Sensory Compounding Therapy (SCT)

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Abstract

This article introduces an integrative approach to psychotherapy called sensory compounding. Sensory compounding therapy involves the concept of compounding which originates from sensory conditioning theory and is applied to the sensory experiences of patients resulting in a conditioned behavioral response to relieve adverse mental health symptoms.

*Keywords*: integrative; sensory; compounding; conditioned; adverse
Sensory Compounding Therapy (SCT)

The concept of compounding originates from the theorist, Frank. A. Logan who hypothesised that when two stimuli or neutral stimuli (NS) are presented simultaneously, they become compounded; when shortly followed by an unconditioned stimulus (US) a conditioned response (CR) will develop to each stimuli presented either separately or to the compound as a whole. Logan postulates that the phenomenon of compounding is very close to the gestalt view, in that any stimulus is an individual whole being more than the sum of its parts. A person’s face, for example, may indeed have elements (eyes, nose, mouth, etc.), but we see the face as a unique integrated configuration. From a gestalt perspective, compounding is immediate and automatic; we naturally perceive events that occur together as being a single event (Logan F., 1981). As in sensory compounding therapy, the unique integrated configuration of the sensory nervous system is the whole comprised of individual elements receiving stimuli for the conditioned response to occur. It is hypothesised that this conditioned response can be generated again and again through the introduction of stimuli.

*Senses and the sensory nervous system*

Aristotle identified five “traditional” senses which have become universally accepted; hearing, sight, touch, smell and taste (Hofle, M., Hauck, M., Engel A.K., Senkowski, D., 2010). These senses represent the neutral stimuli or (NS) in sensory compounding therapy. The sensory nervous system processes sensory information using sensory receptors, neural pathways, and parts of the brain involved in sensory perception. In short, senses are the pathways from the physical world to the realm of the mind where we interpret the information, creating the perception of the world around us (Krantz, J., 2013). In sensory compounding therapy, the
The purpose of Sensory Compounding Therapy (SCT) is creating a conditioned response to manage adverse mental health symptoms. As mentioned, the neutral stimuli (NS) represented by the sensory nervous system; otherwise referred to as the five “traditional” senses are paired with unconditioned stimulus (US) represented by sensory stimulating elements to create a conditioned response (CR).

Sensory stimulating elements can be represented by a sensory experience or activity that stimulates one or more of the senses. For example, to stimulate the auditory sensory system a mindfulness meditative exercise that incorporates relaxing instruction and music would be used as the unconditioned stimulus (US). In addition to the mindfulness meditation, a particular fragrance (US) would also be added in treatment, impacting the olfactory system. This example describes how two of the human senses would be the focus of intention during sensory compounding therapy. For the purpose of this article, the sensory stimulating elements related to the auditory and olfactory systems will be discussed in more detail, however in a typical sensory compounding therapy session, most or all of the senses could be stimulated during a therapy session to create a conditioned response (CR).

Sensory stimulating elements

*Mindfulness meditation (auditory system)*

Sensory compounding therapy incorporates a mindfulness meditation exercise with relaxing instruction and music as one of the sensory stimulating elements for the auditory system. Research studies have shown that mindfulness meditation has improved the regulation of the stress hormone cortisol, resulting in greater stress management ability (Tang Y., et al., 2007). Similar studies have suggested that mindfulness meditation could prove to be an effective means to treating symptoms associated with such mood disorders as anxiety and depression (F.M.)
Howells, V.L. Ives-Deliperi, N. R. Horn, and D.J. Stein, 2012; H. F. Coelho, P. H. Canter, and E. Ernst., 2007; Y.W. Kim, S. H. Lee, T.K Choi et al. 2009). Further studies have been recommended to compare the psychological and neural effects of meditation practice as found by Vago and David (2006), who identified that practicing mindfulness meditation induced functional and structural brain modifications in self-referential processes, including self-awareness and self-regulation. In addition, there was a change in the executive function areas of attention and memory (R.K., Lech and B., Suchan., 2013). A number of published studies report a positive outcome using mindfulness meditation with children and adolescents, in particular, addressing the psychological disturbances or challenges with behaviors. A six week study conducted by J. Lee (2008) reported that teachers who identified children with anxiety reported an improvement in academic functioning and decrease in symptoms of anxiety after engaging in mindfulness meditation (Lee, J., et al. 2008). N. Singh (2007) identified that children diagnosed with conduct disorder experienced a significant decrease in aggressive behavior and an additional study focused on adolescents diagnosed with ADHD which reported a significant reduction of symptoms related to inattention, concentration and memory (Zylowska, L., et al., 2008). As identified through research, mindfulness meditation has a positive impact on certain mental health conditions.

The Power of Smell (Olfactory system)

Have you ever experienced a time when a certain smell triggered a memory? Did you feel like you were temporarily transported to that place and time in that moment? This is the power of smell. There have been a number of studies confirming that the olfactory system is a powerful sense that can influence behaviors in what is described as odor hedonic perception. The
term odor hedonic perception or as we call odor related behaviors results from a learned association between an odor and the emotional context in which the odor was first encountered. As proposed by Engen. (1991); Herz.,(2001), in this process the emotion is paired with an odor and becomes associated to the odor and imbues it with meaning, thus influencing the hedonic perception. An odor can illicit the emotion associated with its prior exposure and has a general impact on mood and mood-related behavior. Thus the emotional odor-associative learning can explain how odors can be liked or disliked as well how their presence can elicit an emotion and influence thinking and behavior. In a comparison study from Britain in 1966 by R.W. Moncreiff (1966) and another study conducted in the United States by Cain and Johnson (1978), the scent of “wintergreen” was used in both studies. In the British study, the wintergreen scent was given the lowest pleasantness rating. Whereas the study in the Unites States identified the wintergreen scent as the most pleasant. The reason for this difference was that the scent of wintergreen in the British study was associated with medicine used for analgesics that were popular in WWII, compared to the scent of wintergreen in United States study that was exclusively a pleasant candy mint smell. Neuroanatomy further supports the proposition that our olfactory system, the orbitofrontal cortex, in addition to processing olfaction, is the area of the brain critical for assigning affective value to stimuli; in other words, assigning hedonic meaning. Furthermore, the amygdala which synapses directly with the olfactory nerve is critical for emotional associative learning (Davis and Whalen. 2001). With focus on the olfactory sense a learned association can develop.

Discussion
Sensory compounding therapy as an integrative psychotherapy approach is intentional and automatic. It introduces an innovative look at how the sensory nervous system can impact and facilitate new learning to improve the management of mental health symptoms. This paper describes two sensory stimulating elements in greater detail as a means to better explain sensory compounding therapy. As research has identified, mindfulness meditation can produce positive improvement in some mental health conditions and the sense of smell on the olfactory system is very influential in creating an odor association to certain emotion. By intentionally adding a sensory component focus on the auditory sense through relaxation instruction and music and on the olfactory sense through the introduction of a particular fragrance, the hypothesis that the patient can learn to manage mental health symptoms by creating the relaxing experience through stimulation of the senses is supported.

At this time, anecdotal information is being collected from patients receiving sensory compounding therapy. So far, response has been optimistic. An evaluative component is also currently under development to further study the positive effects on how the sensory nervous system can be used to improve the management of mental health symptoms.
References


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