Conscious Cognitive-Emotional Dynamic Re-Processing: The Linguistic Semantics of Emotional vs. Cognitive Dysregulation (rev2022-03-18a)

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1.0 Abstract

Because of observability and measurability in humans and animals, there is much emotional research revolving around fear. But fear, with its many philosophical constructs and corroborative research and arguments, is only one aspect of the emotionally negative feeling side of an evolved three-sided neuroplastic coin. What can be reasonably understood and concluded without integrating the other two sides of the coin? The opposing good feeling side is joyful with its supporting neurological and biochemical physiology. Whereas negative cognitive-emotional feelings such as fear, sadness, anger do, in the short-term function as a much-needed survival mechanism, I contend that the cognitive-emotional positive and joyful state of being is the natural resting state because of its unique long-term evolved correlation to health, well-being, and success and to a healthy, robust neurological, biochemical physiology. The third side of the coin is a cognitive-emotional dynamic process control mechanism between the two sides. This network has evolved and now functions to maintain an individual's health, well-being, and success. But the neuroplastic brain will reinforce (to the point of failure) those process networks, whether pathologic or salubrious, that continue to be environmentally stressed, especially through adolescent development.

Engineering closed-loop process control is used to diagram and understand the dynamics of cognitive-emotional control theory, where the conscious experience of emotions is a combined and perceived effect of neurological, biochemical, and physiological changes and states of being within the brain and body precipitated by cognitive activities. Because good feeling cognitive-emotional behavior has an evolved correlation with a healthy, robust, and vigorous neurological and biochemical physiology, and negative bad-feeling cognitive-emotional behavior with their negation, emotions have evolved and now functions to guide re-processing

cognitive behavior towards individual health, well-being, and success. Cognitive-emotional health education to develop an individual's skills, abilities, and beliefs to re-process negative emotional feeling cognitive behavior into positive emotional feeling cognitive behavior is a necessary function of our primary and secondary education and as well as that of psychological or pharmaceutical therapeutics.

Keywords: cognition, emotion, process control, evolution, linguistics, philosophy, education

2.0 Author's Note:

A barn is seen in the distance while driving through rural Wisconsin. Is it a barn or a Hollywood set built on location? (Fred Dretske, circa 1970s, University of Wisconsin class discussion of the Gettier Problem.) A philosopher of epistemology may give one answer, but is knowledge solely a function of the mind without the emotional experience? What if you are an artist painting a rural Wisconsin landscape, an author writing a novel, an Illinois tourist, or a farmer? And even then, what may traditionally be defined as a real barn, a modern dairy farmer may disagree because it lacks the modern amenities he needs to run the farm as a business; and a Hollywood director filming a late nineteen-century saga may view such a real barn with disdain.

What ancient Siddhartha Gautama and Greek philosophers failed to acknowledge in their dissertations of emotions, desire, and intention is that emotional slavery, suffering, and vulnerability (Nussbaum, 2001, 2018) are not a function of emotions, desire, and intent themselves but exist as a function of the emotional negative feelings when dwelling upon the lack of that which is desired and intended. A disregard for a cognitive-emotional control mechanism existed then as well as now that guides cognitive behavior towards the emotional positive good feelings when dwelling upon the real or imaginary manifestation of wants and desires. The path from the tragedies of ill-fated luck towards health, well-being, and success

exists within the cognitive-emotional reality and imagination of positive, good-feeling emotions, moods, and feelings. Humanity has evolved with a guiding control mechanism to keep us on that path.

When defining the functional reality of evolved cognitive-emotional dynamic control, can neuroscience, biochemistry, pharmacology, psychiatry, psychology, therapeutics, literature, law, philosophy, sociology, with pre-school, primary, and secondary school education agree on…. something? While the linguistics of literature has combined emotional feeling with physiological changes and outward behavior expression, and Joseph LeDoux and associates have separated emotional feeling from physiological changes and outward behavior expression, my work combines emotional feeling and accentuating physiological changes but separate from outward behavior expression. Once cognitive-emotional re-processing control theory is understood and developed, another discussion may be pursued involving cognitive-emotional dynamics with outward physical expression and behavior.

My definitions and conceptualizations may not be philosophically or scientifically exactly precise, but like calculus using rectangles to calculate the area under a curve, they will convey a useful and functional understanding of an individual's cognitive-emotional dynamic experience and, hopefully, will move the science and research of human cognition and emotions forward in a practical matter. This paper will focus on the individual, their education, training, and understanding to consciously manipulate, manage, and control their cognitive-emotional experience as an evolved correlation to their health, well-being, and success in life, and a teacher's need to integrate this understanding into an overall school curriculum, even at the pre-school level.

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4.0 Conscious Cognitive-Emotional Dynamic Process Control:

The Linguistic Semantics of Emotional vs. Cognitive Dysregulation

Note: This discussion is about establishing emotions as the combined perception of neurological, biochemical, and physiological states and being within (1) the brain (via the cortex) and (2) the body (via the amygdala) precipitated by cognition (LeDoux, 2020; LeDoux & Pine, 2016) and how emotional awareness is used to re-process vulnerable, emasculating, and enslaving cognitive behavior towards empowering, enriching, and liberating cognitive activities. Once this process is understood and developed, another discussion may be pursued involving cognitive-emotional dynamics and its interactions with emotion's physical expression and behavior.

Homer's *Iliad* opens with the line, "Goddess, sing me the anger [wrath] of Achilles, Peleus' son, that fatal anger [wrath] that brought countless sorrows on the Greeks and sent many valiant souls of warriors down to Hades, leaving their bodies as spoil for dogs and carrion birds: for thus was the will of Zeus brought to fulfilment" (Homer, 800-700/2009). With these words written almost 3000 years ago, Homer linguistically sabotaged hundreds of millions of years of emotional evolution. The civilized arena was staged for aberrant emotion to drive destructive behavior.

Have a person's core beliefs of emotions – which may have been neurolinguistically molded from childhood (Kemmerer, 2015) through family interactions and, in later years, through reading literary works such as Dickens's *Great Expectations*, Poe's *The Raven,* and Austen's *Pride and Prejudice* – impacted their current understanding of emotions and cognition (Tomasello, 2005)? A shared cultural and linguistic development (Bavin, 2012; Allen, 2019) of core beliefs and conceptual understandings about emotions is required for young students to

comprehend and follow the emotional twists and turns within these famous English literary works. As students mature and are introduced to the more advanced pieces of William Shakespeare and others, comprehension is even more dependent upon the prior assimilation of cultural and linguistic paradigms (Evans, 2017; Kenrick et al., 2015). Conceptions of emotions are further reinforced by the logic and reason applied in today's scientific literature, research, and discussions about emotions (Ekman & Davidson, 1994).

Achilles' *anger [wrath]* brought countless sorrows. Achilles' *anger [wrath]* sent many valiant souls to Hades. Homer inscribes the emotion of anger as causal; that is, anger is the cause of Achilles' behavior. This cognitive-emotional linguistic construct ignores emotion's evolutionary role in re-processing cognitive behavior towards an individual's long-term health, well-being, and success. The paradigm of destructive behavior arising from emotional dysregulation (Dalai Lama, 1999; Gross, 2014) (instead of cognitive dysregulation) erroneously demands emotional regulation, management, and control (even with pharmaceuticals if necessary) (Barlow, 2014) to the detriment and cultivation of language, literature, philosophy, religion, law, and education. It limits the efficacy of modern evidence-based therapeutics of the psychological and psychiatric rehabilitative sciences.

The perception of aberrant and dangerous emotions is analogous to the perception of the pain of your hand when placed on a hot stove. But the solution is not to control, regulate, and manage the pain from your burning hand but to remove your hand from the hot stove. Because of the existing cognitive construct of emotions, practitioners infer emotions must be controlled, managed, and regulated, even with pharmaceuticals. But, like the burning hand on the hot stove precipitates dangerous neurological and biochemical physiology perceived as pain, cognitive behavior precipitates the dangerous and aberrant neurological and biochemical physiology within

the brain and body that is perceived as debilitating emotions, moods, and feelings. As physical pain brings awareness of a potentially debilitating physical condition, emotions bring awareness and understanding of potentially debilitating cognitive activities occurring within the mind. Instead of controlling, managing, and regulating emotional behavior, emotions have evolved to guide, control, and re-process cognitive behavior. Emotions change (and are "controlled") because the cognitive behavior that changes the neurological and biochemical physiology in the brain and body that consciousness perceives as emotions changes.

5.0 Synopsis

1) The emotional experience in literature, philosophy, religion, and law for thousands of years, have been a combination of (1) causal neurological and biological changes in the brain and body that drive a person's behavior and (2) the perceived effect of the same changes of the brain and body that a person feels and perceives. The mind has neurolinguistically created a cognitive construct that defines emotions as (1) causal to neurological and biological change within the brain and body, (2) the perceived effect of this same neurological and biological change combined with (3) any associated behavior expression. This confusion may be acceptable in literature and religion. But it is not appropriate linguistics for philosophy, law, evolutionary physiology, and the psychological and medical sciences, which must now reconstruct, utilize, and educate from a more functional definition.
2) Emotions-as-effect theory uses the principles of evolution to understand and define the emotional experience as the good- or bad-feeling perception of neurological, biochemical, and physiological states and changes within (1) the brain (via active cortex) and (2) the body (via active amygdala) precipitated by cognitive activities (LeDoux, 2020; LeDoux & Brown, 2017; LeDoux & Pine, 2016).

3) Evidence-based therapeutic practices such as rational emotive behavior therapy (REBT) (Ellis & Ellis, 2019), cognitive behavior therapy (CBT) (Beck, 2011), method of levels therapy (MOL) (Mansell et al., 2013), mindfulness (Farb et al., 2014), mindfulness-based cognitive therapy for depression (Segal et al., 2018), eye movement desensitization and reprocessing (EMDR) (Shapiro, 2018), forgiveness therapy (Enright, & Fitzgibbons, 2015), positive psychology (Lopez & Snyder, 2009), emotional intelligence (EI) (Salovey et al., 2004), and interpersonal psychotherapy (Stulberg et al., 2018) all center around an individual's motivation, ability, and skill to re-process cognitive activities (Gross, 2014; Young et al., 2014). These cognitive activities are ultimately evaluated by the existence of good- or bad-feeling emotions. This is the use of cognitive-emotional re-processing closed-loop control theory.
4) The roots of bipolar disorder (Miklowitz, 2014), schizophrenic tendencies, and other psychotic disorders (Terrier & Taylor, 2014) may be dissociation from the evolutionary emotional regulatory feeling-good (uplifting) and feeling-bad (depressing) sides of the three-sided coin that modulate cognitive activities. Although this is only hypothetical and needs research, the concept becomes viable only when emotions' evolutionary role in regulating rather than being regulated is understood and accepted.
5) Recognizing emotions-as-effect and cognitive-emotional re-processing closed-loop control theory within modern evidence-based therapeutic practices will improve the efficacy of such methods because emotions can be re-entrusted with their evolutionary role to guide cognitive behavior.
6) Evolution has orchestrated, biologically speaking, a morality in which what feels-good is good and what feels-bad is bad (Moore, 2019: Nussbaum, 2018). Humanity must nurture new

algorithms that transform emotionally negative cognitive activities into emotionally positive ones that reflect healthy neurological and biochemical physiology and compassion and respect for oneself and others.

6.0 Definition Notes

1) "Physiology" is the study of functions and mechanisms in a living system (Wikipedia, 2021). The term "neurological and biochemical physiology" is used to accentuate the change and states of neurological and biochemical physiology by consciousness and psychiatric therapeutics.
2) "Cognition" is the processes of knowing and awareness, such as perceiving, conceiving, remembering, reasoning, judging, imagining, and problem-solving (APA, 2020), where understanding and comprehension (of thoughts, ideas, and beliefs) can project future consequences and events.
3) A person feels/senses/perceives physiological states and changes precipitated by cognitive activities as "emotions," "moods," and "feelings" (EMFs). All EMFs have a common characteristic of feeling-good or feeling-bad, but they vary in their level of awareness of associative cognitive (Smith, 2016) and physical behaviors, states, and changes.
4) "Emotions" as defined here are the good (or bad) combined conscious perception and feeling of neurological, biochemical, and physiological states and changes within the (1) brain (via an active cortex) and (2) body (via an active amygdala) precipitated by cognitive activities of awareness and knowing and where good feeling emotional being has an evolved correlation with health, well-being, and success and long term negative emotional being with its negation. (Notes: (1) short-term negative emotional being is

essential for survival. (2) Joseph LeDoux and associates have separated emotional feelings from physiological changes and outward behavior expression (LeDoux, 2020; LeDoux & Brown, 2017; LeDoux & Pine, 2016).

5) "Emotional valance" is not used here because in the definition "the value associated with a stimulus as expressed on a continuum from pleasant to unpleasant or from attractive to aversive" (APA, 2020), the notion of "stimulus" lacks clarity and typically refers to an external event, object, situation, or environmental factor/event and not to the good and bad feelings of cognitive-emotional activities within the individual's mind.
6) The "somatosensory system" is "the parts of the nervous system that serve perception of touch, vibration, pain, and temperature" (APA, 2020); by definition, this does not incorporate the perception of emotional feelings derived from the brain and body.
7) The relationships between emotions and emotional valance, arousal, and behavior cannot be discussed or understood until a scientific understanding of emotions as an effect of neurological and biological changes in the brain and body precipitated by causal cognitive activities is achieved.
8) The idea of "neurolinguistic cognitive construct" suggests that a word and its defining cognitive construct (emotions being linguistically combined as (1) a cause of biological change, (2) an effect of the same biological change, and (3) observable physical behavior) have been so woven into the fabric of the mind that this cognitive construct is a physical, neurological aspect of the brain (APA, 2020; Costandi, 2016; Ingram, 2007).

9) James Gross's process model of emotional regulation defines five steps towards emotional generation, where each step is a "potential target for regulation": situation selection, situation modification, attentional deployment, cognitive change, and response modification (Gross, 2014). The emotions-as-effect theory uses these steps as potential targets for "re-processing" cognitive activities to regenerate new physiological conditions and states perceived as new emotions.

