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Article 26

Rogers Revisited: The Genetic Impact of the Counseling Relationship

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Introduction

Recent research in the area of epigenetics offers evidence that the core conditions Carl Rogers proposed as being essential for effective counseling are also conditions that heal down to the cellular level. Epigenetic science studies the impact of the environment, including emotions, on physical and mental health. This new science is a neurobiological vehicle of resilience that puts person-centered counseling in the driver's seat. This paper provides counseling interventions that build on Rogers' core conditions, founded in epigenetic science. These practices, like neuroplasticity, heal people down to the biological level and have implications for all who heal and for those who appropriate funding for healing.

Purpose and Overview

Research continues to support Carl Rogers' proposal that a therapeutic relationship consisting of empathy and warmth is associated with positive client outcomes (Lambert & Barley, 2001). Neuroscientists, biologists, and geneticists are now studying how counseling affects our physiology, which in turn, affects even our genes (e.g. Amen, 1998 Church, 2009; Rossi, 2002). The purpose of this article is to highlight recent evidence regarding the powerfully impactful influences of the internal thought environment, including perceived stress and emotions, on mental and physical health and propose interventions in support of this evidence.

The concept of resilience is the theoretical framework for this discussion, providing compelling implications for the counseling field as well as for those who allocate funds to pay for all healing modalities. This article begins with a brief description of a therapeutic environment as described by Carl Rogers. The article continues with a summary of the impact that environmental conditions, particularly stress, can have on psychological and physical well-being. A discussion of the important role that counselors play in providing an environment that heals down to the cellular level

of one's being is included. Psychological and biological references will set the conceptual foundation for understanding resilience from a holistic perspective.

A Rogerian View of Counseling

In working toward establishing a counseling relationship that leads to healing, the counselor must first honor the client's perspective. This can be accomplished by basing interventions in a person-centered approach, couched in unconditional positive regard (Rogers, 1980).

What is "unconditional positive regard"? Rogers said that in creating an environment ripe for change, the counselor must demonstrate acceptance or caring. He uses the word, "prizing" (Rogers, 1980, p. 116). "Prizing" is a beautifully reverent word. *The Free Dictionary* defines it as, "worth striving for" and uses the words, "highly desirable" in the definition (Prizing, n.d.). Merriam-Webster uses the words, "to value highly" and "esteem" (Prizing, 2011). Imagine after sojourning in indescribable adversity, coming in brokenness to a counselor and for the first time, experiencing feelings of value and esteem, even feeling as someone worthy of another's striving! Rogers described the ideal relationship between client and counselor,

The first element could be called genuineness, a realness, or congruence.

The more the therapist is himself or herself in the relationship, putting up no professional front or personal façade, the greater is the likelihood that the client will change and grow in a constructive manner. (Rogers, 1980, p. 115)

Authentically relating yields a supportive counseling environment that is conducive to healing.

Louis Cozolino described counselors as "amygdala whisperers," (Buczynski, 2011, p. 14) saying, "We can think in terms of stimulating new neurons, helping existing neurons to grow and branch out and connect, and also having existing neural systems connect with each other in new and creative ways that support mental health" (Buczynski, 2011, p. 5). How does counseling work to change the brain? Kandel (1998) suggested long-term behavioral change that occurs through counseling changes gene expression, altering the strength of synaptic connections. Also, these changes alter the anatomical pattern of interconnections between brain nerve cells (Kandel, 1998). In other words, counseling changes brain structure.

This new science has exciting implications for the field of counseling. Feinstein and Church (2010) reported that successful counseling interventions changed gene expression. Researchers have found specific biological markers of psychopathology that are associated with gene expression. These markers are: exaggerated limbic system responses to harmless stimuli, memory and learning distortions, parasympathetic and sympathetic nervous system imbalances, elevated levels of stress hormones such as cortisol, and impaired immune system functioning (Feinstein & Church, 2010).

