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The Enteric Nervous System and Body Psychotherapy: Cultivating a Relationship with the Gut Brain

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Abstract

The Eating, Needing, Sensing (E.N.S.) system is a somatic insight-based therapy for working with clients in a session as well as across time. This system proposes the inclusion of the enteric nervous system (ENS), the brain in the gut, into body psychotherapy (BP). A system is proposed for how to cultivate awareness of the ENS, utilizing scientific research, psycho-peristalsis, and theories of the body. This E.N.S. system includes paying attention to how a person's eating, needing, and sensing is digested in the gut brain. Examples and questions are presented to foster consciousness of the ENS. ENS awareness is intended to inform a person of the gut's messages in order to increase emotional self-regulation by appropriately listening and responding to the gut in the moment.

Keywords: body psychotherapy, enteric nervous system, second brain, gut brain, nutritional counseling

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Introduction

Most people believe that intelligence comes from the brain in our heads. However, each individual actually carries two brains within the body: one in the head and one in the gut. The brain in the gut is called the enteric nervous system (ENS). Several researchers have proposed that the ENS, the nervous system in our viscera, is a second brain within the body and has the ability to think for itself (Boyesen, 2001; Gershon, 1998; Mayer, 2011). Gershon (1981) stated that the ENS is “the intrinsic innervation of the gastrointestinal tract” (p. 227). The ENS consists of the esophagus, stomach, small intestines, and large intestines, and contains 100 million neurons (more than either the spinal cord or peripheral nervous system) within its walls, which, from esophagus to anus, measures about nine meters (Gershon, 1998). The enteric nervous system generates a copious amount of information from the millions of neurons it contains. Therapists may miss vital information within a session that could facilitate a client's awareness and understanding of self if only communicating with the head brain and not tapping into the messages of the gut brain.

Body psychotherapy (BP) is a distinct branch of psychotherapy involving an “explicit theory of mind-body functioning that takes into account the complexity of the intersections of and interactions between the body and the mind, with the common underlying assumption being that a functional unity exists between mind and body” (United States Association for Body

Psychotherapy, 2013). BP claims that listening to the body is important for client well-being. Yet, BP has not historically attended to the gut and its nervous system, which have been found to operate separately from the central nervous system (CNS) (Gershon, 1998). This paper explores the unique way in which attention to the ENS can support body psychotherapists in clinical practice.

The theory proposed here is a system in which therapists can facilitate awareness of the ENS within each client, inspired by body psychotherapy interventions. This system uses the acronym E.N.S., where E stands for Eating, N stands for Needing, and S stands for Sensing, to help clients become aware of their enteric nervous systems.¹ When speaking of the Eating, Needing, Sensing system, E.N.S. will be used, while ENS without periods will refer to the enteric nervous system. The Bodying Practice (Keleman, 2004), Psycho-Peristalsis (Boyesen, 1974), the Focusing Technique (Cornell, 1996), and the use of breath for relaxation are the BP interventions that will be used in conjunction with the Eating, Needing, Sensing (E.N.S.) system. The goals of working with the E.N.S. system are to: cultivate awareness of how the gut brain processes eating, needing, and sensing; increase emotional self-regulation (managing and monitoring responses to emotions) through internal listening to one's unique bodily needs; and moment-to-moment body attentiveness.

It is important to note that the CNS (which includes the brain and the spinal cord) and its messages will not be discounted in this paper. The brain and the gut brain are in constant communication via the vagus nerve (Gershon, 1998). Still, messages from the gut brain might be repressed, ignored, or drowned out by the head brain. As clients become aware of gut messages, they can use the tools in the E.N.S. system as a means to release repressed emotion and facilitate proper digestion of food. “System” is defined as an organized or established procedure (Heuristic, n.d.). Additionally, “ENS”, “gut brain”, and “second brain” will be used interchangeably to refer to the enteric nervous system, and “head brain” will refer to the brain in the head. In order to understand the value and function of the ENS, we turn to some prominent research in the field.

Literature Review

The ENS was first popularized as a second brain by Michael Gershon (1998). Gershon (1998) asserted that a multitude of neurotransmitters in the gut, such as serotonin and acetylcholine, make the ENS function much like the brain in the head. The gut brain has been found to operate separately from the head brain, making it possible that the ENS could have “neuroses” of its own and experience an inability to process input from the head brain (Gershon, 1998; Mayer, 2011). It is estimated that 95% of serotonin is located within the gastrointestinal (GI) tract, consisting of the stomach and intestines (Kim & Camilleri, 2000). The gut has over seven different serotonin receptors (Gershon, 1998). Serotonin is a neurotransmitter relevant to depression, migraines, and other neuropsychiatric illnesses (Kim & Camilleri, 2000). Additionally, serotonin aids in signaling peristaltic action and communication from the gut to the head brain (Gershon, 1998; Baker, 2005). Peristalsis helps with absorption of food and propelling food forward, and functions as a cleansing tool that removes potentially harmful colonies of bacteria, thus maintaining optimal health (Peristalsis, 2013).