10) "Emotional control" entails opposite cause-and-effect conceptualizations. Emotional control, as commonly used in literature, religion, science, law, and philosophy, means managing, restricting, and regulating emotions (Gross, 2014) because emotions ***are causal*** to neurological, biochemical, and physiological changes within the brain and body that drive behavior. In engineering control theory (Marken 2020; Ogata, 2010; Palm, 2014), emotional control means emotions are regulated and managed as an end product of a system. Other "manipulated variables" are changed and altered within that system, resulting in a controlled variable (emotions) change. That is, emotions are first a result of, a consequence of, or **an effect** of a system (Powers, 2016). Only then, if and when used as feedback to the system (and reconstruct, re-organize re-process cognitive beliefs) do emotions become "controlled." (See the following discussion on closed- and open-loop feedback process control networks).

11) Cognitive-emotional development within an individual involves learning, practicing, and utilizing various cognitive-emotional re-processing techniques where positive feeling emotions, moods, and feelings accentuate compassionate behavior. To develop an individual's skills, abilities, and beliefs to re-process cognitive behavior, cognitive-

emotional health education is necessary within our primary and secondary education and should be an integral part of cognitive behavior therapies.

12) A cognitive-emotional dynamic re-processing therapy would utilize the perception of emotional negative being (emotionally feeling bad) to aid re-processing cognitive activities of awareness and knowing such that the precipitating neurological, biochemical, and physiological states and being of the brain and body perceptually feel emotionally good.

7.0 Linguistic Semantics vs. Process Schematics of Emotional Control

A thermostat in a room controls the room's temperature (temperature control). Yet what is being managed are various internal variables within the furnace and air conditioning units. The room temperature is the controlled variable, and the heat and cooling outputs are the manipulated variables (Marken 2020; Ogata, 2010; Palm, 2014). If more heat is needed in the winter, the furnace is activated, and if more cooling is required for the summer, the air conditioner is activated. Cruise control on a car controls the car's speed (speed control), but what is being managed and manipulated is a variety of internal variables within the engine and transmission. The car's speed is the controlled variable, and the power output is the manipulated variable; for the vehicle to maintain the desired speed going up a hill, more power is needed, and going down, less. Within the furnace, air conditioner, and car are multiple internal process functions that are manipulated to "control" temperature and to control speed. Only by understanding the process schematics within each system does the cause-and-effect terminology of temperature control and speed control lead a person to comprehend what (and how) each process within a system can be manipulated to maintain the desired or intended outcome (goal).

These control systems are a *closed-loop* process control because they depend on feedback information (room temperature, car's speed) to calculate the behavior of each system's internal processes to achieve the desired result (goal). An *open-loop* process control system (like a gas burner on a stovetop) does not have a feedback loop to regulate the gas flow to the flame, say to turn down the flame under a pan when frying eggs are starting to burn. The temperature in the oven can be set to the desired goal, and the internal mechanisms within the system will adjust the heat output to maintain that fixed temperature in a closed-loop control system (Marken 2020; Ogata, 2010; Palm, 2014).

"Emotional control" entails opposite cause-and-effect conceptualizations. Emotional control (as commonly used in literature, religion, science, law, and philosophy) means managing, restricting, and regulating emotions because emotions ***are causal*** to neurological, biochemical, and physiological changes within the brain and body that drive behavior. In engineering control theory, "emotional control" means emotions are an end product of a system, ***an effect*** that can be used as feedback to accentuate good feeling cognitive activities (**reference Figure 1).** The more developed, cultivated, and refined a person's re-processing capability, the less re-processing is needed to keep the system in control, and the less a person is disrupted by external conditions and is able to maintain their health, well-being, and success. Whereas the less refined and self-indulgent the re-processing capability, the more a person is disrupted, influenced, and persuaded by external events, conditions, and demands of others.

It is cognition, not emotion, that precipitates the physiological states and changes within the brain and body that drive external behavior. The dysregulation of cognition is the foundation of mental illness, disorder, and destructive behavior, and it is cognition that must be regulated, controlled, and managed. Emotions are first an effect, the perception of states and changes

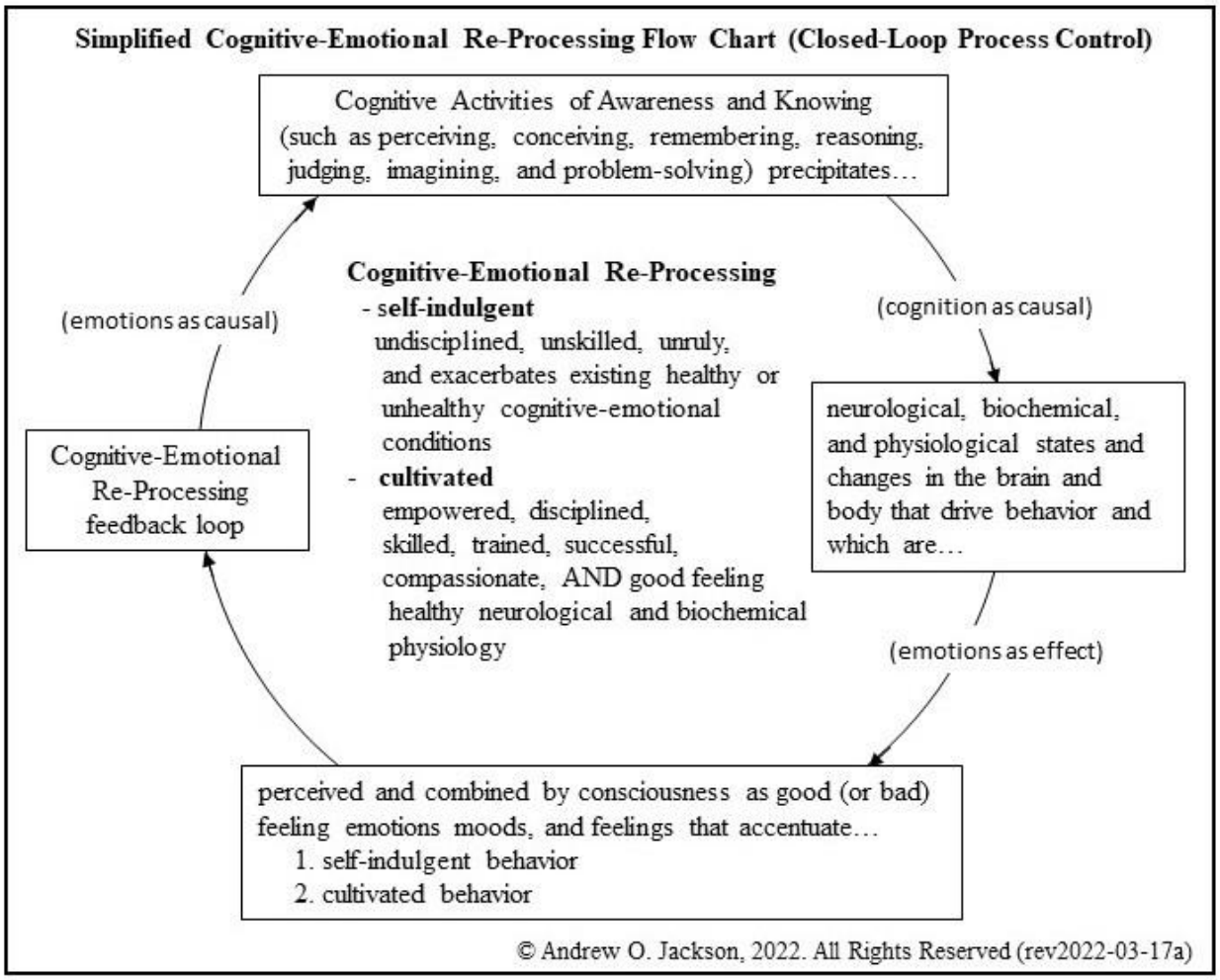

Figure 1: Cognitive-Emotional Re-Processing Flow Chart (Closed-Loop Control)

brought on by cognitive behavior. And then second, emotions become causal and drive either self-absorbed and reckless acts of conduct or a constructive and cultivated behavior depending on one's education, training, and beliefs and their ability to evaluate, re-process, and "guide" cognitive activities towards (hopefully) those that accentuate health, well-being, and success.

This text is about individual self-empowerment, where consciousness perceives, comprehends and manipulates one's cognitive processes towards self-determined and desirable goals and outcomes. Emotional feelings may be an un-measurable quantity in research psychology but internally, they are readily perceptible to the individual as feeling-good or feeling bad states of being (although, a cognitive construct association may not be as readily discernible

(Smith, 2015)). The psychological terminology of "emotional control" within control systems engineering is correct but linguistically confusing. Within engineering control theory, emotional control is the self-perception and use of emotions to control, manipulate, and re-process cognitive activities within a "closed-loop" process control system. Cognitive-emotional development is where discipline, training, and skill promote healthy, successful, and compassionate, good feeling states of being.

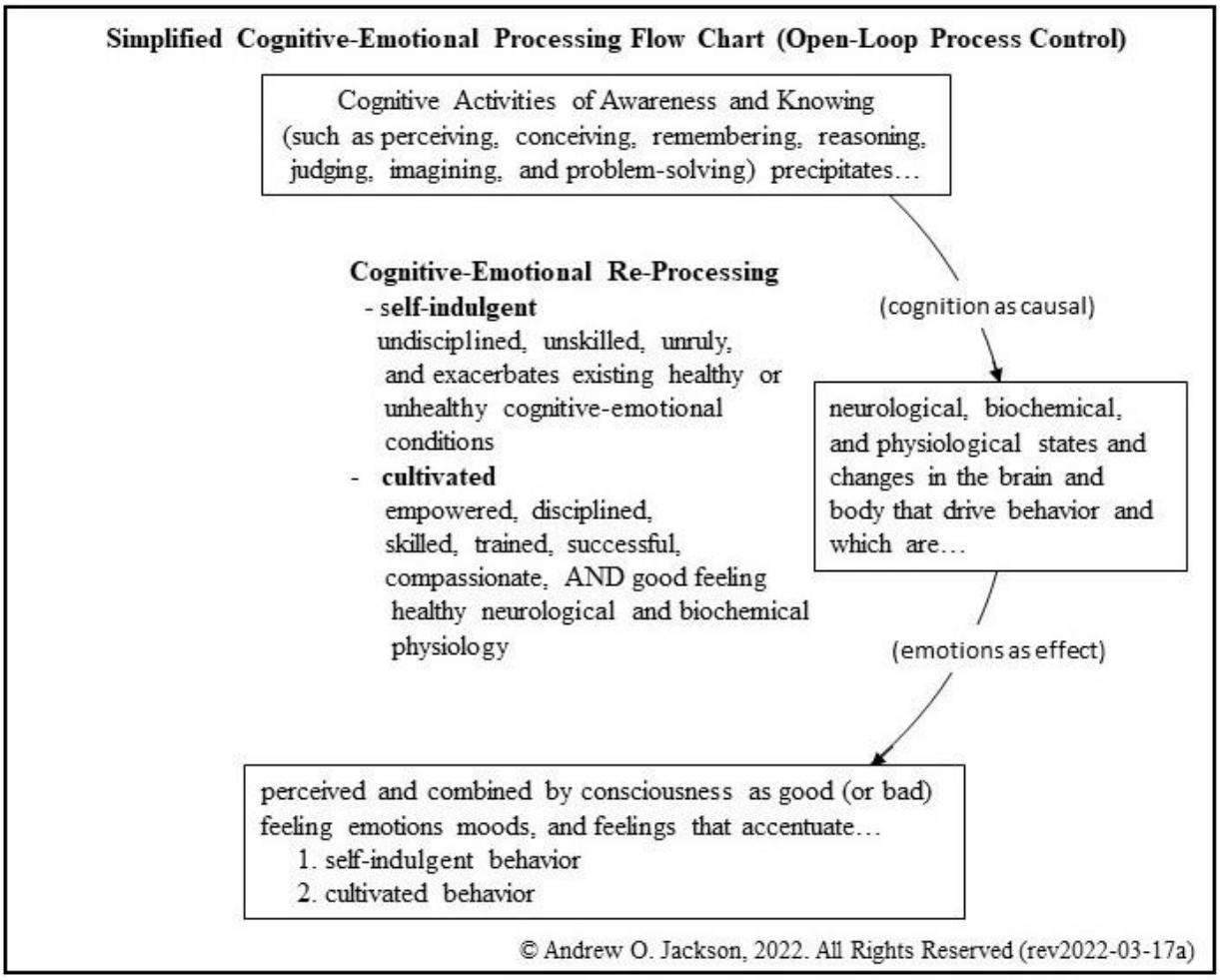

Figure 2: Simplified Cognitive-Emotional Processing Flow Chart (Open-Loop Control)

Open-loop emotional control is more indicative of current literature, psychology, medicine, law, and philosophy where emotions are not used within a feedback loop to heal and fortify a healthy and robust internal neurological and biochemical physiology but are dependent

on pre-existing cognitive-emotional development and cultivation (**reference figure 2**). Preexisting conditions hindering an individual's health, well-being, and success become more viable when emotions are not used as feedback to control, manipulate, and re-process cognitive behavior. As discussed later in the paper, the resulting neurological and biochemical physiology from uncontrolled cognitive-emotional behavior is more vulnerable to disease, illness, and disempowering external environmental disturbances.

Only by understanding the process schematics within an individual's cognitive, biochemical, and physiological states and changes, and resultant emotional behavior does the cause-and-effect terminology within cognitive-emotional behavior control leads an individual to comprehend what cognitive activities within themselves can and should be self-manipulated and re-processed to maintain one's own desired emotional state. Every psychological therapy provides its unique construct of cognitive behavior and its system for cognitive manipulation, re-processing, and change to reach a desired emotional goal. Each provides its methodology for emotional regulation and control – as in engineering control theory – that may be used by the individual.