The following section of this article will include a review of the pernicious impact of stress on genes and ultimately, physical health. Recent research demonstrated that with effective counseling, measurable biological improvements can be made, impacting physical health. (Feinstein & Church, 2010). Through counseling, new neuropathways are created as people learn new ways of being. Corrective emotional experiences affect

gene expression by modulating the neuroplastic synaptic connections in the brain (Feinstein & Church, 2010).

Scientists have discovered that there are certain environmental factors that “turn on” or “turn off” genes. This is the science of epigenetics. Epigenetics is a Greek word with the prefix, “epi” meaning “on top of” or “above,” so “epigenetics” means “on top of the gene” or “above the gene.” Epigenetics relates to whether or not a gene becomes active. This is known as “gene expression.”

Recent evidence through the science of epigenetics offers hope as it lends support to the fact of a resilient human body and mind. Imagine influencing the brain to send healthy messages through the blood to the body. Healing thoughts, effectively processed, can positively affect genes. To be effectively processed, these positive healing thoughts must be in harmony with subconscious programming (Lipton, 2008). This is where the work of the counselor becomes germane. A counselor can help bring the subconscious thoughts to consciousness, opening the way for the client to choose to accept or reject these thoughts. Through counseling, thought patterns that have been unhelpful in the past can be deconstructed and new ways of being can be envisioned (Presbury, Echterling, & McKee, 2008). These new ways of being can enhance health.

According to Carl Rogers, new ways of being are birthed in an environment consisting of a specific set of core conditions. The first element, or condition for counseling - congruence, describes what neuroscientists now call “attunement.” Cozolino (2010) referred to “empathic attunement.” Empathic attunement combines Rogers’ first element, congruence, with his third element, empathic understanding. Rogers (1980) described empathic understanding as the accurate sense of feelings and personal meanings experienced by the client. Attunement, or congruence can only occur in an environment of “unconditional positive regard,” Rogers’ second element, allowing clients to feel what they feel and be where they are. Cozolino (2010) stated that empathic attunement provides the therapeutic environment that is optimal for neuroplasticity.

Physiological Stress Response

Why is the emotional environment such a dominant focus in holistic healing? The effect of the emotional environment can be positive or negative, healing or destructive (Lipton, 2008). For example, failing to effectively process negative feelings, emotions, and tensions invites the harbored ongoing stream of negative thoughts and emotions to pugnaciously attack the body (Church, 2009). Each thought, feeling, and emotion causes a release of biochemicals into the blood stream. The bloodstream deftly deposits these biochemicals into the appropriate organs (Church, 2009). This may explain somatic symptoms such as stomachaches and headaches that often accompany emotional distress (Amen, 1998).

Cozolino (2010) reported that prolonged stress is linked to disease and to hippocampal atrophy. Stress hormones break down complex compounds into energy. The process blocks protein synthesis while impeding new neural growth and immune functioning. Proteins are essential for immune support. In fact, prolonged periods without protein syntheses yield disease. In times of stress, protein production is impeded so that higher rates of metabolism can be maintained to support fight or flight. During prolonged periods of stress, cells become overburdened with the constant demand for sodium

transportation. Eventually, the overworked cells die. When the hippocampus is damaged in this way, depression and memory problems result.

Cellular biologist Bruce Lipton (2008) explained that when the intricately made human body detects danger, it directs blood flow away from the torso and major organs, giving deference to functions that support the limbs for fight or flight. This action shuts down the body's growth mechanism and immune system, so energy can be directed to fighting or escaping the imminent threat.

This process works very well for escaping danger. However, when a person lives in conditions of sustained stress, blood flow to the forebrain, which is responsible for language, intelligence, and abstract thought, is restricted. Dawson Church (2009) estimated that as much as 80% of the blood in the frontal lobes is redirected to the muscles to support fight or flight, explaining why it is difficult to make decisions when under conditions of stress.

The impact of the fight-or-flight process reflects the body's two operating modes—protection and growth. The body cannot function in both modes concurrently (Lipton, 2008). In growth mode, all organs and the frontal brain are receiving adequate blood flow. In protection mode, blood flow to the frontal brain and visceral organs is constricted so that extra blood can be diverted to the hindbrain and extremities. When living under conditions of sustained stress, one is living without full immune protection and without normal growth functioning. With this scenario, genes are modified and disease receives its ineluctable invitation (Church, 2009; Lipton, 2008).

