

## **Mindfulness: Cognitive and emotional change**

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Beck [1] developed cognitive therapy which led to broad therapeutic innovations and successful applications in the field of psychotherapy [2,3,4]. Mostly, by virtue of its linear nature and lack of empirical support from cognitive science, this clinically-driven model faced some limitations in practice [5]. To overcome the shortcomings, Teasdale and Barnard [6] experimentally investigated the link between cognition and emotion and came up with a non-linear/multilayer model (a science-driven model). As they suggested, information are processed in cognitive system at two qualitatively distinct levels, namely *propositional* level and *implicational* level. The former is linked with specific meanings behind language constructs (or words); the latter is associated with generic meanings behind language constructs (or words). In Beckian approach, it is the *specific* meanings that result in emotion production, whilst in the non-linear/multilayer model of cognition, in order to elicit emotional response, the *generic, holistic* meanings should be processed at implicational level is needed [7].

Furthermore, Teasdale and Barnard [6] explain that generic, emotion-eliciting meanings cannot simply communicated through words. For this happen, they surmised that other factors such paralanguage parameters (words tone, rhythm, composition, etc.) have to come into play. Apart from this, they also suggest that the physiological and bodily

sensations which are felt during emotional experiences are processed within the implicational level. There seems to have been this reason, among others, that Teasdale and colleagues [8] adopted some elements of mindfulness-based stress reduction (MBSR; developed by Jon Kabat-Zinn) [9] and combined them with cognitive– behavioral therapy (CBT) techniques which was coined as mindfulness-based cognitive behaviour therapy (MBCT).

Mindfulness meditations (body scanning, breath meditation, sitting meditation, walking meditation, yoga, and the like) would enhance a non-judgmental worldview and an ability for “being in the present moment” [9]. In this eight-weekly group training program, clients are involved in different in-session activities and homeworks which help them see thoughts and feelings as ongoing mind events and not actual incidents in the real outer world. In fact, by MBCT training, a grounding basis will be provided on which the person learns how to disengages themselves from unhelpful thoughts and related feelings, and simply “observes” instead of “getting lost” in ruminations, worries, and negative cognitive experiences [8]. This allows the individual to bring their attention back to the present moment that, in turn, facilitates “acceptance”. One explanation for this is that being aware of the present moment and fully attentive to its thorough qualities would prepare the ground for one to be in a lucid contact with moment-by-moment ‘richness’ of the reality, which would, in turn, result in an enhanced well being [10].

After testing the effectiveness of MBCT in some randomized clinical trials [11], Segal et al. [8] employed this therapy intervention to prevent relapse (based on a model of cognitive vulnerability to depressive relapse [ 12,13,14]) in those who suffered from recurrent major depression. They showed that decline in relapse rate in patients receiving MBCT training was more than 50%. Using MBCT along with antidepressants gives rise to less relapse over a 15-months follow-up [16].

Moreover, MBCT proved to be effective to reduce excessive worry or anxiety symptoms [17], sleep problems [18] and enhance quality of life in both physical and psychological domains [16]. Moreover, empirical findings provide further evidence showing that MBCT is a useful intervention for enhancing well being in non-clinical groups of people (e.g., university students, fire fighters, stage performers and the like) who are naturally exposed to real life stressful situations in which they experience high levels of anxiety and depression [19, 20]. The results depict a picture showing that MBCT can be effective at relieving exam related anxiety and dysphoria, and enhancing quality of life in non-clinical groups as well as sub-clinically depressed individuals who may be susceptible to emotional disorders.

Underpinning cognitive mechanisms to explain such changes can be suggested. Negative, self-defeating, dysfunctional thoughts usually are thought to underpin depressive symptoms; which would potentially give rise to more negative thoughts. This vicious cycle is deemed as a source of vulnerability for relapse of depression. Research [21,22,23] show that mindfulness meditation training would have an improving impact on attention, executive functioning and emotion regulation [24]. In fact, mindfulness training package helps the trainee to gain more cognitive control over habitual unhelpful thinking pattern including rumination, worry and intrusive images [25]. To date, dozens of findings associated with this phenomenon have emerged. The evidence support a positive relationship between rumination and recall over-generality in autobiographical memory in both normal and clinical samples [26, 27, 28, 29,30]. Apart from this, research findings confirm that over-general retrieval in autobiographical memory is linked with poor social problem solving [31, 32, 33, 34, 35, 36]. By this account, one can conclude that mindfulness plays a pivotal role in breaking the vicious cycle by improving specificity in memory retrieval and consequently reinforcing effective problem solving.