8.0 Defining Cognition as a Causal

The neurological network that activates neurological and physiological changes within the brain and body (and is emotionally perceived) is referred to as the "emotional brain" or as emotional neurology (LeDoux, 1996). This emotional neurology is not the perception of emotions but the neurological components – such as the cortex, amygdala, hippocampus, and hypothalamus (LeDoux & Pine, 2016) – involved in actuating neurological and physiological changes in the brain and body that are then perceived as emotions. As it is, (1) the cognitive acts of perceiving, conceiving of, and comprehending, for instance, a mutilated person in a car

accident, (2) initiate the activity within one's "emotional" neurology that, (3) precipitates the changes within the brain and body that, (4) are perceived as emotions. Consequently, cognition can be defined as causal and emotions as the perceived effect **(reference Figure 7, page 26**). LeDoux and associates are advancing the concept where a direct stimulus to the cortex can precipitate the conscious perception of emotion without the perception of bodily changes from the amygdala ((LeDoux & Brown, 2017; LeDoux & Pine, 2016; LeDoux, 2020). I would suggest that the natural and common process is that emotional perception includes changes in neurological, biochemical, and physiological states and changes of being in both the brain and body combined. Whereas traditional literary and linguistic emotional conceptualization also includes outward physical behavior, expression, and acts.

This is not a 3000-year-old neurolinguistic emotional construct such as that used in religion (Noss & Grangaard, 2008) and literature (e.g., that seen in Homer's *Iliad*) (Homer, 800-700/2009). (Please note that Joseph LeDoux and associates have separated emotional feelings from physiological changes where I have combined them within the emotional experience.) A person driven by anger, jealousy, or greed may be emotionally driven in a movie or book, demonstrating the need for emotional control. But within engineering process control theory, these neurologically and biologically changes and states of being are a product of cognitive activities which must be managed and controlled. The significance of teaching the science of emotions (separate from their literary, religious, and philosophical conceptualization) in our educational institutions cannot be overstated.

It is essential to understand that a person is not emotionally out of control but cognitively out of control. A person is not suffering from depression because of an emotional disorder (and in need of psychological or pharmaceutical emotional therapy) but because of science's linguistic

confusion regarding how emotions have evolved to guide cognitive activities. Such people have a cognitive disorder and need cognitive rehabilitation to develop the necessary abilities and skills to change their cognitive activities. . (Note: illnesses, diseases, infections, genetic defects, and physical trauma that affect emotional biology are part of another discussion.) Emotions are the good- and bad-feeling perception of neurological, biochemical, and physiological changes precipitated by cognition. Cognition initiates (or is causal to) the changes in neurological and biochemical physiology that are then perceived as emotions that feel good (or bad). As such, emotions may be used as a natural cognitive-emotional biofeedback control mechanism and may guide the individual away from aberrant and destructive cognitive behavior and towards cognitive activities that promote personal health, well-being, and success. (Reference a later discussion, 13.0: The Evolutionary Significance of Emotionally "Feeling-Good" or "Feeling-Bad.")

9.0 Emotions in Science, Literature, and Religion

Emotions are perceived in science (Davidson & Begley, 2012), literature (Homer, 800-700/2009), and religion (Goleman, 2003) as potentially aberrant and destructive and in need of management and control, sometimes with the use of pharmaceuticals, because emotions are understood and defined as causal to neurological and biological changes that can have a significant effect on driving behavior (Barlow, 2014; Emotion, 2020). The mind neurolinguistically combines the (1) cognitive activities of awareness and knowing that precipitates neurological and biochemical states and changes in the physiology of the brain and body, (2) the feelings and perceptions of these same changes in neurological and biochemical physiology, with their (3) outward behavior and expressions into one cognitive construct called emotion (Tomasello, 2005). This confusion only adds to the color and mystery of scholarly

dissertations in religion and literature, but within science, law, and philosophy, this chaos is unacceptable.

10.0 Dashboard Analogy

Emotions are similar to the "check engine" light on the dash of a car. The light signifies problems within the mechanical "physiology" of the engine. The light is not the cause of the problem. The light is not aberrant or destructive; it has mechanically "evolved" to bring to conscious awareness potential problems within the engine. If these mechanical problems are left unresolved, they will lead to mechanical breakdown and failure – like what is observed in physiology that leads to depression, anxiety, and suicidal behavior.

The "check engine" light on the dash of a car is not causal – it is an effect. The issue is inside the engine; it is not the light itself. The light is the messenger informing the operator that the engine may be damaged if remedial action is not taken because of its physical condition. The light is not destructive and does not need to be controlled, managed, or regulated. The light provides an invaluable service by bringing to the operator's attention of potentially damaging operating conditions inside the engine. Ignoring the light or taking action to change the light itself – that is, an attempt to control, manage, or regulate the light – would be detrimental to the engine's survival.

11.0 Historical Background Perceptions: Emotions as a Causal to Biological Change

Professor Antonio Damasio outlines the modern psychological theory of emotions at the beginning of his book *The Feeling of What Happens: Body and Emotion in the Making of Consciousness* (Damasio, 1999). Paraphrased, he describes that (1st) "emotions [are] induced in the brain," which leads to (2nd) "consequent bodily changes" and to a (3rd) "feeling [that] could become *known* to the organism having the emotion." He defines emotions as causes of the

biological changes that a person then feels as emotions; emotions are both a cause and an effect of such changes.

James Gross illustrates in his modal model of emotional generation (**reference Figure 3)** that emotions are a "response" to the cognitive activities of paying attention to, and making an appraisal of, a situation, "e.g., a snake slithering into my tent." To paraphrase Gross, when such moments lead to emotions that are of the wrong type, intensity, or duration for a given situation, we may try to regulate our emotions: "This fundamental insight that emotions can and should be regulated in certain situations is well represented over the centuries" (Gross, 2014).

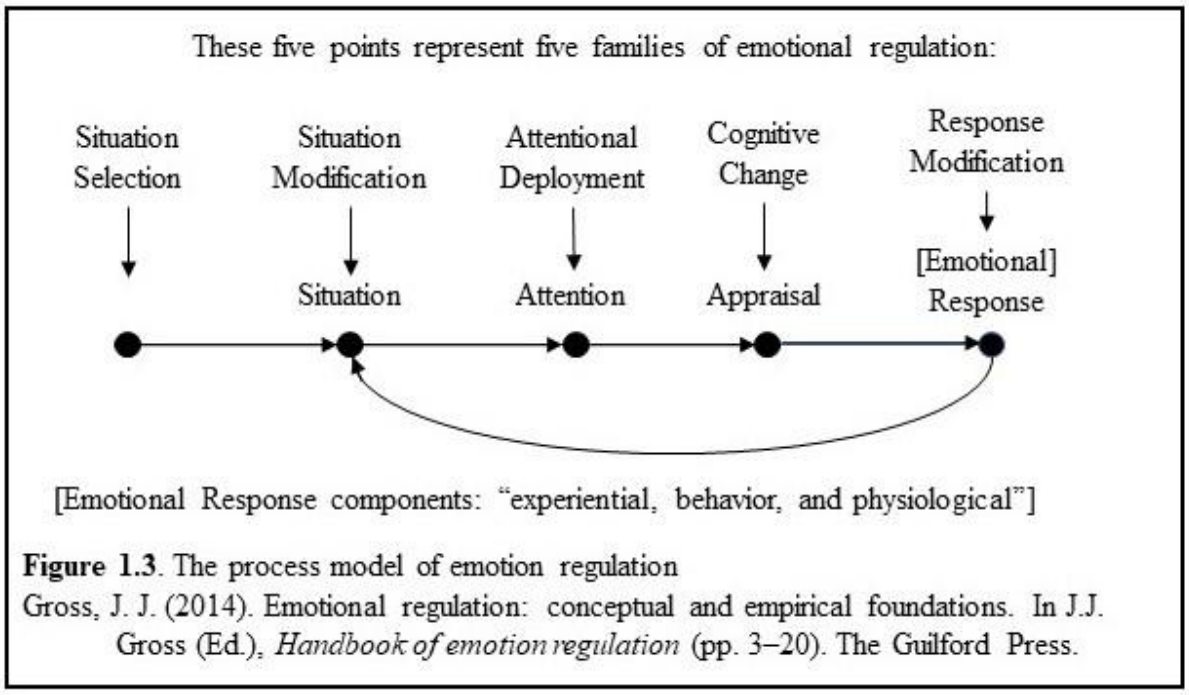

Figure 3: Gross: A process model of emotion regulation.

The idea of "response" is further broken down into its own "experiential, behavioral, and neurobiological response systems" without a clear cause/effect relationship between these systems. However, the linguistics of the very title of his article, "Emotional Regulation:

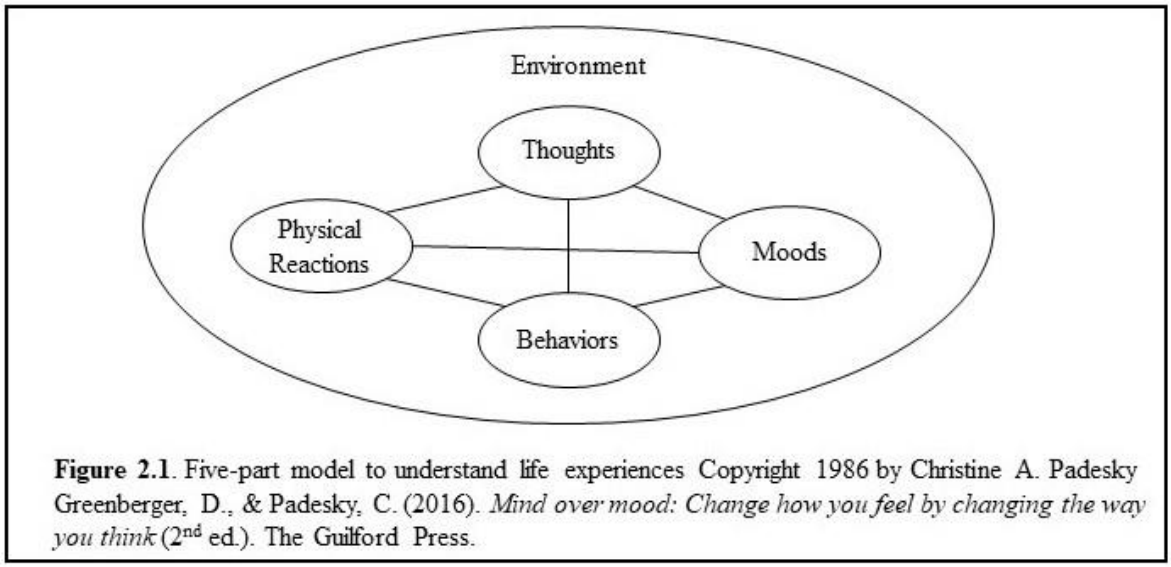

Figure 2.1. Five-part model to understand life experiences Copyright 1986 by Christine A. Padesky Greenberger, D., & Padesky, C. (2016). *Mind over mood: Change how you feel by changing the way you think* (2nd ed.). The Guilford Press.

Figure 4: Padesky: Five-part model.

Conceptual and Empirical Foundations," suggests that emotions need to be regulated because extreme negative emotions are traditionally perceived as aberrant, destructive, out-of-control, and causal to aggressive and dangerous behavior (Emotion, 2020).

The same lack of clarity arises within the all-encompassing cause/effect order within the "environment" of "thoughts, physical reactions, moods, and behaviors," as written in *Mind over Mood* (Greenberger & Padesky, 2016) (**reference Figure 4**). This lack of a distinct cause/effect order comes in part from the commonly accepted cause/effect relationship as illustrated in *Cognitive Behavior Therapy: Basics and Beyond* (Beck, 2011), where again, emotional, physiological, and behavioral "reactions" are bundled into an unknown cause and effect process (**reference Figure 5**).

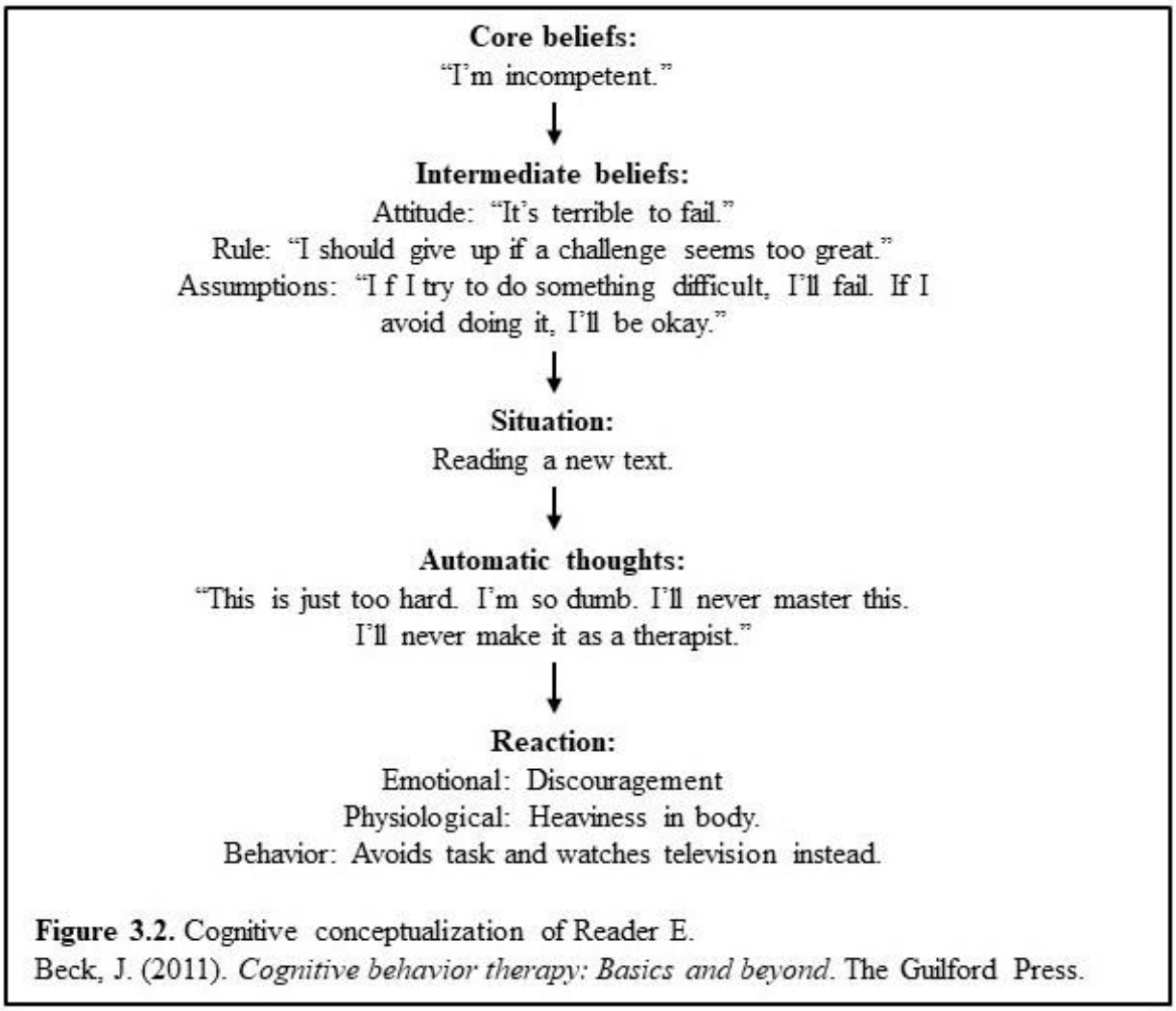

Figure 5: Beck: Cognition to reaction.