¹ The author devised this system working with clients as well as her own body from 2006 to 2013. She learned that what was relevant was not just what her clients were eating but how, when, and why they were eating food. Eating psychology and body psychotherapy illuminated the relationship between how clients approached food and how they related to other aspects of life. The author adapted and integrated material from the Institute for Integrative Nutrition, the Institute for the Psychology of Eating, her yoga teacher trainings, and studies in body psychotherapy.

Mayer (2011) claims that 70-80% of the body's immune cells are in the tissues of the gut. Some research has found a connection between a healthy immune system and mental health (Leonard, 2007; Esch, 2002). In addition, 50% of endorphins, which are endogenous opiates, are made in the ENS and influence the immune system (Gershon, 1998). Endorphins play a role in the defensive response to stress (Amir et al., 1980). Tension in the gut brain may block the production of endorphins, diminishing the ability of the immune system to function (Gershon, 1998).

The formation of a healthy gut is initiated in the womb. Various researchers posit that new cells within the ENS continue to be created post-natally (Gershon, 1998; Pham et al., 2004), when the ENS is plastic (adaptable) and still developing (Boyen, et al., 2002). The first completely developed system in the body of a fetus is its digestive system (Love & Sterling, 2011). Early experiences, such as an infant's interactions with their parents, may affect the personality and development of the ENS (Gershon, 1998; Love & Sterling, 2011). Mayer (2011) theorizes that a newborn's first experience of pain (hunger and abdominal discomfort) and pleasure (related to the experience of ingestion) are held within the gut, affecting the homeostasis of the ENS. The infant's experiences with food intake, satiation, and gut responses provide the newborn with its first value-based map of the world based on positive and negative experiences with food (Mayer, 2011).

O'Mahony et al. (2011) assert that early-life stress induces alterations in many systems throughout the body including the GI tract. The effects of stress and trauma on the gut have been found to alter the ability of the ENS to function properly (Gui, 1998; Mayer, 2000; Mayer et al., 2001; Stam et al., 1997). O'Mahony et al. (2011) found that stress from maternal separation causes alterations in the hypothalamic-pituitary adrenal (HPA) axis (involved in the stress response) that increase hyperactivity, decrease pain modulation, and change gut flora. Research on probiotics, a type of beneficial bacteria, has shown its ability to reduce anxiety, decrease cortisol production, and to have other beneficial psychological effects (Carpenter, 2012; Cryan & O'Mahony, 2011).

Healthy gut flora also influences neural development, brain chemistry, emotional behavior, pain perception, and how the stress system responds in adulthood (Carpenter, 2012; Cryan & O'Mahony, 2011; O'Mahony et al., 2011). The alterations in the gut that affect its functioning correlate with the onset of Irritable Bowel Syndrome (IBS), including pain in the abdomen, gas, bloating, constipation, or diarrhea (O'Mahoney et al., 2011). Many researchers have found that IBS is connected to stress and its ability to alter the gut's capacity to function (Gui, 1998; Mayer, 2000; Mayer et al., 2001; Stam et al., 1997). The idea that alterations in the gut precede IBS is only one view.

The opposite perspective has also been observed, demonstrating how disturbances in the GI tract correlate with neurological and psychiatric features (McMillin et al., 1999; Mertz, 2005; Scaer, 2013). It is difficult to find any research indicating that the ENS has cognitive capabilities similar to the CNS. Numerous researchers have linked IBS with disruptions and alterations in the head brain (Drossman, 2005; Mertz, 2005; Sykes et al., 2003). It is not a common view that the enteric nervous system can function as a separate nervous system and that a change in the ENS can be just as detrimental to mental health as issues within other nervous systems in the body.

The Enteric Nervous System and Body Psychotherapy

Body psychotherapist Gerda Boyesen created Biodynamic Psychology in the 1970's, claiming that the gut stores emotional energy to be released and integrated (Boyesen, 1980). Boyesen (2001) believed that the digestive tract is the most primitive and instinctual part of the body. She focused her therapeutic work on the gut for releasing undigested emotions. She named the digestion of life experience "psycho-peristalsis", which is the healing mechanism in the body that provides a connection between psyche and soma and is tracked via sounds in the gut (Boyesen, 1974).