With all these in mind, mindfulness seems to have played a major part in the field of mental health over the past two decades and provided a crucial adjunct therapeutic component which has revolutionized modern models of psychotherapy. Although the widespread use of mindfulness in various therapies and for different disorders is an eye-catching phenomenon, still more research-based evidence is needed to gauge its specific effects and limitations.

## **REFERENCES**

- [1] Beck, A. T. *Depression: Causes and treatment*. Philadelphia: University of Pennsylvania Press, 1967.
  
- [2] Beck, A. T. *Depression: Clinical, experimental, and theoretical aspects*. New York: Harper & Row, 1976.
  
- [3] Beck, A. T., Rush, A. J., Shaw, B. F. & Emery, G. *Cognitive therapy of depression*. New York: Guilford Press, 1979.
  
- [4] Hollon, S. D., Shelton, R. C. & Loosen, P. T.. Cognitive therapy and pharmacotherapy for depression. *Journal of Consulting and Clinical Psychology*, 1991; 5. 88-99.

- [5] Teasdale, J. D. The relationship between cognition and emotion: The mind-in-place in mood disorders. In D. M. Clark & C. G. Fairburn (Eds.), *Science and practice of cognitive behaviour therapy*, 1997; pp. 67-93. Oxford, UK: Oxford University Press.
- [6] Teasdale, J. D. & Barnard, P. J. *Affect, cognition, and change*. Hove: Lawrence Erlbaum Associates, 1993.
- [7] Teasdale, J. D. Emotion and two kinds of meaning: Cognitive therapy and cognitive science. *Behaviour. Research and Therapy*, 1993; *31*, 339-354.
- [8] Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse*. New York: Guilford Press, 2002.
- [9] Kabat-Zinn, J. *Full catastrophe living: How to cope with stress, pain and illness using mindfulness meditation*. New York: Dell, 1990.
- [10] Brown KW, Ryan RM. The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 2003; *84*, 822– 848.
- [11] Teasdale, J. D., Segal, Z. V., Williams, J. M. G., Ridgeway, V. A., Soulsby, J. M., & Lau, M. A. Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. *Journal of Consulting and Clinical Psychology*, 2000; *68*, 615–623.

[12] Segal, Z. V., Williams, J. M. G., Teasdale, J. D., & Gemar, M. A cognitive science perspective on kindling and episode sensitization in recurrent affective disorder. *Psychological Medicine*, 1996. 26, 371–380.

[13] Teasdale, J. D., Segal, Z., & Williams, J. M. G. How does cognitive therapy prevent depressive relapse and why should attentional control (mindfulness) training help? *Behaviour Research and Therapy*, 1995; 33, 25–39.

[14] Teasdale, J. D. Cognitive vulnerability to persistent depression. *Cognition and Emotion*, 1988; 2, 247–274.

[15] Ma S. H. & Teasdale J.D. Mindfulness-based cognitive therapy for depression: Replication and exploration of differential relapse prevention effects. *Journal of Consulting and Clinical Psychology*, 2004; 72, 31– 40.

[16] Kuyken W., Byford S., Taylor R.S., Watkins E., Holden E., White K., Barrett B., Byng R., Evans A., Mullan E.,& Teasdale J. D. Mindfulness-Based Cognitive Therapy to Prevent Relapse in Recurrent Depression. *Journal of Consulting and Clinical Psychology*, 2008; 76, 966-978.

[17] Roemer, L. & Orsillo S. M. An open trial of an acceptance-based behavior therapy for generalized anxiety disorder. *Behavior Therapy*, 2007; 38, 72– 85.

[18] Yook K., Lee S., Ryu M., et al. Usefulness of mindfulness-based cognitive therapy for treating insomnia in patients with anxiety disorders a pilot study. *Journal of Nervous and Mental Disease*, 2008; 196, 501-503.