If the circular logic of the standard ABC thought/emotion diagram, as illustrated in *Mindfulness-Based Cognitive Therapy for Depression* (Segal et al., 2018), (**reference Figure 6**) was to include the physiological states and changes associated with emotions, the causal nature of "thoughts" on physiology would clarify emotions as a perceived effect of these states of being.

These diagrams exemplify the confusion and lack of cause-and-effect analysis between cognition and the conscious perception of emotions. Emotions are typically characterized as causal to the physiological changes that drive behavior (Emotion, 2020) and the basis of emotional dysfunction, disorder, and illness. Otherwise, why would emotions need to be

regulated, managed, and controlled (even with the use of pharmaceuticals)? By integrating modern observations of the neurological network centers of the brain and physiological changes of the brain and body, the flow in the cause-and-effect process becomes more discernable.

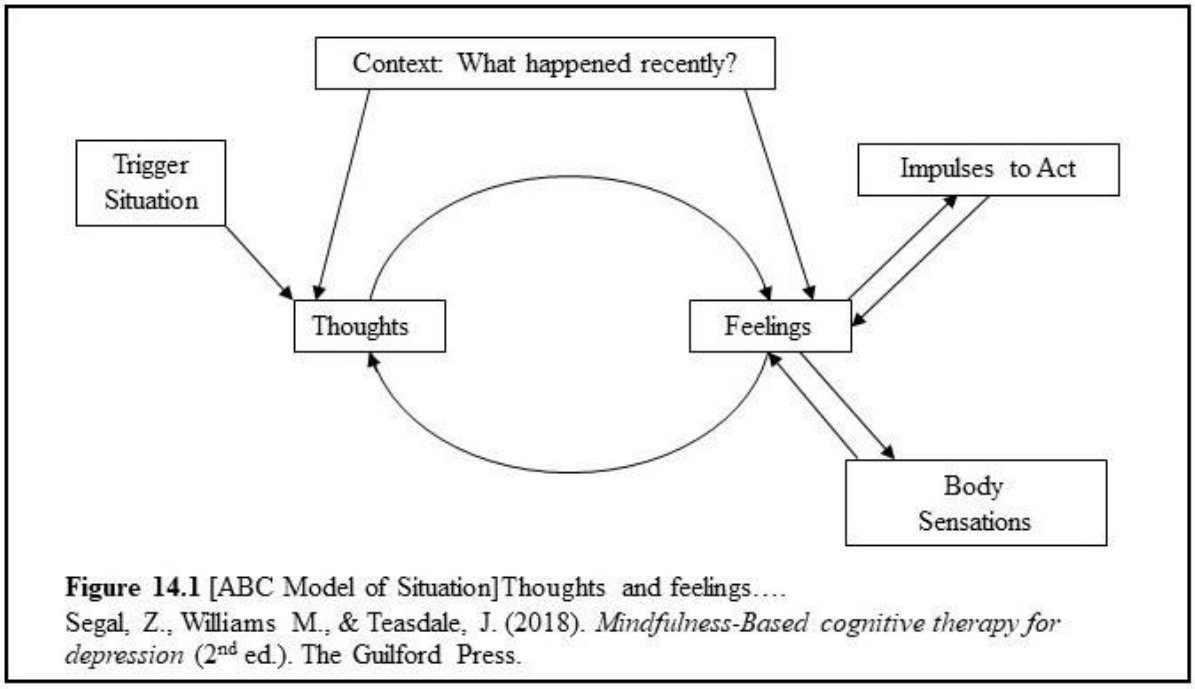

Figure 6: Segal: ABC model of the circular thought–emotion effect

12.0 The Cognitive-Emotional Re-Processing Flow Chart

Cognition addresses the processes and activities of knowing and awareness, such as perceiving, conceiving, remembering, reasoning, judging, imagining, and problem-solving (APA, 2020), where understanding and comprehension (of thoughts, ideas, and beliefs) can project future consequences and events. We perceive touch, taste, sight, hearing, and smell with our senses. Each of these activities has its system of nerves or neurology, i.e., a neuro-network. We also perceive neurological, biochemical, and physiological states and changes within the brain and body as good and bad feeling emotions, moods, and feelings. **Reference Figure 7**:

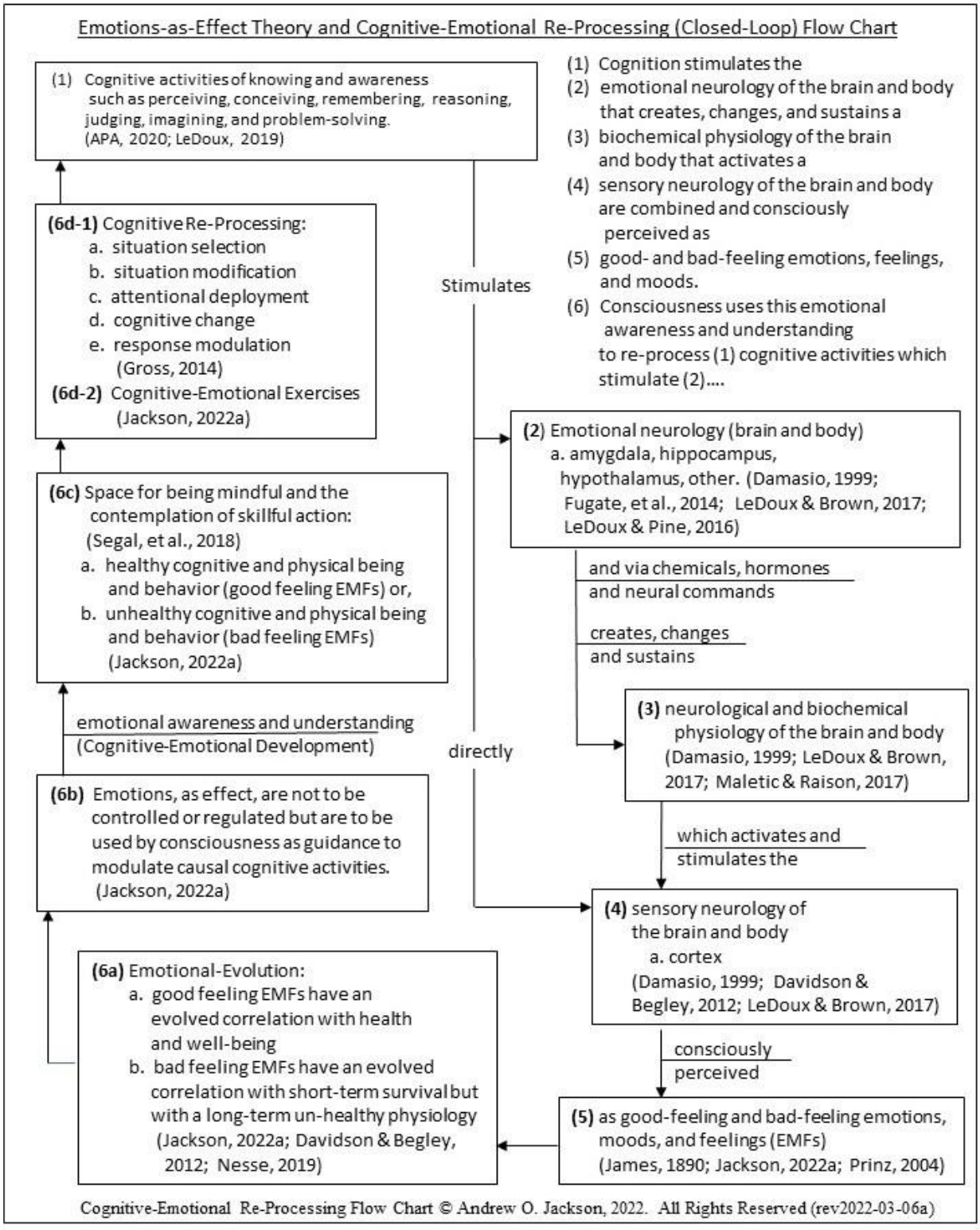

Figure 7: Cognitive-Emotional Re-Processing Flow Chart (Closed-Loop Process Control)

(1) Within a cognitive-emotional event, cognitive activities of awareness and knowing stimulate (2) emotional neurology. This neurology is not the emotions a person feels but is a neurology of the brain that through chemical (hormones) and neural (nerves) commands creates, changes, and sustains the (3) neurological and biochemical physiology of the brain and body. This physiology activates (4) sensory neurology of the brain and the body that consciousness (5) perceives as good- and bad-feeling emotions, feelings, and moods. (6) Consciousness uses this emotional awareness and understanding to re-process cognitive activities to a better emotional feeling place (that has an evolved correlation with healthy and robust neurology, biochemistry, and physiology. Note: cognition can simulate the sensory neurology directly ((LeDoux & Brown, 2017; LeDoux & Pine, 2016; LeDoux, 2020).

13.0 The Evolutionary Significance of Emotionally "Feeling Good" or "Feeling Bad"

Emotions are felt. Emotions feel good or not. Joy feels good. Anger does not. Love feels good. Hate does not. Emotions are the perception of physiological changes and states within the brain and body we feel (James, 1890; Prinz, 2004). We feel anger; we feel love; we feel joy… all of which have some corresponding neurological, biochemical, and physiological state of being. Although LeDoux and associates distinguish consciousness emotion perception within the brain (cortex) and physiological changes of the body (precipitated by the amygdala) (LeDoux & Brown, 2017; LeDoux & Pine, 2016; LeDoux, 2020), the natural, additional perception of neurological and biochemical changes and states within the body's physiology add color and distinction to the emotional experience and can bring unrealized and subliminal cognitive activity to conscious attention.

Is it possible to think of emotions as developing separately from the evolutionary process of the human species? If emotions have been run through the evolutionary mill, i.e., are not part

of the evolutionary process, what are some characteristics of the resultant design? Is it possible to use the ideas and concepts found within evolution to form logical inferences and conclusions about emotions and feelings pertaining to biological functions? (Brune, 2016; Nesse, 2019; Shackelford & Zeigler-Hill, 2017).

The term "emotion" is a misleading neurolinguistic cognitive construct of a civilized, literary, and religious society (Bavin, 2012; Noss & Grangaard, 2008) that has caused us to ignore the dynamic relationship between cognition and emotion within the context of emotions evolutionary controlling function to modulate cognitive re-processing activities (Gross, 2014). Professor Randolph M. Nesse writes in *Good Reasons for Bad Feelings: Insights from the Frontier of Evolutionary Psychiatry* (Nesse, 2019), "Why did natural selection leave us so vulnerable to so many mental disorders?" The short answer is that evolution did not; society did. Depression, suicidal depression, mania, psychotic mania, schizophrenic tendencies, or other disorders of the mind will exist when emotions, moods, and feelings are ignored, disregarded, suppressed, or even disassociated from (as an evolved bio-feedback control mechanism to reprocess, reorganize, and restructure cognitive behaviors and beliefs towards those that emotionally feel better and signify healthier physiology) (Davidson & Begley, 2012; Nesse, 2019).

The notion that species develop by naturally selecting attributes that are advantageous for survival is the cornerstone of the theory of evolution (Darwin, 1859). The following scenarios are indicative of evolution's impact on the development of an emotional directive mechanism if any human is to live to maturity, or thrive, and produce offspring to continue the survival of the species: (Note: understanding and appreciating LeDoux and associates division of conscious emotional perception (via cortex activities) and physiological changes (via amygdala activities)

(LeDoux & Brown, 2017; LeDoux & Pine, 2016; LeDoux, 2020) will help realize how neurological circuits in the brain can be cross-wired through genetic mutations or environmental influences.)

(1) If feeling good correlates with having a well-balanced and physiologically vital body, then feeling good while climbing a tree to gather food or balancing on slippery rocks in a rushing stream to fish may not be hazardous. However, if feeling good were to correlate with a weakened and lethargic neurological and biochemical physiology, such challenging actions would tend to be deadly. Such a false positive correlation between emotions and vital neurological and biochemical physiology would be disadvantageous to survival.

(2) How would a genetic line survive if feeling good was correlated with (1) cognitive knowledge of strength, vigor, and adeptness and (2) an actual physiology of weakness and ineptitude? Such a correlation permits limited survivability when climbing trees, foraging on the savannah in search of food, or, in a modern example, when an intoxicated person confidently gets behind the wheel of a car to navigate through rush hour traffic. Where is the motivation to act when there is an actuality of vitality, vigor, and strength, but emotionally, there is a feeling of illness, lethargy, and weakness? It is logical to conclude that, evolutionarily speaking, feeling good correlates with vitality, vigor, and strength, and feeling bad correlates with illness, lethargy, and weakness.

(3) Imagine that basic life behaviors such as breathing or eating were so emotionally painful – or their lack was so pleasurable –to bring about suffocation, starvation, and death. Such an emotional and physiological correlation would lead to the demise of an individual and their genetic line. If this were a genetically predisposed or inherited condition or even a

genetically developed predisposition to learn such behavior, such a false positive correlation between emotions and physiology would hinder personal and genetic survival. Therefore, there is a natural correlation between feeling good and exhibiting healthy physiological behavior and functions.