Environmental stressors can be divided into two categories: external environment and internal environment (Lipton, 2008). Although the external environment can also be described as resources available for our body to intake, including nutrition, air quality and the like, the focus here will be on the external resources and circumstances available for the mind to perceive, including the interactions we have with others. The mind's perception is the internal environment. It involves the emotions that result from the way we perceive the world around us. Anxiety, fear, and anger are examples of stressful emotions. Contentment, security, and gratefulness are beneficial states of being that yield positive emotions such as happiness.

Genuine Emotion, Not Brightsiding

This paper cannot be complete without addressing the phenomenon of "brightsiding." Victims of illness cannot simply paint on happy faces and "look up" so they can be magically transformed from victims to survivors and thrivers. The external environment, including the toxins we ingest and the air we breathe, yields illness or health. Likewise, the internal environment, including positive emotions or those that result from the weightiness of life, are also impactful. We cannot look at ill persons and make causal judgment regarding their internal or external environment, as this is complex indeed, involving much more than painting happy faces.

Epigenetics, the Mechanism of Resilience

Lipton (2008) defined epigenetics as the effect that environmental influences have in modifying genes. These influences include nutrition, stress, and emotions. Genetic expression has been described using a metaphorical light switch (Lipton, 2008). Just as a

room containing a light switch will remain dark unless someone flips the switch on, so a gene is only activated when triggered by the environment. A gene must be expressed, or turned on, to activate (Lipton, 2008). Similarly, Earnest Rossi commented, “our genes are switched on and off in response to our conscious efforts to cope with outer stresses as well as to our inner hopes, wishes, fantasies, and dreams” (2002, p. xvi).

Over the years, science has taught that DNA was sovereign. This ideology taught that the diseases to which one would succumb are predetermined by DNA. Until now, one could not explain why it is that identical twins with the same genetic predisposition realized different health outcomes. A study examined sets of twins in which one of the twins developed an autoimmune disease. Researchers suggested that the effect of the environment including lifestyle differences might affect key genes involved in immune function. This genetic alteration contributes to the differential onset of the disease in twins (Javierre et al., 2009).

As exemplified in this twin study, sometimes genes are expressed (or turned on), and sometimes genes are turned off. The encouraging news is that genes cannot independently turn themselves on or off. Proteins, in response to the environment, flip the switch (Lipton, 2008). Thinking back to the light switch metaphor, the way a person perceives and processes life events provides the environment that can turn on light switches, cause them to remain turned off, or turn off light switches that have once been turned on.

Previously, we reviewed the impact of emotional stress upon the body. Studies have shown that stress actually alters genes. For example, *Biological Psychology* reported a study comparing people’s genes before and after a stressful experience. This was done by comparing medical students’ gene expression to their anxiety scores on the State-Trait Anxiety Inventory (STAI) taken both 9 months prior to the medical licensing examination and taken again 2 months prior to the examination. STAI scores 9 months prior to the examination were within normal ranges. Results on the second anxiety test taken 2 months prior to the exam showed that anxiety was significantly elevated. Gene expression patterns were more normal 9 months prior to the exam. When assessed at the 2-month period, a total of 24 genes were found to have changed significantly (Kawai et al., 2007). These genes that changed, or turned on as a result of the environment, are associated with inflammation and immune response and also regulation of cell growth, transformation, and malignancy.

Implications for Counselors

Looking to the environment for both the cause and the cure is a philosophy that is parallel to a person-centered approach to counseling. For many clients, the environment they experienced was hostile and now the counselor provides a new environment of unconditional positive regard, while using corrective emotional experiences to gently deconstruct previous coping methods. The former coping mechanisms fade away as they are no longer applicable in the new environment.

Cozolino stated that effective counseling uses a caring environment to modulate an effective level of arousal that recreates the bonding experience (Buczynski, 2011). In terms of epigenetics, he explained, “There’s a stimulation of metabolic processing, and there’s probably activation through epigenetics of the client’s brain being stimulated to grow in the context of a safe relationship” (Buczynski, 2011, p. 5).

