

PSYCHOSENSORY THERAPY
A BRIEF INTRODUCTION

Ronald A. Ruden, M.D., Ph.D.

Psychosensory Therapy

We know that sensory input effects our emotions. For example, we can experience exhilaration when watching a ball game, longing when hearing an old familiar song or pleasure when being massaged. Proust's journey as described in *Remembrance of Things Past*¹ began with the sensation of a Madeline cake soaked in a spoonful of tea:

No sooner had the warm liquid, and the crumbs with it touched my palate, a shudder ran through my whole body, and I stopped, intent upon the extraordinary changes that were taking place. An exquisite pleasure had invaded my senses, but individual, detached, with no suggestion of its origin. And at once the vicissitudes of life had become indifferent to me, its disasters innocuous, its brevity illusory—this new sensation having had on me the effect which love has of filling me with a precious

essence; or rather this essence was not in me, it was myself. I had ceased now to feel mediocre, accidental, and mortal. Whence could it have come to me, this all-powerful joy?

How does sensory input produce this extrasensory response? By extrasensory response we mean those feelings that arise unbidden and are outside the properties of the sense receptors. Touch for example is perceived through receptors imbedded in the skin that measure pressure, position, pain, temperature, texture and movement. But being held by someone you love evokes a sensation beyond perception. Whether smelling the chicken soup wafting out from a restaurant, stroking a pet or enjoying a beautiful sunset, all our senses can evoke responses beyond those of simple sensory input. We take for granted all that happens to us during our hectic daily routine and many of us miss the opportunity to use what we touch, see, hear, taste and smell to make us happy and calmer, literally not stopping for that moment to 'smell the roses.'

From whence arises this emotion? While the mechanism by which sensory input produces these extrasensory responses are not well understood, it must somehow involve the 'meaning,' learned or innate, of the input to the organism. But can sensory input be used therapeutically? Herein we describe a group of techniques we call the psychosensory therapies, the

application of sensory input to treat symptoms, behaviors, mood and thinking.

Some psychosensory therapies produce a permanent change, while others require long-term maintenance therapy. A partial list of the psychosensory therapies is given below.

The Psychosensory Therapies

Havening Techniques
Emotional Freedom Techniques (EFT)
Callahan Technique-Thought Field Therapy (CT-TFT)
Eye Movement Desensitization and Reprocessing (EMDR)
Others

Yoga
Acupuncture/Acupressure
Biofeedback/Neurofeedback
Exercise and Related Activities
Music
Light
Aromatherapy
Massage
Reiki
Rolfing

And others

Psychosensory therapies can be grouped into two major divisions, one in which the mind is emotionally activated by the memory of the event or a component of the event just prior to sensory input and one in which the mind is at rest prior to sensory input. The first group (over the dotted line) addresses life-specific events and their consequences. This approach is a form of exposure therapy for which there is an extensive literature. However, these psychosensory exposure therapies are fundamentally different from classical exposure treatments as a non-specific sensory input is applied immediately after exposure (See below). The second group acts more generally to down-regulate stress. Both approaches impact symptom generation by altering the neurochemical landscape of the brain. These psychosensory therapies employ the body's innate senses to change the mind and as such differ from talk therapy or drug therapy. We can think of this grouping as a third pillar, if you will, as it uses a different mechanism to effect change.

Can we use the extrasensory responses of sensory input to alleviate suffering arising from, as Shakespeare notes, a 'deeply rooted sorrow.' To use this response to change how we think and act? To create a sense of safety so that we are not frightened? To remove chronic anger,

guilt or shame so we can move on? The answer is described below.

Psychosensory Therapy

Touch

Touch, as we normally think about it, is based on mechanoreceptors of no emotional importance embedded in the skin. These mechanoreceptors monitor the perception of pain, heat, temperature, pressure, vibration, and position. Indeed, from a Western medical perspective, there is no expectation that touch should treat or heal anything. Nonetheless, its extrasensory effect must exert some evolutionary advantage. We speculate that gentle touch produces the feeling that you are not alone and defenseless. It is innate and hardwired. It is how we are non-verbally informed that we are not abandoned. It is calming and reassuring.