From an evolutionary perspective, feeling good means there is a positive correlation between the neural networks that activate (1) cognitive awareness of one's strength, vigor, and well-being, (2) an actualization of physiological strength, vigor, and well-being; and (3) the neural networks associated with the emotions of pleasure. The neurological and biochemical physiology of the individual, at both the molecular level and the neural network level, must sustain the positive correlations between (1) cognitive knowing, (2) actualization, and (3) feeling of having strength, vigor, and well-being, with (4) good feeling emotions. Simply put, if these correlations did not exist in this way, a person would have a low probability of survival. Any attempt to understand and affect the internal human environment must be taken with an understanding of the changing neurological, biochemical, and physiological conditions of that environment as indicated by an evolved emotional neurocircuitry of the human brain and body.

When the neurolinguistic cognitive construct of emotions (Friederici, 2012; Ingram, 2007) used in literature was created (and adopted by religion, philosophy, law, and science) and included both (1) the causal cognitive activities of emotion that change the brain and body's neurology and neurological and biochemical physiology (Maletic & Raison, 2017), (2) the perceived effect of these same biological changes (Davidson & Begley, 2012; Smith, 2015; Pessoa, 2013), and (3) emotions outward expression in behavior (Homer, 800-700/2009), humankind usurped emotions' evolutionary function. Instead of allowing emotions to perform their natural evolutionary and symbiotic function of providing necessary regulatory feedback and

control on cognitive activities, emotions became aberrant, destructive, and untrustworthy because they were (falsely) deemed to cause the biological changes that drive a person's thoughts and behaviors (Goleman, 2003; Gorwood et al., 2008; Gross, 2014). As such, it is (erroneously) believed that emotions must be regulated, controlled, and managed, with pharmaceuticals if needed, which only further disinherits their evolutionary function of guiding one's cognitive behavior to improve their health, well-being, and success in decision making.

The notion that species develop by naturally selecting attributes that are advantageous for survival is the cornerstone of the theory of evolution (Darwin, 1859; LeDoux, 2019). Suppose a person can live (and even flourish) to maturity and has offspring who will continue the species' "survival". Might there be an evolved link or correlation among (1) an individual's emotions, (2) their cognitive activities, and (3) their body's physiology? The bottom line is that except disease, illness, and infection, the neurological and biochemical physiological signatures of "emotional disorders" (Brune, 2008; Maletic & Raison, 2017) will exist as such when conscious cognitive behavior ignores the governance and control of an essential internal bio-feedback and control mechanism called emotions, moods, and feelings.

14.0 Cognitive Imagination and Evolution

How would a genetic line survive (1) if the body's need for water did not stimulate the mind to produce imagery of obtaining water or (2) if this imagery of obtaining water correlated with negative feeling emotions? If the body needs water, this need must correlate with the mental act of imagining water and with the positive emotions associated with finding and drinking water. There is a correlation between imagining the necessities of life and experiencing positive emotions. If instead, there was a correlation such that the imagery of food, water, and shelter brought about negative feeling emotions, then these basics of life would be avoided and lead to

an evolutionary dead end. Therefore, for the survival of the species, there must be an evolved correlation between (a) the neural networks of the cognitive brain of imagination and (b) the neural networks of the cognitive-emotional biofeedback mechanism such that (c) it feels good when (d) the individual's imagination dwells upon the presence of food, water, and shelter, (e) which are wanted and desired by the body to survive.

A person cognitively dwelling upon the presence of that which is wanted triggers a healthy neurological and biochemical physiology within the brain and body that actuates a neural network combination perceived by consciousness as emotionally positive good feelings. When a person dwells upon a lack of that which is wanted, it triggers a short-term survival, but long-term unhealthy and damaging neurological and biochemical physiology within the brain and body that emotionally feels bad.

How would a genetic line survive if the imagination and belief of *not* obtaining food, water, and shelter were correlated with feeling good? Alternatively, how would a person (and their genetic line) survive if cognitive imagery dwelt upon that which is not wanted, and this mental activity did not correlate with negative feeling emotions? When a person dwells upon that which is not desired, it triggers a survival neurological and biochemical physiology of the brain and body (but with long-term negative physiological consequences) that is consciously perceived as emotionally negative feelings. There must have been an evolutionary development that resulted in these correlations, or we would not have survived as a species.

15.0 Hot Stove Analogy of Depression's Signature Physiology

The physical pain when a hand rests on a hot stove brings about a very natural reflexive response (Panksepp, 1994). The perception of pain begins a series of neurological, biochemical, and physiological activities to remove and protect the hand from the burning stove. The actuation

of the body's natural reflexive response is vital to the hand's maintenance, health, and working order. If the pain is ignored and the hand remains on the hot stove, the neurological, biochemical, and physiological state of the hand changes by the degree to which the hand burns. The feeling of pain is crucial to the body's health and survival. Lack of response to physical pain is problematic. Until a reflexive or conscious reaction exists that removes the "hand on the hot stove," the hand will not heal and a "burnt hand" biological signature will develop and be maintained.

Evolution has built up a biological sensory and reflexive mechanism that pulls the hand off the stove to prevent harm. Suppose, for some reason, the hand remains on the hot stove long enough to burn. In that case, a biochemical examination of the skin will give a definitive analysis comparable to any other hand that has suffered the same fate. However, science does not declare the existence of a "burnt-hand" disease or illness (unless someone wants to know why a person would keep their hand on a hot stove). Because the sense of pain is essential to the feedback mechanism that generally and naturally removes the hand from the stove, pain caused by the "burnt-hand" illness should be managed, controlled, or regulated – with medications if necessary – *only as a temporary measure while the body heals and rehabilitates from the injury*. Pain has a very significant evolutionary function, and usurping this function with medications for healing will have dire consequences for the individual.

The *illness* in mental illness arises when healthy conscious – or unconscious – responses to the cognitive-emotional biofeedback control mechanisms are absent, and the individual does not have the cognitive-emotional capacity, agility, or wisdom to respond to their emotional awareness in a natural and healthy manner and remove their cognitive activities from whatever their "hot stove" is. However, is this lack of emotional responsiveness an illness or an injury

(Kolk, 2015)? Emotions have a function. Emotions bring about conscious awareness of the health, or lack thereof, of cognitive activities. Feeling good correlates with healthy neurological and biochemical physiology, and feeling bad correlates with unhealthy neurological and biochemical physiology (Davidson & Begley, 2012). Psychological and pharmaceutical therapy must honor these functions and work to re-establish the normal functioning of an evolved emotional awareness and control mechanism.

From the perspective of cognition-as-cause and emotions-as-effect theory, the biology of a neurological, biochemical, and physiological "abnormality" associated with emotional pain (such as depression) is analogous to the neurological, biochemical, and physiological "abnormality" associated with the hand's physical pain on a hot stove. The more that emotional pain is (1) ignored, (2) suppressed, (3) usurped, (4) biochemically blocked, (5) sedated, or (6) unacknowledged for any reason such that the individual's thoughts and cognitive activities remain on the "hot stove," the more the associated neurological, biochemical, and physiological signature and processes will be pathological and differ from those of a "normal" healthy person (Draud, et el., 2011). The issue here (which could include diseases, trauma, and hereditary disabilities) is the lack of responsiveness to emotional pain, which seeks to disrupt the mind from a potentially damaging mental stream of consciousness. The semantics between emotional regulation and cognitive regulation through emotional awareness is critical.

Negative feeling emotions, feelings, and moods that can lead to depression are analogous to "burnt-hand disease", where the issue is not the "pathological" biochemical signature (Maletic & Raison, 2017) but why a person would ignore their "feels-bad" emotional perceptions and keep their mind, or more specifically, their cognitive activities of knowing and awareness upon a mental hot and burning stove? Emotion has an evolved meaning and significance. Emotionally

negative neurological and biochemical physiology can be vital for short-term survival within the fight, flight, or freeze mechanism and for bringing clarity and meaning to an undesirable world, but sustained, long-term effects are detrimental to an individual's health, well-being, and success. More specifically, negative and positive emotional feelings have evolved as a control mechanism to guide cognitive behavior towards individual health, well-being, and success through effective decision-making and resonating behavior.

This is in direct opposition to current psychological theory, which holds that emotions produce different physiological, behavioral, and cognitive pathologies (Emotion, 2020), and therefore, aberrant, destructive, and dangerous emotions should be regulated, controlled, and managed, even with the use of pharmaceuticals (Barlow, 2014; Gross, 2014; Maletic & Raison, 2017). This current psychological theory states that emotion changes the physiology of the brain and body that causes emotion. Mathematically speaking, this theory argues that X changes Y, and the result is X. Does that even make sense?

Emotion should also be understood as a verb. Feeling an emotion means a person is cognitively active… perceiving, conceiving, remembering, reasoning, judging, imagining, and problem-solving. Unlike the reflexive action of removing a hand from a hot stove after feeling pain, emotional pain allows time and space for the analysis, understanding, and comparison of any number of challenging cognitive behaviors, their outward expression, and inherent ethical and emotional attributes. Rather than being a separate and singularly focused class in psychology, the understanding and education of a biologically evolved emotion control and biofeedback mechanism should be an integral part of every aspect of primary and secondary school curricula. Emotions as a biofeedback and control mechanism can be used to understand, guide, reframe, and refine enslaving, harmful, and vulnerable cognitive activity into positive,

robust, healthy, and empowering cognitive activity that gives meaning and vibrancy to life (Nussbaum, 2001, 2018).

The connecting processes between cognitive activities that feel emotionally positive and those that feel emotionally negative are the foundation for individual, cultural, and societal regeneration and rebirth and the creation of something new: “I am emotionally aware of what I don’t want. Now, what is it that I do want and desire? What action, mental or physical, can I take now, today, and tomorrow that will make me feel good (and lead me off of my emotionally negative journey and onto my emotionally positive journey)?” Happiness is not something a person attains and therefore possesses like a house or a car. Happiness is a continual journey of re-processing cognitive activity from the emotionally negative into the emotionally positive. The neuroplastic networks that supported a reality and cause of suicidal depression, psychotic mania, and schizophrenic tendencies yesterday – those same neural networks have the physical plasticity to change today and no longer have the capacity to support that pathological reality and behavior tomorrow.

16.0 Cognitive vs Emotional Dysregulation

Emotional process control theory understands that cognition, not emotion, changes the neurological and biochemical physiology that drives behavior. Therefore, cognition must be controlled, regulated, and managed. Emotions are the perception of neurological, biochemical, and physiological changes of the brain and body (precipitated by cognition). A relationship between emotions and physiology has evolved where good-feeling emotions correlate with healthy physiology, and bad-feeling emotions correlate with unhealthy physiology. Cognitive behavior therapies work because cognition changes the neurological and biochemical physiology that is then perceived as emotions. Cognitive-emotional behavior therapies trust these emotions,

moods, and feelings to understand and guide appropriate, desirable, and healthy cognitive behavior.

Rather than demonizing emotions as aberrant, destructive, out-of-control, and in need of regulation because of an emotional disorder, the emotions-as-effect theory understands emotions as an evolved sensory system (akin to the senses of pleasure and pain), giving conscious feedback on the healthy (or unhealthy) state of neurological and biochemical physiology. Cognition, not emotions, precipitates the neurological and biochemical physiology of the brain and body that drives behavior. The dysregulation of cognition, not emotion, is causal to the aberrant changes in an individual's neurological and biochemical physiology that leads to suicidal depression, psychotic mania, and dysfunctional neurological and biochemical physiology susceptible to disease and illness. Instead of being regulated by cognitive behavior, emotions, moods, and feelings are used to guide cognitive behavior and decision-making to enhance the individual's health, well-being, and success. Cognitive-behavior therapies work because cognition changes the neurological and biochemical physiology that is then perceived as emotions. The current science of emotional dysfunctional theory and control necessitates the following six warnings:

16.1 Warning 1: Denial of the emotional biofeedback mechanism. Emotional disorders (Barlow, 2014) such as depression, anxiety, suicide, mania, bipolar disorder, borderline personality disorder attributed to emotional dysfunction theory are not emotional disorders but cognitive disorders that deny an evolved emotional biofeedback mechanism. A belief in emotional control, management, and regulation because of the influence of "emotional" dysregulation on a person's neurological and biochemical physiology convolutes emotions' evolutionary role to pivot off of emotionally negative cognitive behaviors towards emotionally

positive cognitive behaviors (and its resonating outward expression and behavior). If emotions are deemed untrustworthy because of a false belief that aberrant and dangerous emotions drive behavior, the emotional biofeedback and control mechanism is further sabotaged in fulfilling its evolutionary role.

The emotional rollercoaster ride provided by the entertainment industry through such mediums as movies, television, books, songs, and music is dependent on a certain denial of the evolved emotional bio-feedback mechanism to guide cognitive activity towards well-being. This suspension of emotional understanding can bleed into daily life and disrupt emotions' role in guiding cognitive behavior, critical analysis, and effective decision making.

16.2 Warning 2: Camouflaged aberrant cognitive behaviors. Any psychological or pharmaceutical therapy that changes a person's natural and evolved cognitive-emotional correlations can camouflage aberrant cognitive behaviors normally exposed through emotional dissonance. These unabated cognitive behaviors can continue to change neurological and biochemical physiology until they erupt uncontrollably into dangerous, psychotic, suicidal, and schizophrenic behaviors. Modern psychology (and research) attributes the power of causality to emotions without integrating a person's capacity to re-process cognitive behavior that solicits other emotional responses. If these emotions, stemming from an "emotional disorder," are managed pharmaceutically, science is again usurping emotions' evolutionary role in accentuating aberrant and destructive cognitive behavior to an individual's conscious attention and awareness.

16.3 Warning 3: Unrecognized defense against illness, infections, and disease.

Neurological, biochemical, and physiological abnormalities that are emotionally perceived may not originate from psychological cognitive activities. Instead, they may be attributed to illness, infection, or disease. However, by consciously working to feel good, the

body builds another evolutionary defense for survival. Feeling emotionally good has an evolved correlation with being physiologically healthy and vigorous. Therefore, evolution has set up another layer of resistance to fight off illness, infection, and disease by consciously working to feel good rather than succumbing to emotionally negative physiological activity.