How does a counselor provide a safe environment? The counselor, with a listening ear, understanding heart, and validating voice (Presbury et al., 2008) can attend to a person traveling through the valleys of depression. After a therapeutic relationship has been established, counseling can help the client to see “the old” from a new perspective.

We know that although illness can be genetically predisposed, environment also plays a role. Counselors can have some influence on the environment. Humans are resilient, so environmental stressors do not always impact people in injurious ways. Counseling can mitigate internal environmental adversity. The brain is plastic, proving that a new environment can create new neuropathways (Feinstein & Church, 2010). Experience can actually change the structure of the brain. This is what occurs in the process of counseling.

Person-Centered Counseling for Whole Health

How does the body disinvite disease, or turn off the light switch? People are mentally and physically healed when they are ministered to in their totality. The body and mind can no longer be treated independently. The science of epigenetics has profound ramifications for all in the healing professions including physicians and counselors, as well as the insurance companies who reimburse these professionals.

In clearing the path to the light switch, through the dynamic interpersonal process between counselor and client, the client can experience new possibilities through which life events can be perceived as the counselor provides corrective emotional responses and authentic uses of immediacy. In an environment of unconditional positive regard, the client moves from an external locus of control that is often associated with stress, to an internal locus of control from which the life is now viewed within control, thus reducing stress. A resilience-focused counseling environment founded in person-centered philosophy has implications in healing not only the mind and emotions, but the body too. Consider the impact of a broken soul when authentically prized.

A Call for Action

Lowered Healthcare Costs for the Individual

Research in cellular biology has shown that only about 5% of diseases are genetically determined. The remaining 95% are environmentally based (Lipton, 2008). Counseling has a positive effect on environmentally based illnesses via the mechanism of gene expression (Emmons, 2007; Feinstein & Church, 2010). Counseling is less expensive than invasive medical procedures. It is difficult to assign a cost to all the diseases and conditions related to inflammation, endocrine function, and immune conditions that are associated with stress-induced maladaptive gene expression. Consider heart disease; although there are genetically linked predisposing factors for heart disease, stress has been identified as a significant contributing factor (Pashkow, 1999). According to cardiovascular surgeon, Denton Stam, a coronary artery bypass graft surgery (CABG) costs about \$35,000 (M.D. Stam, personal communication, March 12, 2011).

Of the possible factors leading to heart disease, does it not make sense to provide funding to assist in healing the factors within human control?

Lowered Healthcare Costs for the Nation

Health and health care is both an individual concern and a national concern. As counselors and medical professionals adopt a resilience-based epigenetic approach to whole health, cost savings impact the nation.

Despite the fact that only about 5% of diseases are genetic, or beyond our control, the United States Health and Human Services Department predicts that the health share of GDP will continue an upward trend, reaching 19.3% of GDP by 2019 (U.S. Department of Health and Human Services, 2011). This gloomy forecast shadowed against the recent hopeful psychological and biological scientific findings prompts further action in the direction of integrating counseling into whole health interventions.

Counseling: A Proactive Intervention

Counselors can join with physicians in providing a thorough, holistic approach to wellness by giving voice to a patient who is encumbered by life's circumstances, while honoring that patient's resilient potential.

Insurance funds that would otherwise be spent on costly medical procedures for a few can be proactively spent on counseling for many. Insurance companies can note that integrative holistic treatment involving early counseling interventions in a physician - counselor partnership could possibly eliminate a future need for more costly medical procedures, eventuating in lowered insurance costs. Perhaps implications of these findings will afford changes in insurance policies, appropriating more funds for counseling.

Final Thought

Epigenetics is a neurobiological vehicle of resilience that puts person-centered counseling in the driver's seat, as hard science has proven the evidence for the power of empathically attuned counseling in promoting neuroplasticity and genetic change. Now counselors can work not only to change genes, but also to change public opinion and policy to support counseling as a whole health healing modality.

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