Boyesen (1974) contended that sounds from the gut can be heard in a Biodynamic Massage session at times of insight or after a moment of expression and resolution. Da Silva (1990) and King (2011) found similar results in their research on stomach rumblings, called *borborygmi*. The findings detailed the use of *borborygmi* as a way to process therapeutic content during sessions. For example, a therapist spoke of experiencing a sinking sensation in their gut and a loud groan from his stomach while a client was talking of unresolved issues (King, 2011). In response to the therapist's stomach noises, the client began to listen to his own body and feel their emotions. The client then verbalized their perception of why the therapist's stomach groaned. When one is able to be aware of and express one's gut messages, relaxation is most likely to occur within the ENS.

When one experiences negative emotions, the intestines naturally cramp and digestion becomes physically and emotionally impaired (Boyesen, 2001; Vianna et al., 2006). Physical relaxation allows the intestines to settle and digestion to function (Boyesen, 2001). Boyesen (2001) listened to the intestines via a stethoscope in Biodynamic Massage. This kind of massage is meant to break down habitual ways of being that shape muscle tone and posture, and thus affect the body's ability to function (Schaible, 2009). Internal organs can become stiff and armored, which is likely to cause tissue changes and loss of peristalsis, making it difficult to process food, emotional energy, and stress (Schaible, 2009). Psycho-peristalsis is meant to bring awareness, integrate repressed energy, and empty suppressed content from the guts (Boyesen, 2001).

Many researchers believe feelings may be held in the gut and that reflection on gut sensations can help an individual consciously release past wounds via the ENS (Da Silva, 1990; King, 2011; Love & Sterling, 2011). Love & Sterling (2011) state that from the time of birth there is awareness of and an aversion to emptiness, and a striving for both physical and emotional fullness in the body. They speculate that from an early age, children lose touch with their gut feelings and are shaped by the external world which they rely on to survive; ENS information is drowned out by the head brain as children are externally influenced (Love & Sterling, 2011). A child's ability to listen to internal hunger and fullness cues can be affected by the environment and external factors. When feelings of full and empty were first felt can potentially be revealed by explorations of the past in order to integrate those experiences into the present (Love & Sterling, 2011).

A person listening only to the head brain can ignore messages from the gut brain until it is under duress. It is theorized that when the ENS stays in a stress response for long enough it will eventually send signals to overwhelm the head brain and make an individual listen to the gut's messages. Gut reflection is believed to then dislodge the external thinking that causes distress to an individual (Love & Sterling, 2011). It is noteworthy that Love & Sterling's data are speculative due to the fact that reflections on past gut sensations are based on the client's subjective memories. Additionally, some research would argue that emotions cannot be held in the digestive tract and are created from processes in the head brain (Damasio, 1999; Scaer, 2013).

The Enteric Nervous System and the Body

Somatic patterns like posture can, according to Keleman (2003), shape the way one experiences the world and affect every tissue, muscle, organ, cell, thought, and feeling. Stanley Keleman, creator of Formative Psychology, explains that the shape a body takes is an anatomical organization and that the shape of any body is a behavior (Keleman, 2008). Keleman (2004) uses a methodology called the Bodying Practice, which involves becoming aware of how one is living in one's body, intensifying this bodily experience, and then collapsing the intensification to re-organize new patterns of being. When there is anatomical change, there is behavioral change and vice versa (Keleman, 2008). For example, posture while eating affects how the ENS digests input (David, 1991; Hirota et al., 2002). Slouching can cause peristaltic waves to be irregular and may even lock food in one place (David, 1991). Alignment of the spine may be a precursor to experiencing biological and psychological fullness (David, 1991). Thus, the form of the body affects all muscles and organs, including the ENS, and in turn the proper functioning of the ENS, comprising moving, processing, and digesting, may affect the form of the body.

The body is constantly pulsating, but it can be interrupted, deadening satisfaction within the body (Caldwell, 1997; Keleman, 1975). Yet, with each new experience, the body re-forms (Hartman & Zimberoff, 2004; Keleman, 1975). Noticing posture and tension may allow one to tap into thoughts and emotions that correlate with the formation of one's physical structure (Keleman, 1975; Young, 2005). Disintegration of current body alignment can then occur, leading to the re-organization of a new body structure (Keleman, 1975; Young, 2005). This could be as simple as a person learning to sit up with an erect spine and thereby invoking new internal emotions. Another way to tap into these emotions and sensations in the ENS is through the food one is digesting.