Acupuncture, part of the 4,000-year-old practice in **Traditional Chinese Medicine** (TCM), has no intrinsic emotional value, yet the insertion of needles along acupoints has powerful effects on mood and pain. There is extensive research demonstrating a rise of serotonin

and opioid-like substances, increasing comfort and a sense of well-being, with acupuncture needling.²

Reiki³ is a Japanese touch technique for stress reduction and relaxation that also promotes healing by its effect of the laying on of hands or merely moving the hands over the body. Its effect is nonspecific. Reiki is based on the idea that an unseen “life force energy” flows through us, causing us to be alive. If one’s life force energy is low, then one is more likely to get sick or feel stress. If it is high, one is more capable of being happy and healthy. The word *Reiki* is made of two Japanese words: *Rei*, which means “God’s wisdom or the higher power,” and *Ki*, which is “life force energy.” So Reiki is actually “spiritually guided life force energy.”

Touch as in massage therapy and Rolfing⁴ (a form of deep massage) reputedly breaks down tissue tensions and restores normal lengths to the muscles and tendons, thus reducing stress. Massage has been shown to cause a rise in serotonin and dopamine as well as a decrease in cortisol.

There are many therapeutic modalities that have evolved using touch to heal. Therapeutic touch⁵ is a contemporary healing modality drawn from ancient practices and developed by Dora Kunz and Dolores Krieger. Callahan Techniques–Thought Field Therapy (CT-TFT) and Emotional Freedom Techniques (EFT) and many of the touch therapies mentioned above are based on the assumption that all beings are composed of

complex fields of energy, and that altering the flow of energy through these fields enhances healing.

While evidence to support this assumption is lacking, these therapies can produce amazing results.

Posture (Position Sense)/Kinesthetic

Certain positions and facial expressions are another form of nonspecific psychosensory therapy. Take a relaxed posture and see how that affects you. Yoga⁶ is an extraordinary psychosensory therapy that down-regulates stress. Why should sensing the breath and various body positions produce calmness, increase resilience to stress, and diminish compulsive behavior? One explanation is that when we are anxious or stressed—both common problems in today's world—we tend to breathe in a more shallow way.

Encountering a predator causes us to breathe through our mouths rapidly. We do not breathe through our nose when being chased because we can move more air through our mouths. We speculate that nasal breathing naturally slows our breath and that feeds back to the brain that a predator is not pursuing us and we are safe. There are many types of yoga, from simple breathing and posture (Hatha) yoga, to hot (Bikram) yoga, to power (Ashtanga) yoga, to mention just a few. These forms of yoga provide multiple sensory inputs that align with how the individual experiences the world. As described above, using kinesthetic and breathing techniques, a simple method to calm an agitated individual is to have him or her sit in a chair with feet

flat on the floor, hands cupped upward in the lap, shoulders down, and jaw slack, and breath through the nose slowly¹. This posture is the physical opposite of defensive rage. It is almost impossible to remain agitated. Interestingly, smiling⁷ can act as a psychosensory therapy. Try smiling whenever you can; even an upward lips motion can have beneficial effects over the course of time. Frowning can have the opposite effect.

Vision

Order in general seems to have a calming effect. Perhaps this relates to the idea that in an orderly system predators will find it hard to hide. If there is disorder we might not pick up the signs of a predators. Sunsets, beautiful vistas, and grand canyons provide calm. Beauty, as in the eye of the beholder, can engender good feelings. Certainly a smiling symmetric face attracts attention and makes us feel happier.

Interestingly, individuals witnessing the havening process also experience comfort and well-being. This response is similar to a phenomenon called surrogate tapping⁸, where, after reactivation of a traumatic component, the therapist taps on his or her own body and the client receives a benefit. This response is probably mediated via mirror neurons. The exploration of this extraordinary extrasensory effect is just beginning.

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The lack of sunlight during the winter months leads to depression⁹, increased risk for suicide, and substance abuse. Adding light has produced documented results for disorders such as seasonal affective disorder.

Sound

Music and sound were thought by the ancient Greeks to penetrate into the depths of the soul. Music reportedly can soothe a savage beast. The sound of falling water is calming. Speed, rhythm, instrumentation, melody, and minor versus major keys are some aspects of music that affect us. Early forms of music used chanting. While chanting has no set rhythm, it is the types of sounds used and the ability to sustain a breath that determine the nature of the chant. Religious ceremonies use communal chanting to achieve a feeling of safety and unity.

