulness-Based Cognitive Therapy [Williams and Kuyken (2012)]). The adoption of mindfulness under the CBT umbrella – including concepts and methods that are opposite of those defining previous waves or those that do not involve cognitive processes at all – reflect a broader move to mindfulness-based therapy. Hayes and Hoffmann (2017) conceptualize third-wave CBT as *process-based care* – that is, as a process-based therapy focused on the biobehavioural processes that bring about change in the mental health of individuals. This conceptualization parallels the systemic perspective taken in our book, in which bottom-up mindfulness, along with top-down mindfulness, behavioural, and cognitive interventions, is used in a targeted manner to address specific areas of

dysfunction on different system levels. That said, we find it more useful to think about these interventions as involving different system levels – the body, behavioural, or mind level at which they work – rather than clustering them all (erroneously) under the rubric of CBT.

For completeness, we also mention *trauma-focused CBT* (Cohen and Mannarino 2008; Cohen et al. 2012). While trauma-focused CBT suggests an exclusively cognitive-behavioural intervention, this approach actually also incorporates a range of bottom-up regulation strategies for managing ‘affective distress’ – a synonym for symptoms pertaining to activation of the stress system. The first author and her team sometimes refer children and their parents for trauma-focused CBT after the child’s functional somatic symptoms have been stabilized. For other trauma-processing interventions, see Chapter 14.

## **Outcome Studies for CBT-Based Interventions**

There are now multiple reviews and studies of using Acceptance and Commitment Therapy in children (Swain et al. 2015; Hancock et al. 2016), including the treatment of pain (fibromyalgia) (Jensen et al. 2012) and multiple functional somatic symptoms (Pedersen et al. 2018).

## **Additional Resources: Visualization Scripts and Mindfulness Exercises**

### **Visualization Scripts**

For a visualization script using imagery of protective light, see *Protective Light Visualization Relaxation Script* (Inner Health Studio 2018), *Cure Your Headache With This 1-Minute Meditation* (Prevention 2017), or section entitled ‘For Chronic Pain, Especially Back Pain’ in Chapter 22 of *The Complete Idiot’s Guide to Meditation* (Adamson and Budilovsky 2003),

## Mindfulness Exercises

There are now a lot of internet resources for mindfulness exercises. Look up, for example, *Leaves on a Stream* mindfulness exercises, or visit <https://mindful.stanford.edu/2015/06/thought-clouds/>.

## Hypnosis in Working with Children

The third author (HH) has provided a nice summary of literature pertaining to hypnosis with children in her commentary in the open access article ‘Twisted in Pain: The Multidisciplinary Treatment Approach to Functional Dystonia’ (Khachane et al. 2019). The references included in this article are listed in Online Supplement 1.3 (for Chapter 15).

## References

- Adamson, E. & Budilovsky, J. (2003). *The Complete Idiot’s Guide to Meditation*, New York, Alpha.
- Brown, L. A., Gaudiano, B. A. & Miller, I. W. (2011). ‘Investigating the Similarities and Differences Between Practitioners of Second- and Third-Wave Cognitive-Behavioral Therapies’. *Behavior Modification*, 35, 187–200.
- Chansky, T. E. (2008). *Freeing Your Child from Negative Thinking: Powerful, Practical Strategies to Build a Lifetime of Resilience, Flexibility, and Happiness*, Cambridge, MA, Da Campo Press.
- Cohen, J. A. & Mannarino, A. P. (2008). ‘Trauma-Focused Cognitive Behavioural Therapy for Children and Parents’. *Child and Adolescent Mental Health*, 13, 158–162.
- Cohen, J. A., Mannarino, A. P., Kliethermes, M. & Murray, L. A. (2012). ‘Trauma-Focused CBT for Youth with Complex Trauma’. *Child Abuse and Neglect*, 36, 528–541.
- Guendelman, S., Medeiros, S. & Rampes, H. (2017). ‘Mindfulness and Emotion Regulation: Insights from Neurobiological, Psychological, and Clinical Studies’. *Frontiers in Psychology*, 8, 220.