Marc David (1991), founder of the Institute for the Psychology of Eating, and Gershon (1998) support that we eat what we are. When eating under stress, one has less saliva in the mouth, which produces fewer enzymes, and interrupts one's ability to digest food properly (David, 1991). An individual may choose certain foods depending on a need to perpetuate or stop a feeling. Oudenhove et al. (2011) found that experiencing the emotion of sadness will increase the urge to eat. Without awareness of the emotional processing of the ENS, humans can reach for what would fill a physical hunger to satiate emotional hunger (Locher, Yoels, Maurer, & Ells, 2005; Wardle, 1990).

Joshua Rosenthal (2008), founder of the Institute for Integrative Nutrition, considers primary food (the food that nourishes the body first) to be how one is filled by one's relationships, physical activity, career, and spiritual practice. An individual who forgets to eat lunch from being caught up with having fun in the snow is being filled by primary food. Letting go of substitutes, such as food and drugs, to quench emotional hunger can bring about painful physical manifestations of the emotional suffering that was covered up by those substitutes (David, 1991). One's experience of food can be an experience of one's self (David, 1991). As food is digested within the ENS, it is feasible that food choices affect how bodies and actions are shaped from the inside out.

Theory

As seen in the works of Boyesen (2001), David (1991), Gershon (1998), Keleman (2008), Love & Sterling (2011), and Mayer (2001), there seems to be a strong relationship between the gut, head brain, and behavior. Research supports the correlation between the head brain and behavior in therapy (Damasio, 1999; Schall, 2004), but the third underexplored element is the gut. Attention to how the ENS digests food, sensations, and needs could facilitate the processing of new and old input from the gut. Digestion typically involves stripping food of what is needed and disposing of

what is not. Digestion of sensations and needs can work the same way. An individual can engage with sensations and needs and use the information that is useful from the exploration and release what is not. The individual can then respond differently to ENS messages through new gut insight.

The Eating, Needing, Sensing (E.N.S.) system includes psycho-education about food and how it affects the body, discovering the meaning of cravings and needs, and paying attention to sensations in the gut. The gut brain may contain all sorts of information about emotions, past experiences, proper digestion of food, and current states. Explorations by Boyesen (2001), Da Silva (1990), King (2011), and Love & Sterling (2011), show that digestion in the gut can include how emotions, events, trauma, and life experiences are processed within the gut, in addition to how food is broken down. Nourishment can come from the food one puts into one's body and how one is fed by one's life. Therefore, the definitions of digestion and nourishment can expand to include how the body processes information physically, emotionally, and cognitively.

Eating

Attending to the type of food ingested and how it is put into the body are ways of cultivating a relationship with the ENS. Noticing how food is digested in the gut can lead to a discovery of the information held within the ENS. A person who eats lots of cakes and cookies can explore if they are stress and trying to find comfort through sweet food. Eating these types of foods will most likely keep an individual feeling stressed due to the low-nutrient and high-sugar contents. When physical hunger is present and the body is fed with high-quality, nutrient-dense food, nourishment is most likely occurring in a way that will optimally keep down stress levels, tension, and inflammation.

One way to alter the ENS is to change the food one eats. Food is responsible for tissue repair, growth, hormones, and immune function (Rojek, 2003). Food can affect the neurotransmitters in the gut that influence feelings, thoughts, and behaviors (Rojek, 2003). For example, a high protein diet can promote dopamine production and provide a sense of calm (Kruse, 2011). Pert (1997) discovered several bio-chemicals, such as endorphins, involved with emotions, and Rojek (2003) holds the notion that food is the material needed to produce bio-chemicals in the body. Thus, there is a probable correlation between eating foods that support digestion and the ability to manage difficult emotions. Healthy gut bacteria have been shown to play a role in manufacturing the body's supply of serotonin, which influences mood and GI activity (Carpenter, 2012). It is possible to eat in a way that reduces inflammation, stress, food cravings, and nutritional deficiencies in the gut by consuming whole, unprocessed foods, which in turn supports the growth of healthy bacteria (Blaut, M, 2002; Gibson & Roberfrid, 1995; Jacobs et al., 2009; Rojek, 2003). Undigested food in the GI tract promotes parasitic growth and creates less space in the gut for healthy bacteria, which may also affect mood (Rojek, 2003).