It is hard for a Western ear not to get excited during the last few moments of Beethoven's Ninth Symphony or feel calmed by his Moonlight Sonata. Some have claimed that Mozart's music is therapeutic. Popular music moves us to dance, sing, and experience happiness. While music won't make us smarter, it will increase our ability to solve certain problems, probably by nonspecific changes in our mood and arousal. Some researchers feel that music exerts its calming affect by inhibiting other sensory input from impacting on the

senses. Many find that music can set a mood. Seasonal music tends to make us more cheerful, while gentle music makes us feel romantic.¹⁰

W. B. Cannon¹¹ discusses other aspects of psychosensory observations, such as the effect of martial music on fighting.

“For the grim purposes of war, the reed and the lute are grotesquely ill-suited; to rouse men to action strident brass and the jarring instruments of percussion are used in full force.... The Romans charged their foes amid the blasts of trumpets and horns ... the Russian General Linevitch is quoted as saying ‘Music is one of the most vital ammunitions of the army.’”

Taste and Smell

Taste is another sense that has effects other than taking away hunger. Best defined by what is called comfort foods¹²; these foods generally have a high carbohydrate or sugar content. Sugar seems to be the most consistent mind-altering substance and is very often craved. This may be the result of the sugar in mother’s milk when we are born. Other foods are culturally based, similar to music, ranging from chicken soup to baklava to chocolate pudding. They are associated with good feelings and home and safety. Because of the extrasensory component of food, we sometimes incorrectly use it as a drug to remove anxiety and take away boredom, leading to serious consequences in terms of obesity.

Aromatherapy¹³ shows modest but significant effects in a variety of situations. In one study, researchers studied lavender, rose, and lemon essential oils for their anti-stress action. Somewhat surprisingly, lemon oils were the best anti-stress aromas for the stress-producing situations tested.

Thus, sight, sound, smell, taste, touch, and position, and probably temperature and humidity and other environmental stimuli (low barometric pressure has been associated with increased violence¹⁴), have been studied, and some appear to have a beneficial effect. The mechanism by which these non-emotional sensory inputs act to alter our feelings needs further clarification. It is possible there remain undiscovered sensors in our bodies that transduce environmental sensations into affecting how we feel and act. How and why these inputs affect us, both for the long and the short term, will be the subject of future research.

Event-Specific Outcomes

In the animal model the exposure therapy used to treat emotional responses is called extinction training. This procedure takes an animal that has been conditioned to associate a sound or flash of light (conditioned stimulus, CS) with subsequent painful shock (unconditional threat stimulus, (UTS). After such training the animal shows signs of fear when exposed to the CS. In extinction training the sound or light (CS) is presented without the shock. After several trials the

animal learns a new response to the CS, which is no shock (CS → no shock). Research has shown that the original CS → UTS → Fear pathway, however, is not extinguished and can be readily reinstated. This is different than what is seen after successful psychosensory therapy such as Havening. Here, the ability to reinstate the emotional response is eliminated. The different outcomes between extinction training (non-reinforced exposure to the CS) versus exposure psychosensory therapy (comforting touch and distraction after imaginal exposure) suggest that a different mechanism is at work. Indeed, it can be suggested that unlike extinction training, no new learning takes place in havening, just the elimination of the relationship between the event and the emotion.

In humans an interesting question arises: Can we use this process in reverse, that is, disassociate a conditioned stimulus previously associated with something pleasurable and alter the response. To make, for example, remove craving for sweets? Yes, for example, as craving is generated via the limbic system applying havening to imaginal eating of sweets causes the craving to end. This produces a permanent change for specific stimuli, but often, much like addictive responses, unless the underlying landscape is altered a craving response to the same or another substance or activity can occur.

Psychosensory therapy as a general field has been studied in a fragmented way. There are probably

common mechanisms by which these senses affect us. Further research will allow us to understand how to use these powerful, safe techniques to alleviate stress, alter trauma-based disorders and increase resilience.

Further Reading

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