By cultivating a cultural attitude that dismisses the emotional "dashboard light" of negative emotions and does not recognize the role of negative emotions in informing one's consciousness that extra effort must be made to maintain an emotionally good-feeling attitude, science is creating a physically weak society. People who have developed cognitive abilities needed to maintain an attitude and mood of emotionally positive feelings empower themselves to survive pandemics such as the COVID-19 pandemic because of good feeling emotions' correlations to healthy physiology, critical analysis, and successful decision making.

16.4 Warning 4: Misguided action upon an external world. If an individual or patient is never taught:

(1) how to use their cognitive-emotional biofeedback mechanism and

(2) that good- and bad-feeling emotions, moods, and feelings are about their cognitive activities, and

(3) how these good and bad feelings have evolved correlation with the health and well-being of their neurological and biochemical physiology, or

(4) even more detrimental, is taught to ignore, constrain, or inhibit this evolutionary biofeedback mechanism,

they will continually associate and give credit (or fault) to the origins of their emotions, moods, and feelings to an *external* world.

An individual or patient will then act upon their external world according to their interpretations, understandings, and beliefs derived from their personal experiences, education, and training through life – even to the detriment of their health, well-being, and success. Feeling good or bad is not about what "I" am doing: "I feel this way because of what 'they' and the external world of circumstances, events, and happenings are doing to me. And if they and the world do this to me, how can I act other than what I understand, know, and believe." We live in a world that validates through religion, media, and law credit or fault (reward or punishment) to those who "make me feel" this way. Feeling good has become about changing, controlling, or acting upon "them" and the external world and punish those who make me feel angry, depressed, or wronged as religion, media, law, and personal experiences have taught and continues to teach.

16.5 Warning 5: Misguided "feels-good-is-good" morality. Because joy has an evolved correlation with health, well-being, and success, we have evolved to be joyous beings. Yet a self-centered feels-good-is-good morality must be tempered within a compassionate awareness of the symbiotic connection between all humanity that demands cognitive-emotional re-processing skill, education, and training.

Rather than rigorously adopting and adhering to a set of feels-good religious, political, or academic set of beliefs and understandings that deny an internal reflection of personal cognitive behaviors, our educational institutions (parents, schools, religions, governments, etc.) must teach, develop, and empower a feels-good-is-good cognitive-emotional dynamic that can rationally and comprehensibly debate the moral dilemmas facing each new generation.

16.6 Warning 6: Literacy can adversely affect natural cognitive-emotional development.

The current linguistic semantics of emotional behavior depicted in secular and religious

literature can reinforce a self-indulgent reflexive behavior driven by emotions. This reptilian portrayal of emotional behavior ignores any conscious re-processing cognitive activities towards a behavior accentuated by a better feeling thought. To enjoy the thrill and excitement of a fantasy world and to understand and comprehend the more complex emotional behaviors within the intricacies of some advanced character and plot progressions, a reader must be even more willing to suspend their disbelief and accept a self-indulgent reality of emotions driving behavior. Literacy becomes problematic when natural cognitive-emotional re-processing development is usurped by a singular reality of reflexive and self-indulgent emotional driven behavior void of any re-processing skill, education, and training. Because joy has an evolved correlation with health and well-being, we have evolved to be joyous beings. Yet a self-centered feels-good-is-good morality must be tempered within a compassionate awareness of the symbiotic connection between all humanity that demands cognitive-emotional re-processing skill, education, and training.

17.0 Success in Education

"Even as the history of our discipline is implicated in systemic racism, such modes of inquiry remind us of literature's capacities for critique, resistance, and transformation. We resolve to pursue those capacities across all areas of literary study." J. Brantley, English Chair, Yale University. Emotional literature appeared in the Western world almost 3,000 years ago with Homer's *Iliad* and *Odyssey*. Whether for entertainment – poets lifting and casting down their audiences' emotions like a roller coaster excites and thrills or frightens its breathless riders – or for cognitive awareness and development, reading, understanding, and writing literature are necessary actions in our modern world, as is understanding emotions' evolutionary role for the maintenance of individuals' health and well-being. Losing one's self within the emotional

moment, either for the joy, thrill, and excitement of the entertainment or for the educational value of walking within another person's shoes while being emotionally engaged within a character of a movie, book, play, or ballet (or of any other medium) means suspending a natural emotionally guided cognitive re-processing behavior that has evolved for their health, well-being, and success. The entertainment/educational mode and the evolutionary re-processing mode of cognitive-emotional behavior have their place. The awareness and understanding of both modes of cognitive-emotional behavior must be part of every individual's education.

Developing a child's skills and ability to re-process cognitive activities based on emotional feedback is necessary for elementary school education. But how does one explain to an elementary school student – in age-appropriate terminology – that "emotional regulation refers to any process an individual uses to influence the onset, offset, magnitude, duration, intensity or quality of one or more aspects of an emotional response (Gross, 2007)" (McRae et al., 2012) when emotions themselves are not what should be regulated but should instead be used as feedback to regulate cognitive activities?

In pre-school, a facilitator helps a student understand, by drawing attention and awareness to the thoughts and what they are thinking about (appraisal) when they are experiencing anger, anxiety, fear, or anytime they are emotionally not feeling good. They play a game of "mystery" and "detective" (Mystery Science Theater) looking for clues on what thoughts, ideas, imagines, and memories caused them to feel bad. Then the facilitator can remind them of their game of "find a better feeling thought." "Using what we have discovered, what ideas do you have, or can come up with (attention), that makes you feel a little better. You may not be feeling good yet, but feeling better is in the right direction." When they finally can detect good feelings (re-appraisal), they have "won!" and are awarded a gold star for being a successful

research scientist. They can also begin understanding that feeling good is healthy for them and will help them be successful in school.

In primary school, while learning to read, the teacher can point out how a good story gets their attention and emotionally involved similar to the ups and downs, twists, and turns of a roller coaster. The teacher can do the same with a movie, TV show, video, or any other medium. Then the teacher can point out how the emotional ups and downs are part of the story, but they can learn (and should learn), like in life, to put the book down and get off the emotional roller coaster if they are having trouble or can't get back to a better feeling place.

As students advance in their education, they also can advance in their skills, abilities, and beliefs to re-process negative feeling cognitive-emotional dynamic behaviors into positive, good feeling cognitive-emotional behaviors. They can also begin understanding that emotionally feeling good has an evolved neurological, biochemical, and physiological correlation with health, well-being, and success and emotionally negative feelings with their negation. And they can understand that an evolved neuroplastic brain will reinforce their capability to re-process cognitive-emotional behaviors (and also reinforce their lack of capacity).

These vignettes play out the symbiotic psychology of an evolved three-sided neuroplastic coin. The three surfaces (or circuits of corroborative constructs) are (1) emotionally feeling good, (2) emotionally feeling bad, and (3) the transitional surface between the two. The coin is neuroplastic and therefore changes in neurology, biochemistry, and physiology will reinforce and sustain the development and cultivation of healthy or pathological cognitive-emotional dynamic processes (and their control) within the brain and body depending on a student's learning environment. Therefore, a strong cognitive-emotional re-processing curriculum should absolutely be part of all educational institutions.

Primary school literary and cognitive-emotional health education must include both the traditional linguistic semantics of emotionally driven behavior for its experiential value and growth potential within the vicarious living of others (be they actual or fictitious) and the linguistic semantics of emotional control in the engineering sense where emotions are used as feedback to guide and re-process thoughts, memories, perceptions, imaginations, and logic of the cognitive mind towards the individual's health, well-being, and success (as indicated by good feeling emotions, moods, and feelings).

Authors' (of all genres) failure to realize that the "suspension of disbelief" and avoidance of critical thinking includes the suspension of an emotional biofeedback mechanism that has evolved for millions of years to not only protect an individual but to promote their health, well-being, and success. Yet there is potentially great educational value within these emotionally charged and entertaining roller coaster rides. Through the many lives and deaths within each play, experiences, understandings, knowledge, and, potentially, the wisdom of others may be gleaned for the benefit of one's own life and reality. The efficacy of these dynamics will be significantly increased ***without*** the awareness that emotions have evolved to guide cognitive behavior for the individual's health, well-being, and success.

Academic education must include the linguistic semantics of emotionally driven behavior for its experiential value and growth potential within the vicarious living of others (be they actual or fictitious) and the linguistic semantics of emotional control behavior in the engineering sense where emotions are used as feedback to guide the thoughts, memories, perceptions, imaginations, and logic of the cognitive mind for the individual's well-being.

18.0 Cognitive Regulation through Emotional Awareness

Cognition is causal (to neurological, biological, and physiological states and changes of

being); emotion is a perceived effect (of these neurological, biological, and physiological states and changes); but emotions can become causal when they are used to drive re-processing cognitive activities. Aberrant and destructive cognition, *rather than emotions*, must be managed and controlled because cognitive behavior precipitates neurological and biological changes within the brain and body that drive behavior. Emotions have evolved as a control mechanism to guide cognitive activity to improve health, well-being, and success. Literature and religion may not understand this evolution, but philosophy, law, and science certainly should.

The accentuation of cognitive activities with emotional awareness derived from neurological, biochemical, and physiological changes and states of the body is an integral part of the cognitive-emotional control mechanism to maintain the body's health, strength, and vigor. Emotional awareness brings another attribute to a person's conscious manipulation of their cognitive and physical activities. And the more developed and cultivated one's abilities to distill emotionally negative cognitive behavior into an emotionally positive state of being, the greater health, well-being, and success potential within any decisions made. (and influence, or lack thereof, within experimental designs and results).

The moral and ethical debate of a "feels good, is good" within an evolved cognitive-emotional control mechanism has continued for thousands of years and may continue for thousands more. Ultimately, however, it is an individual debate that continues throughout a person's lifetime, hopefully, a lifetime of continual growth and greater understanding. The critical analysis and questioning demanded by a cognitive-emotional health education curriculum in our educational institutions can be of great individual, societal, and cultural benefit to everyone's health, well-being, and success.

19.0 Psychological Therapy

Evidence-based practices such as rational emotive behavior therapy (REBT) (Ellis & Ellis, 2019), cognitive behavior therapy (CBT) (Beck, 2011), method of levels therapy (MOL) (Mansell et al., 2013), mindfulness (Farb et al., 2014), mindfulness-based cognitive therapy for depression (Segal et al., 2018), eye movement desensitization and reprocessing (EMDR) (Shapiro, 2018), forgiveness therapy (Enright, & Fitzgibbons, 2015), positive psychology (Lopez & Snyder, 2009), emotional intelligence (EI) (Salovey et al., 2004), and interpersonal psychotherapy (Stulberg et al., 2018) all center around an individual's motivation, ability, and skill to re-process cognitive activities (Gross, 2014). These cognitive activities are ultimately evaluated by the existence of good- or bad-feeling emotions. This is the use of emotions-as-effect and emotional control theory.

Therapy based on the symbiosis between cognition and emotions reaffirms an evolved biological guidance mechanism where emotions are used to evaluate cognitive behaviors. In stark contrast to emotional regulation, with this approach, emotions are not regulated but are used instead to regulate, that is, to guide cognitive behaviors. Also, emotions are not viewed as out of control in this context, nor is there a concept of emotional disorder. On the contrary, the cognitive mind is out of control, and the therapeutic process addresses a cognitive disorder. Deviant emotional perceptions are reflections of this aberrant cognitive behavior. The emotions are not treated as dysfunctional but are understood as very functional. They bring to consciousness the dysfunctional aspect of the mind's cognitive activities that create the aberrant neurological and biochemical physiology we perceive as emotions. It is these irregularities in cognitive behavior that need to be addressed. Emotions are but the messenger.

"What do you want?" is a question that brings about an emotionally negative response if the person is dwelling within the cognitive constructs of the not wanted or lack of that which is desired. Our evolutionary reflexes move consciousness from the not wanted into cognitive activities of what is wanted. The therapist's role is to aid in their person's understanding of this process and train and develop the cognitive-emotional skills necessary to pivot cognitive activity from that which is not wanted to the cognitive activity of that which is wanted…. from feeling bad to feeling good. Emotions are the guiding light regarding the success or lack of success in this change of focus within the cognitive mind. Neuroplasticity of the brain means that everybody has the capacity to realize a new and more beneficial reality because the brain can rewire itself and create new circuits of understanding and alternative healthy behavior (APA, Neuroplasticity; Costandi, 2016, Doidge, 2015).

The symbiotic nature of cognition and consciousness enables an individual to ferret out what is wanted from within that which is not wanted. This nature also enables an individual to acknowledge that which is not wanted (or focus on the lack of what is wanted) from within that which is wanted. Cognition and consciousness have an essential biological function to maintain a healthy and vital neurological and biochemical physiology. Emotions have a function. Emotions bring awareness to the consciousness of health or lack thereof of cognitive activities. Feeling good correlates with a healthy biochemistry, and feeling bad correlates with an unhealthy biochemistry. Psychological and pharmaceutical therapy must honor these functions. Mental illnesses arise when healthy responses to the cognitive-emotional bio-feedback and control mechanism are absent. An individual does not have the cognitive-emotional capacity, agility, or wisdom to respond to their cognitive-emotional bio-feedback in a natural and healthy manner to get their mind off the hot stove.

A loss of a sense of agency (SoA: the sense that I am the one who is causing or generating the action) and a loss of a sense of ownership (SoO: the sense that I am the one who is undergoing an experience. For example, the sense that my body is moving regardless of whether the movement is voluntary or involuntary) (Gallagher 2000) are symptoms of schizophrenic tendencies (Gallagher, 2020) and dissociative activities within suicidal depression and psychotic mania that a patient may find some relief from when incorporating the mindful self-reflection of their cognitive-emotional correlations and behavior. A sense of agency and ownership may develop when they are encouraged to use the emotions they feel as a control mechanism towards the thoughts, ideas, and other mental activities being generated in their mind and towards any outward expression and behavior they are experiencing. Pharmaceutical therapeutics (that can also generate a loss of agency) may be necessary to form some cognitive-emotional stability before a cognitive-emotional control therapy can begin.