Food can encourage one to feel clear and grounded or to pollute the body and make it difficult to listen for gut brain messages. Careful attention to the digestion of food may facilitate awareness of the difference between eating preserved and processed foods vs. whole, unprocessed foods (Kweon et al., 2001; Mateljan, 2013). Eating whole, unprocessed foods will typically provide energy and clarity, thus assisting the therapeutic process through one's ability to think clearly from both brains. Additionally, how one is eating is just as important as what one is eating. How nourishment is consumed includes the speed of eating and the rhythm and timing of eating throughout the day. Eating quickly can cause a stress response in the body, which will inhibit digestion (David, 2005) and negate the benefits of eating whole, unprocessed foods. Eating consistently throughout the day can cultivate a trusting relationship with the gut brain.

Before a baby can communicate verbally, food is often used to meet every physical and

emotional need. For the rest of life, food can be connected to love. Food experiences can trigger memories in the ENS correlated with the love received in childhood, current self-love, and survival needs. For instance, fostering awareness of the speed of eating at each meal and the cues of satiation could help one to explore how food is being used to fill an emotional emptiness. Insight and different responses to the information held in the ENS could release stagnant feelings in the gut.

Needing

Noticing what one needs is another part of fostering awareness of the ENS. This is done by learning the difference between physical and emotional hunger. Physical hunger refers to what is felt within the body as a biological need for the energy to function. Physical hunger feels different for each individual. Some people experience stomach gurgles, light-headedness, or a decrease in the ability to think from either brain. Emotional hunger is defined as feelings of emptiness when one does not need food. When trying to fill an emotional hunger with food, people tend to have precise cravings and choose specific foods (Konowitch, 2012). For example, one may reach for ice cream to bring sweetness and comfort into a moment of feeling lonely and not wanting to deal with emotions. Learning the difference between emotional and physical hunger can facilitate awareness of what the ENS needs, whether that is physical (hunger) or emotional (loneliness, fear, anxiety). Inflammation, stress, and cravings may decrease while the ability to regulate emotions increases as one learns to relax and trust in how one chooses to nourish the ENS.

Excessive external stimulation can make it difficult to appropriately assess suitable food intake, needs, and senses within the ENS. The continuous stimulation from the environment (television, music, tables, and cell phones) can be experienced as a charge within the body from an overload of input (Farjon, 2013). Each charge without a discharge (a bodily or emotional release including stomach gurgles, relaxation, crying, gas) can make it increasingly difficult to tune in to the gut brain. Boyesen (2001) used touch to facilitate a discharge within the gut. However, attention to eating, needing, and sensing might initiate a bodily or emotional release within the gut through one's deeper understanding of oneself and different responses to ENS messages. For example, not allowing nourishment to be felt might lead to an exploration of the past and how one parent might have withheld love and support. This new insight may facilitate the realization that holding onto these past experiences and feelings of unworthiness is unnecessary in the present. Finding positive, loving relationships and eating foods that feel satiating may now be explored as new options in one's life.

Nourishment can come from positive food experiences or surroundings and social situations which feel satiating. One can nourish the gut physically and emotionally based on the discovery of what actually feels to be internally satiating, instead of what one is told externally. Awareness of ENS messages and needs might aid people in discovering who they are separate from how they have constructed themselves socially. The ENS can then be a guide in learning about one's unique desires through what digests well by paying attention to the sounds and sensations of the gut.

Sensing

The final component of working with the E.N.S. system is to develop awareness of sensations in the gut. Sensations in the gut can be signals of the state of the gut brain, and the condition of the gut can be an indicator of information and emotions held within the ENS (Boyesen, 2001). Cultivating a relationship with the gut's sensations can help digest past experiences that first shaped personality (Love & Sterling, 2011). This occurs by understanding sensations, interpreting the gut's messages in a way that feels useful and digestible, and using new insight to let go of old ways of being. Tracking

emotions held in the gut can bring about new forms of self-expression and alter one's interpersonal and intrapersonal interactions.

Boyesen (2001) asserts that the main healing mechanism in the body resides in the gut. The potentially quick-healing nature of the gut could lead to rapid therapeutic results. People can continuously discuss what they are upset about, but without the change in the body, the patterns that have been ingrained within the muscles may continue. Slowing down verbal communication to focus on sensations within the ENS can facilitate the arising of an emotional response. Feeling one's emotions can foster a bodily release (crying, screaming, gas, gurgles, bowel movements, and sweating) of what is no longer necessary to contain within the gut.

The ENS has the capability to regenerate over time as cells die and renew (Gibson & Burke, 1983; Vladimir & Dolmatov, 2011). Rapid cell turnover in the gut makes it structurally set up for change. Different choices made to nourish the gut, from fast food to home-cooked meals, can lead to a new gut forming as cells continually die and renew. By nourishing the gut with what digests well, one may alter the gut's ability to function. The relaxation felt in the gut from eating foods that digest well can transform the ENS by lessening tension held in the viscera. Thus, the development of a new gut can continue each time one pays attention to food that is being properly digesting. A subsequent feeling of relaxation in the gut brain also facilitates change in the form of the body, thus allowing one to stand up taller or present oneself differently.