[19] Kaviani, H. Javaheri, F. & Hatami, N. Mindfulness-Based Cognitive Therapy (MBCT) reduces depression and anxiety induced by real stressful setting in non-clinical Population. *International Journal of Psychology and Psychological Therapy*, 2011; 11, 285-296.

[20] Kaviani, H., Hatami, N. & Javaheri, F. The Impact of Mindfulness-based Cognitive Therapy (MBCT) on Mental Health and Quality of Life in a Sub-clinically Depressed Population. *Archives of Psychiatry and Psychotherapy*, 2012; 1, 21–28.

[21] Lutz, A., Slagter, H. A., Dunne, J. D., & Davidson, R. J. Attention regulation and monitoring in meditation. *Trends in Cognitive Sciences*, 2008; 12, 163–169.

[22] Slagter, H. A., Lutz, A., Greischar, L. L., Francis, A. D., Nieuwenhuis, S., Davis, J. M., et al. (2007). Mental training affects distribution of limited brain resources. *PLOS Biology*, 5, 1228–1235.

[23] Tang, Y. Y., Ma, Y. H., Wang, J., Fan, Y. X., Feng, S. G., Lu, Q. L., et al. Short-term meditation training improves attention and self-regulation. *Proceedings of the National Academy of Sciences of the United States of America*, 2007; 104, 17152–17156.

[24] Nielsen, L. & Kaszniak, A. W. Awareness of subtle emotional feelings: A comparison of long-term meditators and nonmeditators. *Emotion*, 2006; 6, 392–405.

[25] Nolen-Hoeksema, S. Responses to depression and their effects on the duration of depressive episodes. *Journal of Abnormal Psychology*, 1991; 100, 569-582.

[26] Watkins, E., & Teasdale, J. D. Rumination and overgeneral memory in depression: Effects of self-focus and analytic thinking. *Journal of Abnormal Psychology*, 2001; 110, 353-357.

[27] Watkins, E. R., & Teasdale, J. D. Adaptive and maladaptive self-focus in depression. *Journal of Affective Disorders*, 2004; 82, 1-8.

[28] Watkins, E. R., Teasdale, J. D., & Williams, R. M. Decentering and distraction reduce overgeneral autobiographical memory in depression. *Psychological Medicine*, 2000; 30, 911-920.

[29] Williams, J. M. C. Depression and the specificity of autobiographical memory. In D. C. Rubin (Ed.), *Remembering our past: Studies in autobiographical memory*. Cambridge, UK: Cambridge University Press; 1996, pp. 244-267.

[30] Ramponi, C., Barnard, P., & Nimmo-Smith, I. Recollection deficits in dysphoric mood: An effect of schematic models and executive mode? *Memory*, 2004; 12, 655-670.



[31] Evans, J., Williams, J. M. G., O'Loughlin, S., & Howells, K. Autobiographical memory and problem solving strategies of parasuicide patients. *Psychological Medicine*, 1992; 22, 399-405.

[32] Goddard, L., Dritschel, B., & Burton, A. Role of autobiographical memory in social problem-solving and depression. *Journal of Abnormal Psychology*, 1996; 105, 609-616.

[33] Goddard, L., Dritschel, B., & Burton, A. Social problem-solving and autobiographical memory in non-clinical depression. *British Journal of Clinical Psychology*, 1997; 36, 449-451.

[34] Pollock, L. R., & Williams, J. M. G. Effective problem solving in suicide attempters depends on specific autobiographical recall. *Suicide and Life Threatening Behaviour*, 2001; 31, 386-396.

[35] Kaviani, H., P. Rahimi-Darabad, & Naghavi, H.R. Autobiographical memory retrieval and problem-solving deficits of Iranian depressed patients attempting suicide. *Journal of Psychopathology and Behavioural Assessment*, 2005; 27, 39-44.

[36] Kaviani H., Rahimi, M., Rahimi-Darabad, P & Naghavi, H.R Overgeneral memory retrieval and ineffective problem-solving in depressed suicide-ideators: Implication for therapy. *International Journal of Psychology and Psychological Therapy*, 2011; 11, 413-423.