The goal and practice of ***psychological rehabilitation*** are to utilize the brain's power of neuroplasticity and develop within an individual the mental agility and reflexes to constructively respond to their cognitive-emotional bio-feedback and control mechanism. At first, these steps may go from painful emotions to less painful emotions. Still, eventually, with the development of new habits and mental agility skills, the steps will be from feeling emotionally good to feeling emotionally even better. These skills are the foundation of mental health and well-being and the ability to lead an everyday life.

20.0 Pharmaceutical Therapy

Medications can be very effective in "normalizing" external behavior from an observer's perspective, but what are these chemicals doing to the cognitive-emotional biochemical and

physiological neural feedback and control mechanisms? What are they doing to consciousness' ability to control and change cognitive activities in response to cognitive-emotional bio-feedback? How can emotions guide cognitive behavior when emotional or physiological neural networks are being targeted with artificially introduced chemical agents?

Emotions have an evolved role in guiding cognitive behavior and decision-making. If emotions are perceiving a neurological and biochemical physiology that cognition actualizes, how are emotions out of control and in need of emotional regulation? It is cognition that is out of control, and therefore, it is cognition that needs regulation.

Any pharmaceuticals designed to impact the cognitive-emotional bio-feedback and control mechanism also impact the emotions' correlations with (1) the mind's cognitive activities and (2) the body's neurological and biochemical physiological activities, and (3) consciousness awareness of these biochemical, physiological conditions. Biochemical agents must harmonize with cognitive-emotional neurological constructs and augment the brain's neuroplastic capacity for supporting new constructive habits (APA, Neuroplasticity; Costandi, 2016, Doidge, 2015). The purpose of pharmaceutical therapy should be to assist consciousness's power and ability to manipulate cognition and thus help consciousness respond to the cognitive-emotional bio-feedback and control mechanism in a healthy and constructive manner. That is not within the purview of current pharmaceutical therapy.

21.0 Conclusion

Neurological and physiological changes in the brain and body that are felt emotionally cannot occur until the cognitive, neurological processes of the brain are actualized. That is, there cannot be an emotional reaction to a person being mutilated in a car accident until the event is –

consciously or unconsciously – cognitively perceived, conceived, and understood. The cognitive processing of an event activates an "emotional" neurological network that precipitates any number of different combinations of neurological and physiological changes that may then – depending upon one's emotional acuity – be perceived by consciousness as a variety of good- and bad-feeling emotions. As such, emotions are the perception of neurological and physiological changes (effect) precipitated by cognition (cause) (**reference Figure 7, page 26**).

The causal nature of Homer's emotions, feelings, and moods is a carefully nurtured neurolinguistic and cognitive construct of the mind systemically passed down through generation after generation ignorant of emotions' evolutionary biofeedback and control processes as well as emotions' correlation with an individual's neurological, biochemical, and physiological state of health, well-being, and success. Emotions (James, 1890; Prinz, 2004) have not evolved to be controlled, regulated, or managed by cognition, as the linguistics of psychology, religion, literature, philosophy, and law suggests (Goleman, 2003; Gross, 2014; Homer, 800-700/2009; Nussbaum, 2001).

The legacy of an emotional dysfunction theory that demands emotional regulation and management (even with the use of pharmaceuticals) is like a walk into Plato's cave (Allegory, 2020). Because of the brain's neuroplastic capacity, a lifetime of secular (and perhaps religious), learning, practice, teaching, and research founded on a belief in emotionally-driven behavior and decision making has neurolinguistically hardwired into humans a reflexive neurocircuitry erroneously devoted to emotional dysfunction theory. For anyone to accept another cognitive-emotional dynamic requires a fierce commitment to science and logic.

Emotions have evolved for millions of years. They had become a very effective tool giving valuable feedback on the nature of one's cognitive activities. Yet, when Homer wrote the

Iliad, he began a false inscription of emotions' evolved role in constructive behavior, decision making, and creativity to develop and maintain an individual's health, well-being, and success. The importance of knowing, understanding, and teaching our children how emotions carry out these primary functions cannot be overstated. How long will academia continue the instruction, edification, and liability of a cognitive-emotional dynamic regulatory theory erroneously based on 3000-year-old literary and religious linguistics? The success of any educational institution cannot be defined solely by its students' ability to secure cognitive achievements; success must also be determined by a student's ability to achieve health, vigor, and joy along with the necessary cognitive skills, abilities, and motivation to nurture these conditions throughout life by employing their own evolved cognitive-emotional biofeedback and control mechanisms.

Cognitive behavior therapies (such as rational emotive behavior therapy (REBT) (Ellis & Ellis,2019), cognitive behavior therapy (CBT) (Beck, 2011), mindfulness (Farb et al., 2014), mindfulness-based cognitive therapy for depression (Segal et al., 2018), eye movement desensitization and reprocessing (EMDR) (Shapiro, 2018), forgiveness therapy (Enright, & Fitzgibbons, 2015), positive psychology (Lopez & Snyder, 2009), emotional intelligence (EI) (Salovey et al., 2004), and interpersonal psychotherapy (Stulberg et al., 2018) utilize both the effect nature of emotion perception and the causal nature of emotions in closed-loop process control to manage cognitive behaviors. But these foundational underpinnings are rarely disclosed and become part of the therapeutic education process emphasizing the sense of agency (SoA) and sense of ownership (SoO) that is needed on the path to health, well-being, and success.

Psychological and pharmaceutical therapeutics must be about cognitive-emotional development, i.e., the education and training of an individual to develop their skills, abilities, and beliefs needed to use their emotions as they have evolved. The mental health and well-being of a

society are determined by its inhabitants' mental health and well-being. A culture ignorant of emotions' evolutionary role in guiding individual cognitive behavior and its physical outward expression is subject to all kinds of forces that can misdirect cognitive activities. Continual distortions and conceptualization of emotional dysregulation and emotional disorders (Payne et al., 2014) described by current psychological, psychiatric, and pharmaceutical institutions as requiring "emotional management and control" only further sabotage the opportunity to use emotions to improve individual and societal mental health and well-being.

Until the true nature of emotions is understood, individual emotional behavior will be continually preyed upon by those who wish to control and subjugate individuals for their selfish interests, be those interests benevolent or insidious. Until the true nature of emotions is understood, individuals experiencing hardship can be tragically vulnerable and complicit towards selfish and corrupt actions of nefarious sales and marketing propaganda (Bandler, 2008; Kenrick et al., 2015; Nussbaum, 2001). Because feeling-good emotions correlate with health and well-being, nature has constructed an association between feeling good, ethics, and morality. It is up to humanity to nurture the intricacies and nuances of living in our modern world. But if philosophy, religion, and law are ignorant of what drives human behavior and decision-making, how can there be but laws of ignorance and injustice (and disorder, conflict, and crisis)? Justice founded upon falsehood is itself false and unjust.

The pain and hardships of life plant the seeds of intent and desire that formulate into individual and personal short, long, and immediate goals. Ignorance is to speak of desire itself as the cause of suffering rather than understanding that it is the continual cognitive activity upon the lack of what is desired that is the cause of suffering. Receiving a formal education on emotions' evolutionary role within human behavior can determine whether these seeds yield compassion

and creativity or destruction and morbidity. Societal institutions –parenting, education, religion, politics, and other institutions – all have a responsibility to empower individuals with emotional awareness and the ability to use negative bad-feeling cognitive activities and behaviors as a springboard to positive good-feeling cognitive activities and their outward expression and behavior. Humanity's future depends on the empowerment and understanding of the moral and ethical complexities within individual decision-making, and sympathetic and resonate behavior, driven by a biologically evolved "feels good, is good" and "feels bad, is bad" compass.

How long will the academic institutions of early education, language, linguistics, literature, psychology, philosophy, and law continue teaching an erroneous and dangerous cognitive-emotional dynamic regulatory language based in a 3000-year-old literary and religious linguistics when there are, yearly, nearly 800,000 deaths by suicide worldwide (W.H.O., 2019) and millions of other people are being put through a school-to-prison pipeline (LDF, 2018) within conditions of incarceration that only amplify their psychological injuries; and when indiscriminate "random" shootings, bombings, murder, war, and personal dehumanization continues? When will academia review, analyze, and question the psychological environments their teachings foster within all of these atrocities because they are oblivious to emotions' evolutionary design? The lack of casual and scholarly questioning and review of erroneous emotional linguistics commonly misused in everyday life only adds to these children's misfortune of a lesser god (Medoff, 1979).

22.0 Experimental Design: Factoring in the Evolved Three-Sided Neuroplastic Coin (repeated from abstract)

Because of observability and measurability in humans and animals, there is much emotional research revolving around fear. But fear, with its many philosophical constructs and corroborative research and arguments, is only one aspect of the emotionally negative feeling side

of an evolved three-sided neuroplastic coin. What can be reasonably understood and concluded without integrating the other two sides of the coin? The opposing, good feeling side is joyful with its supporting neurological and biochemical physiology. Whereas negative cognitive-emotional feelings such as fear, sadness, anger do, in the short-term function as a much-needed survival mechanism, I contend that the cognitive-emotional positive and joyful state of being has a natural bias because of its unique long-term correlation to health, well-being, and success and a healthy, robust neurological, biochemical physiology.

The third side is a cognitive-emotional dynamic process control mechanism between the two sides and has evolved and functions to maintain an individual's health, well-being, and success. But the neuroplastic brain will maintain and support (to the point of failure) those process networks, whether pathologic or salubrious, that continue to be environmentally stressed, especially through adolescent development. Human psychological and psychiatric experimental variability (or lack of consistency and stability) can be reduced and experimental comprehension can be increased by identifying within the experimental population cultivated (or lack thereof) cognitive-emotional dynamic re-processing abilities, skills, and aptitudes where emotional awareness consciously and unconsciously guides cognitive behavior towards good-feeling cognitive-emotional states of being.

23.0 Research Questions

1. How would the function of the neurological defined areas of the brain be reinterpreted if emotions have evolved as part of a conscious cognitive-emotional control mechanism where good feeling emotions regulate cognitive areas of the brain (and their activities) towards health, well-being, and success?

2. Is there an unconscious cognitive-emotional control mechanism (or adaptive information processing system (Damasio, 1999, Ledoux, 1994)) between functional areas of the brain that suppresses emotionally negative and bad-feeling cognitive behavior and enhances emotionally positive and good-feeling cognitive behavior?

3. What are the effects of pharmaceuticals designed to regulate emotional behavior and their neurological and biochemical physiology on a patient's ability to employ their conscious cognitive-emotional dynamic control system?

4. If individuals are educated and trained to develop their abilities and beliefs to consciously re-process, re-structure, and re-organize cognitive activities towards a better cognitive-emotional feeling place, will the experimental environment surrounding major depression, psychotic mania, or schizophrenia studies develop greater stability, repeatability, consistency, and understanding?

   a. Does cognitive-emotional health education, training, and skill development increase the efficacy of psychological and pharmaceutical therapeutics?

   b. As patients progress and develop the capacity to use their emotional feedback to regulate their cognitive and physical behavior, would a pharmaceutical therapeutic program that progressively decreases its impact allow patients to more effectively respond to their emotional awareness?

5. With cognitive-emotional health education and training programs in our primary and secondary educational institutions (and as part of psychological and pharmaceutical therapeutics):

a. What would be the measurable effects be on the rates of suicide, mental health hospitalization, hospitalizations in general, homelessness, incarceration (recidivism), and joblessness within the general population?
b. Is there increased effectiveness of established psychological and pharmaceutical therapies?
c. Are there improvements in personal physical health and well-being within a primary school population?
d. Are there improvements in classroom behavior?
e. Are there improvements in student learning?
f. Are there improvements in individual sports performance and a reduction in sports injuries?
g. Should cognitive-emotional health education be part of criminal-justice reform?

6. What cognitive-emotional states are conducive:

a. to (1) inspiration, (2) problem solving, (3) imagination, and 4) memory and recall, which, in turn, improves student educational performance?

7. Does cognitive-emotional health education provide students (or patients) with a sense of agency (SoA), ownership (SoO), and self-empowerment over their world?

8. Does cognitive-emotional health education provide patients with schizophrenic tendencies a sense of agency (SoA), ownership (SoO), and self-empowerment?

9. Can psychotic mania be attributed to conscious or unconscious disassociation with depressive functional areas of the brain and vice versa for major depressive disorder?

10. How much of the observed neurological, biochemical, and physiological signatures of mental disorders within the body and brain can be attributed to a lack of conscious understanding

and ability to self-regulate cognitive behavior (by using emotions, feelings, and moods as feedback mechanisms)?

11. Are there significant differences in the effectiveness of cognitive re-processing skills to change cognitive behavior in response to the good and bad feelings of emotions, moods, and feelings for individuals with a history of activities involving the arts and performing arts such as music, dance, and theater versus those without a history of participating in such activities?

Note: The identification of different 1) re-processing skills to regulate cognitive behavior, 2) relevant educational training curriculum, 3) measures of the effectiveness and improvement of these skills, and 4) measures of the effectiveness of various re-processing skills for different affective states within different age groups have yet to be determined.

24.0 References and Background Reading

Allegory of The Cave. (2020 September 18). In *Wikipedia.* https://en.wikipedia.org/w/index.php?title=Allegory_of_the_cave&oldid=979100305

Allen, W.G. (2019). *Me and my feelings: A kids' guide to understanding and expressing themselves.* Rockridge Press.

APA. (2020). Cognition. In Dictionary.apa.org. https://dictionary.apa.org/cognition.

APA. (2020). Neuroplasticity. In Dictionary.apa.org. https://dictionary.apa.org/cognition.

APA. (2020). Somatosensory System. In Dictionary.apa.org. https://dictionary.apa.org/somatosensory-system.

Bandler, R., (2008). *Richard Bandler's guide to trance-formation: how to harness the power of hypnosis to ignite effortless and lasting change.* Health Communication, Inc.

Barlow, D.H. (Ed.). (2014). *Clinical handbook of psychological disorders: A step-by-step treatment manual (5th ed.).* The Guilford Press.