The type of listening in the Eating, Needing, Sensing (E.N.S.) system uses the Focusing Technique as its foundation. Focusing was created by Gendlin in the 1960's and "is a process of listening to something inside you that wants to communicate with you" (Cornell, 1996, p. 15). Focusing is about noticing how you feel and having a conversation with your feelings (Cornell, 1996). In this system, one tunes in to the noises, gurgles, or lack of sound within the gut and listens to sensations of tension, ease, lightness, and heaviness. ENS listening is not just about listening to the sensations in the moment, but nourishing the gut in the way that individuals want their guts to feel. If one is feeling stressed and anxious and wants to feel grounded and relaxed, one may eat protein, which can facilitate a sense of calm. In cultivating a relationship with the ENS, one can potentially increase one's ability to self-regulate through having a clearer sense of what will feel physically and emotionally satiating in the present and in the future.

Application

This E.N.S. system of working in a body psychotherapy session involves paying attention to these three areas/questions:

Eating: what is the client eating?

Needing: what is the client needing/craving?

Sensing: what is the client sensing/feeling?

These parts of the E.N.S. system interact with one another and are not separate. When cultivating awareness of how food affects oneself in the eating section, an individual is also tuning into needs and sensations. Additionally, noticing sensations in the gut brain relates back to foods and cravings. This E.N.S. system can be utilized in every session. The progression of cultivating awareness of the gut brain and its messages will be different for every individual.

Thus, there is no set amount of time to complete this system. It can be consciously touched upon and deepened through time. It could take months or years to foster awareness of the messages from the gut brain, depending upon the commitment of the individual to do this work. When there is no relationship with the ENS, it will take time to hear and understand its messages. Tracking

eating, needing, and sensing offers information about the level of awareness clients have of their gut brains. The therapist should notice what areas could use more attention in guiding the client towards what needs more focus and exploration. This is a process that each person can work on outside of therapy as well to facilitate new habits of listening to the enteric nervous system.

Eating

The main question in this section of the E.N.S. system is “what is the client eating?” The therapist is learning what, when, and how the client consumes food. A client’s relationship with food can be indicative of how they relate to everything else in life. The therapist can begin with an eating assessment/history and ask questions such as: Does the client restrict intake of food? Does the client over or under eat every day? Does the client eat foods knowing they do not feel good in the ENS? Stuffing food in the gut can also make it difficult to feel what the ENS is trying to relay. In addition, constantly not eating enough can decrease one’s ability to concentrate on anything else but food as one is most likely in a continuous state of deprivation.

To cultivate awareness of how the client’s choice of nourishment affects them, the therapist can assign the homework of keeping an E.N.S. journal. The journal documents what the client is eating, how fast, and what the internal and external environments are like while having an eating experience. This will invite the client to notice how food is being digested in the body. Bloating, gas, and cramping can be signs that what one is eating does not sit well in the gut or that one is eating too fast. One could write down that one ate a salad quickly while completing tasks at work, noting in the journal feelings of being bloated after the meal and attributing this to the environment and pace of eating, as on a separate occasion, one had eaten that salad and it was digested fine when eaten slowly. This can help one explore the stress in one’s life and perhaps the feeling of rushing through everything. Making a treatment plan with a client involves practical changes in eating behavior.

Once clients notice how quickly or slowly they are eating, therapist and client can discuss the client’s experiences with feeling satisfied. Does one speed through a meal to ignore the fact that one is giving oneself nourishment? Does one extend the experience of eating, not wanting to let go and end the receiving of sustenance? The way one experiences emptiness and fullness within the ENS can be clues around one’s capacity to contain happiness and satiation in the body. How one relates to food can also be an indication of how one relates to others. Does one speed through engagements with friends and family or never want an event to end?

Rhythmic eating can encourage one to listen to one’s physical and emotional gut needs throughout a day. In the E.N.S. journal, one can write down when one eats. A therapist can inquire: Does the client skip breakfast? Does the client eat every two hours and under what circumstances? Does the client eat normally all day and then eat a large quantity of food at night? Does the client restrict nourishment and satiation on a regular basis? Rhythm with food can invite discussion about what clients believe they deserve in terms of nourishment and love. If one possesses the belief that one doesn’t deserve nourishment (in whatever form it comes in: food, love, affection), the body’s cortisol levels can increase because of the stress these negative beliefs induce (Eck et al., 1996). Beliefs around food can then affect the optimal functioning of digestion.