- Hancock, K., Swain, J., Hainsworth, C., Koo, S. & Dixon, A. (2016). 'Long Term Follow up in Children with Anxiety Disorders Treated with Acceptance and Commitment Therapy or Cognitive Behavioral Therapy: Outcomes and Predictors'. *Journal of Child & Adolescent Behavior Therapy*, 4.
- Hayes, S. C. (2004). 'Acceptance and Commitment Therapy, Relational Frame Theory, and the Third Wave of Behavioral and Cognitive Therapies'. *Behavior Therapy*, 35, 639–665.
- Hayes, S. C. & Hofmann, S. G. (2017). 'The Third Wave of Cognitive Behavioral Therapy and the Rise of Process-Based Care'. *World Psychiatry*, 16, 245–246.
- Inner Health Studio. (2018). *Protective Light Visualization Relaxation Script*. <https://www.innerhealthstudio.com/protective-light.html>.
- Jensen, K. B., Kosek, E., Wicksell, R., Kemani, M., Olsson, G., Merle, J. V., Kadetoff, D. & Ingvar, M. (2012). 'Cognitive Behavioral Therapy Increases Pain-Evoked Activation of the Prefrontal Cortex in Patients with Fibromyalgia'. *Pain*, 153, 1495–1503.
- Kabat-Zinn, J. (1990). *Full Catastrophe Living: Using the Wisdom of Your Body and Mind to Face Stress, Pain, and Illness*, New York, Delta Trade Paperbacks.
- Kabat-Zinn, J. (2003). 'Mindfulness-Based Interventions in Context: Past, Present, and Future'. *Clinical Psychology: Science and Practice*, 10, 144–156.
- Kabat-Zinn, J. (2005). *Coming to Our Senses: Healing Ourselves and the World Through Mindfulness*, New York, Hyperion.
- Khachane, Y., Kozłowska, K., Savage, B., McClure, G., Butler, G., Gray, N., Worth, A., Mihailovich, S., Perez, D. L., Helgeland, H. & Chrousos, G. P. (2019). 'Twisted in Pain: The Multidisciplinary Treatment Approach to Functional Dystonia'. *Harvard Review of Psychiatry*, 27, 359–381.  
[https://journals.lww.com/hrpjournals/Fulltext/2019/11000/Twisted\\_in\\_Pain\\_The\\_Multidisciplinary\\_Treatment.5.aspx](https://journals.lww.com/hrpjournals/Fulltext/2019/11000/Twisted_in_Pain_The_Multidisciplinary_Treatment.5.aspx)
- Pedersen, H. F., Agger, J. L., Frostholt, L., Jensen, J. S., Ornbol, E., Fink, P. & Schroder, A. (2018). 'Acceptance and Commitment Group Therapy for Patients with Multiple Functional Somatic Syndromes: A

- Three-Armed Trial Comparing Act in a Brief and Extended Version with Enhanced Care – Corrigendum’. *Psychological Medicine*, 48, 2804.
- Prevention. (2017). *Cure Your Headache with This 1-Minute Meditation*. <https://www.prevention.com/health/a20499696/cure-your-headache-with-this-1-minute-meditation/>
- Rapee, R., Wignall, A., Hudson, J. & Schniering, C. A. (2000). *Treating Anxious Children and Adolescents*, Oakland, CA, New Harbinger Publications.
- Swain, J., Hancock, K., Dixon, A. & Bowman, J. (2015). ‘Acceptance and Commitment Therapy for Children: A Systematic Review of Intervention Studies’. *Journal of Contextual Behavioral Science*, 4, 73–85.
- Williams, J. M. & Kuyken, W. (2012). ‘Mindfulness-Based Cognitive Therapy: A Promising New Approach to Preventing Depressive Relapse’. *British Journal of Psychiatry*, 200, 359–360.
- Williams, S. E. & Zahka, N. E. (2017). *Treating Somatic Symptoms in Children and Adolescents*, New York, Guilford Press.