Barrett, H.C. (2012). Evolution psychology. In K. Frankish, W. Ramsey (Eds.), *The Cambridge handbook of cognitive science* (pp. 257-274). Cambridge University Press.

Bavin, E.L. (Ed.). (2012). *The Cambridge handbook of child language.* Cambridge University Press

Beck, J. (2011). *Cognitive behavior therapy: Basics and beyond*. The Guilford Press.

Begley, S. (2007) *Train your mind, change your brain.* Ballantine Books.

Brune, M. (2016) *Textbook of evolutionary psychiatry and psychosomatic medicine*: *The origins of psychopathology* (2nd Ed.) Oxford, UK: Oxford University Press.

Costandi, M. (2016) *Neuroplasticity.* The MIT Press

Dalai Lama, (1999). *Healing anger: The power of patience from a Buddhist perspective.* Snow Lion.

Damasio, A. (1994). *Descartes' error: Emotion, reason, and the human brain.* Penguin Books

Damasio, A. (1999). *The Feeling of what happens: Body and emotion in the making of consciousness*. A Harvest Book Harcourt, Inc.

Darwin, C. (1859). *On the origins of the species by means of natural selection.* In Wilson, E.O. (Ed.), *From so simple a beginning: Darwin's four great books.* W.W. Norton.

Davidson, R.J., & Begley, S., (2012). *The emotional life of your brain.* Hudson Street Press.

Doidge, N. (2015). *Brain's way of healing: Remarkable discoveries and recoveries from the frontiers of neuroplasticity*. Viking.

Draud, J.W., Jain, R., Maletic, V., & Raison, C. (2011). *Treating the whole patient, exploring the healing potential of a mind-body approach to mental health.* Continuing Medical Education.

Ekman, P., & Davidson, R.J., (1994). *The nature of emotion: Fundamental questions.* Oxford University Press.

Ellis, A., & Ellis, J.B., (2019). *Rational emotive behavior therapy: second edition.* American Psychological Association.

Enright, R.D., & Fitzgibbons, R.P. (2015). *Forgiveness therapy: An empirical guide for resolving anger and restoring hope.* APA.

Evans, V. (2017). Cognitive Linguistics. In S.E.F. Chipman (Ed.) *the Oxford handbook of cognitive science* (pp 283-299). Oxford University Press.

Emotion. (2020 November 17). In *Wikipedia.* https://en.wikipedia.org/w/index.php?title=Emotion&oldid=989098403

Farb, N.A.S., Anderson, A.K., Irving, J.A., & Segal, Z.V. (2014). Mindfulness interventions and emotion regulation. In J. Gross, (Ed.) *The handbook of emotional regulation* (pp 548-567). Guilford Press.

Fox, E. (2008). *Emotion science.* Palgrave Macmillan.

Friederici, A.G. (2012). Neurocognition of language development. In Bavin, E.L. (Eds.), *The Cambridge handbook of child language* (pp. 69-87). Cambridge University Press.

Fugate, J.M.B., Lindquist, K.A., & Barrett, L.F. (2014) Emotion: Generation or Construction? In Ochsner, K.N., Kosslyn, S.M. (Eds.), *The Oxford handbook of cognitive neuroscience vol. 2 the cutting edge* (pp. 32-51). Oxford University Press.

Goleman, D. (2003). *Destructive emotions: How can we overcome them? A scientific dialogue with the Dalai Lama.* Bantam Books.

Gorwood, P., Corruble, E., Faliissard, B., & Goodwin, G.M. (2008). *Toxic effects of depression on brain function: Impairment of delayed recall and cumulative length of depressive*

disorder in large sample of depressed outpatients. American Journal Psychiatry, 165:731-739. https://ajp.psychiatryonline.org/doi/full/10.1176/appi.ajp.2008.07040574

Greenberger, D., & Padesky, C. (2016). *Mind over mood: Change how you feel by changing the way you think* (2nd ed.). The Guilford Press.

Gross, J. J. (2014). Emotional regulation: conceptual and empirical foundations. In J.J. Gross (Ed.), *Handbook of emotion regulation* (pp. 3–20). The Guilford Press.

Homer. (2009) *Iliad* (A.S. Kline, Trans.). Benard Picart & Hendrick Goltzius. (Original work published ca. 800-700 BCE).

Ingram, J.C.L. (2007). *Neurolinguistics: An introduction to spoken language processing and its disorders.* Cambridge University Press.

Jackson, A.O. (2022). *Cognitive-Emotional health education: A primary and secondary school overview*. Symbiotic Psychology Press.

James, W. (1890). *Principles of psychology, vol. 2*. Holt.

Johnstone, T., & Henrik, W. (2014). The neural basis of emotion dysregulation. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 58–75). The Guilford Press.

Kemmer, D. (2015). *Cognitive neuroscience of language.* Psychology Press.

Kenrick, D.T., Neuberg, S.L., & Cialdini, R.B. (2015). *Social psychology: Goals in interaction* (6th ed.). Pearson.

Knight, B. (2013). *The power of negative thinking*. Houghton, Mifflin, Harcourt.

Kolk, B. van der (2015). *The body keeps score: Brain, mind, and body in the healing of trauma.* Penguin Books.

LDF (2018). *School to prison pipeline*. Retrieved from: https://www.naacpldf.org/case-issue/school-prison-pipeline/.

LeDoux, J.E. (1994). Emotional processing, but not emotions, can occur unconsciously. In P. Ekman, & R.J. Davidson (Eds.), *The nature of emotions: Fundamental questions* (pp. 291-292). Oxford University Press.

LeDoux, J.E. (1996). *The emotional brain: The mysterious underpinnings of emotional life.* Simon and Schuster Paperbacks.

LeDoux, J.E. (2019). *The deep history of ourselves: The four-billion-year story of how we got conscious brains.* Viking.

LeDoux, J.E. (2020). "My word: thoughtful feelings." *Current Biology* 30, R617-R634, June 8, 2020.

LeDoux, J.E. & Brown, R., (2017). "A higher-order theory of emotional consciousness." *Proceedings for the National Academy of Sciences of the United States of America* 114(10): E2016-E2025.

LeDoux, J.E. & Pine, D.S., (2016). "Using neuroscience to help understand fear and anxiety: A two-system framework." *American Journal of Psychiatry* 173(11): 1121-1122.

Lopez, S.J., & Snyder, C.R. (Eds.), (2009). *The Oxford handbook of positive psychology* (2nd ed.). Oxford University Press.

Maletic, V., & Raison, C. (2017). *The new mind-body science of depression.* W.W. Norton & Company, Inc.

Mansell, W., Carey, T.A., Tai, S.J. (2013). *A transdiagnostic approach to CBT using methods of levels therapy*. Routledge.

Marken, R.S. (2020). Understanding purposeful systems: The application of control theory in engineering and psychology. In W. Mansell (Ed.) *The interdisciplinary handbook of perceptual control theory* (Chapter 2). Academic Press.

McRae, K., Misra, S., Prasad, A.K., Pereira, S.C., & Gross, J.J. (2012). Bottom-up and top-down emotion generation: Implications for emotion regulation. *Social Cognitive and Affective Neuroscience*, Volume 7, Issue 3, March 2012, Pages 253–262. https://doi.org/10.1093/scan/nsq103

Miklowitz, D.J. (2014). Bipolar disorder. In, D.H. Barlow (Ed.), *Clinical handbook of psychological disorders: A step-by-step treatment manual* (5th ed.) (pp. 462-501). The Guilford Press.

Moore, A. (2019). Hedonism. In E.N. Zalta, (Ed.) *The Stanford encyclopedia of philosophy. Retrieved from* https://plato.stanford.edu/archives/win2019/entries/hedonism/

Nesse, R. M. (2019). *Good reasons for bad feelings: Insights from the frontier of evolutionary psychiatry*. Allen Lane.

Noss, D.S., & Grangaard, B.R. (2008). *A history of the world's religions* (12th ed.). Prentice Hall.

Nussbaum, M. C., (2001). *The fragility of goodness: Luck and ethics in greek tragedy and philosophy*, revised edition. Cambridge Universiy Press

Nussbaum, M. C., (2018). *The therapy of desire: Theory and practice in Hellenistic ethics*, first Princeton classic edition. Princeton University Press.

Ogata, K. (2010). *Modern control engineering* (5th ed.). Prentice Hall.

Palm, W. (2014). *System dynamics international* (3rd ed.). McGaw-Hill.

Panksepp, J. (1994). The basics of basic emotion. In P. Ekman, & R.J. Davidson (Eds.), *The nature of emotions: Fundamental questions* (pp. 20-24). Oxford University Press.

Payne, L.A., Ellard, K.K., Farchione, T.J., Fairholme, C.P., & Barlow, D.P. (2014). Emotional disorders. In, D.H. Barlow (Ed.), *Clinical handbook of psychological disorders: A step-by-step treatment manual* (5th ed.) (pp. 237-274). The Guilford Press.

Pessoa, L. (2013). *The cognitive-emotional brain; From interactions to integration.* The MIT Press.

Powers, E.T. (2016). PCT in 11 steps. In D. Forssell, (Ed.), *Perceptual control theory: An overview of the third grand theory in psychology introductions, readings, and resources* (pp 20-25). Living Control Systems Publishing.

Prinz, J.J. (2004). *Gut reactions: A perceptual theory of emotions.* Oxford University Press.

Prinz, J.J. (2012). Emotion. In K. Frankish, W. Ramsey (Ed.), *The Cambridge Handbook of Cognitive Science* (pp. 193-211). Cambridge University Press.

Salovey, P., Brackett, M.A., & Mayer, J.D. (Eds). (2004). *Emotional intelligence: Key readings on the Mayer and Salovey model.* Dude Publishing.

Segal, Z., Williams M., & Teasdale, J. (2018). *Mindfulness-Based cognitive therapy for depression* (2nd ed.). The Guilford Press.

Shackelford, T.K., & Zeigler-Hill, V. (Eds.). (2017). *The evolution of psychopathology.* Springer

Shapiro, F. (2018). *Eye movement desensitization and reprocessing [EMDR] therapy* (3rd ed.). Guilford Publications.

Smith, T.W. (2015). *The book of human emotions: From ambiguphobia to umpty – 154 words from around the world for how we feel.* Little, Brown and Company.

Stulberg, C.G., Frey, R.J., & Dawson, J. (2018). *Feeling better.* New World Library.

Tarrier, N., & Taylor, R. (2014). Schizophrenia and other psychotic disorders. In, D.H. Barlow (Ed.), *Clinical handbook of psychological disorders: A step-by-step treatment manual* (5th ed.) (pp.502-532). The Guilford Press.

Tomasselo, M. (2005). *Constructing a language: A usage-based theory of language acquisition.* Harvard University Press.

Tomasello, M. (2012). The usage-based theory of language acquisition. In Bavin, E.L. (Ed.), *The Cambridge handbook of child language* (pp. 69-87). Cambridge University Press.

W.H.O. (2019). Suicide. Retrieved from https://www.who.int/news-room/fact-sheets/detail/suicide

Young, J.E., Rygh, J.L., Weinberger, A.D., & Beck, A.T. (2014). Cognitive therapy for depression. In, D.H. Barlow (Ed.), *Clinical handbook of psychological disorders: A step-by-step treatment manual* (5th ed.) (pp. 275-331). The Guilford Press.

Wikapedia. (2021). Physiology. Retrieved from: https://en.wikipedia.org/w/index.php?title=Physiology&oldid=998901509

25.0 Revisions

1. 2022-02-14a: Release (extracted paper from Jackson, A.O., (2022) *Emotions-as-Effect and Emotional Control Theory: The Linguistic Semantics of Emotional vs. Cognitive Dysregulation*. Symbiotic Psychology Press)
2. 2022-02-23a: Added table of contents
3. 2022-02-28a: Added revision table; inserted Brown, LeDoux, & Pine theory of separate brain (cortex) and body (amygdala) circuits of emotions; rephrased “biochemical…” to include “neurological”
4. 2022-03-06a: Rewrote “abstract” and “research questions” sections; interjected three faces of a coin analogy; updated LeDoux and Associates’ “two-system framework”; general rewriting and editing
5. 2022-03-11a: Added section “Experimental Design”; rewrote much of “Abstract” and “Author’s Notes”
6. 2022-03-11b: General editing, formatting, and rewriting; edited process flow diagrams

7. 2022-03-18a: Added sections “19.0: Psychological Therapy” and 20.0: Pharmaceutical Therapy”; edited back cover blurb; updated diagrams

Andrew O. Jackson suffered from psychotic mania, suicidal depression, and schizophrenic tendencies. He was in and out of mental hospitals from 1979 to 1996. Once after another “blackout” period, he “awoke” in a mental ward and wondered how he got there this time. The nurse said he went up to a police car and told them that his friend needed help. His “friend” was a trash can. Another time he “awoke” with a rope in his hand ready to put an end to this torturous life when a voice asked him, “Can you go on?” “They” wanted him to continue this existence a while longer. He replied, “Yes” and got himself to a hospital.

Around 1993, in a moment of inspiration that has now led to his cognitive-emotional re-processing paper, he began a self-directed healing program using his emotions as feedback for his biochemical, neurological, and physiological state of being. After a couple more psychotic episodes (one that landed him in the El Paso County jail and led to a divorce from his first wife) and after seventeen years of therapists, psychologists, and psychiatrists, he no longer needed the benefits of their assistance. He has been medication-free and without disassociation, depression, or mania episodes since 1996.

Since 2005, he has been writing to academics around the world advancing a new emotional paradigm that defines cognition as causal to and emotions as an effect of biochemical, neurological, and physiological states of being. Emotions, instead of being regulated by cognitive behavior as current psychological academia prescribes, have evolved into a cognitive-emotional control mechanism to guide cognitive behavior towards the health, well-being, and prosperity of the individual.

He has an MS in Technology Education and an MS in Management Technology from the University of Wisconsin – Stout. He was a high school shop teacher, a college CAD (computer-aided design) instructor, a guest instructor in China teaching quality and inventory management, and a quality manager at an OEM (original equipment manufacturer). He is now happily married and retired from mechanical engineering, spending his summers sailboat racing and winters alpine skiing with his wife Barbie and their two cats.