Needing

The focusing questions in this section of the E.N.S. system pinpoint what the client needs/craves. In this part, a client learns the difference between physical and emotional hunger and the therapist may explore a client’s history with needs and cravings. This can occur at the same time as the evaluation of the client’s eating. The therapist can inquire: Does the client know the difference between physical

and emotional hunger? How does the client experience physical and emotional hunger? Keleman’s *Bodying Practice* (2004) can be utilized to intensify what the client is feeling in the gut to come to an understanding of how sensations of needs or cravings feel in the ENS. A client might discuss an intense craving for sugar. The therapist can ask the client to focus on the gut and feel the sensations of this craving. During intensification, the therapist can inquire about memories that may be arising for the client. In this discussion, the therapist can ask: When does the client first remember what fullness, emptiness, and having a need to be filled, felt like in the gut? What emotions arise from this reflection?

The therapist can guide the client to process experiences of needs and cravings, either for survival or from desire. Does the client know how to fill an emotional need without turning to what would feed a physical need? What does the client typically crave, physically and emotionally, when an emotional hunger arises? As Boyesen (2001) connected gut sounds as insights from the gut brain, cravings can be viewed the same way: as information about the current status of the ENS. Cravings can be a sign of nutritional deficiencies in the gut that affect the functioning of the body or contribute to a sense of lack in one’s life (Rosenthal, 2008).

Cravings can be distinctive to each individual depending upon what is going on internally and externally within the client’s body and life. A client with a specific craving for a particular food or activity can provide an opening for the therapist to delve into the meaning behind the craving. For example, every time a client gets sick, cravings for scrambled eggs and ginger ale may arise. The therapist can inquire about times when the client ate these kinds of food and possibly discuss how the client’s mother fed them to the client when sick as a child. Thus, eating those foods when sick as an adult is a way to re-experience the feeling of being taken care of by a parent.

The therapist can also investigate clients’ abilities to allow their cravings and needs to be satiated. Client and therapist can discuss emotions that arise when needs get met or when the charge of a need fails to find completion. One might speak about how one had always wanted hugs from one’s parents but never received them, so then turned to food to quench emotional hunger. In therapy, the client can dive into what it was like to not have that need met, cultivate acceptance of the need, and find other ways unrelated to food to find emotional satiation.

Lastly, the therapist can guide clients to sit with their feelings and sensations non-judgmentally without having to take action while experiencing a craving. This process utilizes the Focusing Technique (Cornell, 1996), which asks clients to describe sensations in the ENS and initiate conversations with their cravings. This could lead to insight as to how they allow or ignore their needs. Often, clients have not allowed the emotions that the cravings are masking to arise. When repressed emotions and unresolved needs begin to surface, it is important that the therapist support the client in titrating these emotions as they can be experienced quite intensely if a client has not tuned into the ENS before.

Sensing

The main question here is “what is the client sensing/feeling?” Tuning into sensations within the gut brain has been happening throughout the E.N.S. system. Here, clients learn how to track how they feel before, during, and after certain meals or activities. The therapist can ask: What sensations in the gut does the client notice when nourishing the body? Does the client feel lighter, heavier, grounded, spacey, sad, or joyful? How did the client feel in the gut before filling the body?

The therapist instructs clients to listen for what resonates in their systems by how the gut responds to inputs. They may experience relaxation, softening, gurgles, gas, tension, bloating, heat, or pain. The therapist can teach clients to slow down and listen for these sensations in the gut using the breath as a tool to facilitate relaxation. Clients then learn to feel their sensations while not having to take action to immediately ameliorate them. Reflection on sensations within

the gut can be written in the E.N.S. journal before, during, and after a meal, event, or emotional experience. Clients can tune into their gut feelings throughout an eating or nourishing experience and observe their abilities to sit with feelings of being full, empty, or in-between. The quality with which sensations/rumblings move through the gut brain can serve as information about how a client is digesting food, emotions, events, and information. The therapist can ask: What does the client sense in the ENS when digestion is occurring? What emotions arise when the client feels stagnant in the gut? Does the client feel fluid movement and hear noises within the ENS? Are there emotions connected to the ease or difficulty of digestion?

The therapist can investigate what it feels like in clients' ENS's when they choose to physically and emotionally nourish themselves based on externally received messages. Client and therapist can also explore what sensations occur in the gut brain when the client chooses to feed the body in alignment with what is needed. For example, a therapist can inquire what a client senses in the gut when eating a piece of cake just because everyone else was having a slice and that was not actually pleasurable to eat. Reflecting upon sensations in the ENS can help clients individuate from the societal constructs that may have previously defined them.

Appropriateness

As clients learn to be aware of the ENS, it is also important to rate the appropriateness of what they are eating, needing, and sensing in the moment. For example, a person might be at home alone not doing anything, feeling anxious, needing contact, and considering eating an entire chocolate pie. In that instant, this individual can take a pause and ask, on a scale of one to ten, how appropriate it is to have these sensations and needs and to be eating an entire chocolate pie. Furthermore, if the client is craving chocolate pie, is it congruent with a need to eat because the client feels true physical hunger? This process is entirely subjective. It could be appropriate to eat food to fill emotional hunger if mindfulness of senses and needs are present.

Craighead (2006) defines effective emotional eating as eating to fill an emotion only to the point that the emotion feels satisfied while not overfilling the physical body. Pausing to rate the appropriateness of eating, needing, and sensing, one can allow oneself time to reflect on what the ENS is trying to relay. This gives one the chance to integrate ENS information and take action that is in alignment with an inner knowing of what would best serve well-being. This part of the E.N.S. system can be utilized when one feels more grounded in one's skills of listening to the gut brain and its messages. It could be difficult to assess appropriateness at the beginning of a relationship with the ENS when an individual might be unclear about what the ENS is trying to relay.

Conclusion

Becoming aware of eating, needing, and sensing will potentially foster a relationship with the enteric nervous system in which clients will be able to hear and understand its messages. This can lead to an increase in emotional self-regulation through internal listening and responding to unique bodily needs. More research on the ENS could prove very useful in incorporating the gut brain into body psychotherapy. Investigations need to be completed on the ENS in a therapeutic context that demonstrates how working with the second brain can affect the outcome of healing and transformation for clients. Additionally, further research needs to be initiated on whether the assertions made in this paper are accurate and effective. The limitations of this theory lie in that assumptions were made as to how the eating, needing, sensing (E.N.S.) system works.

It is yet to be documented how the head brain could be affected by awareness of the gut brain

and how ENS consciousness may facilitate a dialogue between both brains. The E.N.S. system outlined in this paper serves as a starting point for the process of incorporating the insight of the second brain into a session. Perhaps with knowledge and time, body psychotherapists will be able to integrate the gut brain into therapeutic work and provide clients with a new lens through which to understand their bodies and be able to live and interact from a place of congruency, authenticity, and genuineness in the world.

BIOGRAPHY

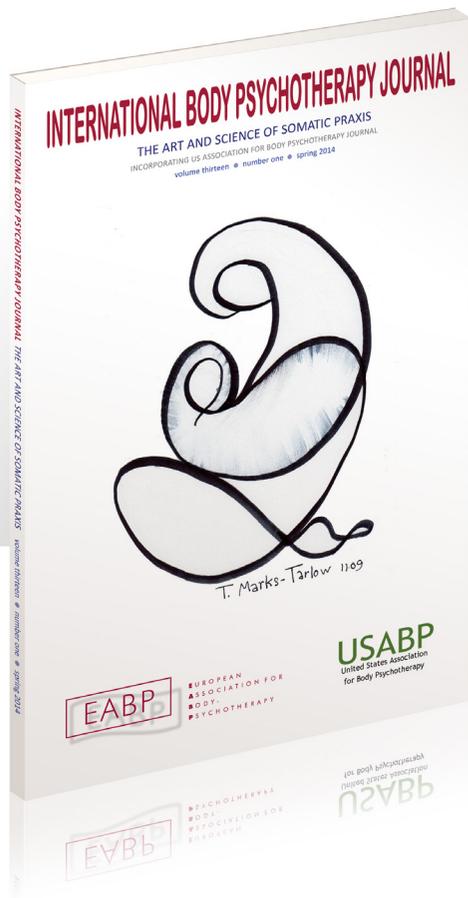
Stephanie Pollock received her master's degree in somatic counseling psychology with a concentration in body psychotherapy at Naropa University. She is a certified health coach, eating psychology counselor, and yoga teacher. She would like to thank Christine Caldwell, Danielle Carron, Agn s Farjon, Kimberly Lubuguin, Jacqueline Carleton, Etalia Thomas, Beit Gorski, Katie Asmus, Leah D'Abate, and Ethan Fox for their generous support in the writing of this paper. She would also like to thank all of the researchers and body psychotherapists who inspired her to explore the enteric nervous system in all its wonder.

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