

Article type:
Theoretical Research

1 The Iranian Academy of Medical Sciences, Tehran,
Iran. Behi Academy, Vancouver, Canada.

Corresponding author email address: farzad.goli@ijbmc.org



Article history:

Received 11 July 2024
Revised 14 October 2024
Accepted 24 October 2024
Published online 22 January 2025

How to cite this article:

Goli, F. (2025). Pleasure, Power, Meaning, and Beyond: Towards a Biosemiotic model of wellbeing. *International Journal of Body, Mind and Culture*, 12(1), 7-23.



© 2024 the authors. This is an open access article under the terms of the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) License.

Introduction

Prologue

Amid the vast diversity of life forms, a fundamental drive can be traced—a will to exist, sustained by the continuous flow of energy and information. This drive, originating from the earliest stages of life billions of years ago, has been expressed in countless species through simple, recurring patterns (Holland, 2000). Life maintains itself by seeking and utilizing energy from its environment. However, this quest for energy also brings disorder and disrupts the organism's structure.

Pleasure, Power, Meaning, and Beyond: Towards a Biosemiotic Model of Wellbeing

Farzad. Goli^{1*}

ABSTRACT

This theoretical paper presents the Bioenergy Economy-based Health Improvement (BEHI) model, which adopts a biosemiotic perspective on health by integrating psychodynamics, behavioral economics, and transpersonal psychology. The BEHI model seeks to optimize investments through the free energy principle and pragmatic contextualization of thoughts and behaviors. It views the interconnected systems of body, mind, society, and culture as meaning-making entities shaped and directed by energetic, material, symbolic, and reflective signs. By focusing on energy-information reprocessing in four key domains- body economy, narrative economy, relational economy, and intentional economy- the model offers strategies for cultivating autotelic happiness and embodied wisdom. Incorporating principles of nonduality and wholeness, the BEHI model aims to minimize free energy, maximize value creation, and promote unconditioned salutogenesis. Empirical evidence and clinical studies confirm the BEHI model's effectiveness in addressing psychological, medical, and educational challenges. This integrative approach provides a framework for integrating current psychological methods into systemic clinical and educational settings, paving the way for innovative pathways toward sustainable development of happiness.

Keywords: Biosemiotics, Systems Theory, Mind-Body Relations, Free Energy Principle, Psychological Well-Being, Health Promotion.

To counterbalance this, organisms need energy and information to preserve their order. We refer to this in-out purposeful energy flow here, albeit with some flexibility, as bioenergy. It is a flow that requires various economic strategies for its sustainability to allocate limited resources to fulfill the vague and limitless demands of increasingly complex forms of life over time. While teleonomy, or value-bound energy, maintains the orientation of life, free energy tends toward entropy and chaos (Dresow & Love, 2023). The vector of evolution is towards higher levels of interdependent restraint of vibrations and forms (Stocker, 1992; Uexküll & Pauli,

1986). This is why, at higher levels of complexity, we need more complex models of economics and ethics to actualize all system's potential.

The autopoietic bioenergetic orders reproduce, evolve, and adapt to protect their informational framework, encoded in biological materials and relational patterns. In biosemiotics, these patterns are seen as meaning-making systems (Zlatev, 2018), encompassing everything from DNA at the molecular level to complex societal structures like media, institutions, and discourses. Each of these systems plays a role in interpreting and responding to the environment, creating a continuous web of meaning across different levels of existence.

Life can be understood as a network of meaning-making systems, from the molecular interactions within cells to the broader processes of biological functions. These systems operate within cognitive and non-cognitive domains (Hayles, 2019), forming a dynamic continuum connecting the physical and the mental. The core of this process is the persistent effort of living organisms to maintain their structure in the face of entropy, driven by the need to manage energy and information effectively.

This essay introduces the Bioenergy Economy-based Health Improvement (BEHI) model, an integrative framework that builds on these concepts. BEHI views the body, mind, society, and culture as interconnected, multiversal meaning-making systems that reduce free energy through energetic, material, symbolic, and reflective sign games. By understanding life as a process of meaning-making aimed at optimizing energy investment and reducing disorder, BEHI provides an evolutionary approach to health and happiness. The model outlines four economic fields—body economy, narrative economy, relation economy, and intention economy—each contributing to the sustainable management of energy and information (Goli, 2018; Goli, 2023).

Here, I propose a biosemiotic model that reinterprets classical theories of pleasure, power, meaning, and being as part of a hierarchy of meaning-making systems. By examining these components, we can design an evolutionary approach to health, aligning the various dimensions of well-being to promote sustainable happiness.

A hidden chamber where Freud, Adler, and Frankl reside together

Numerous philosophical and psychological theories have focused on understanding life's intrinsic value or core meaning. From Freudian "will-to-pleasure" to Adlerian "will-to-power" and Frankl's "will-to-meaning," each theory attempts to explain the fundamental drives behind human behavior. The BEHI model reinterprets these classical theories within a biosemiotic framework. It integrates them into a cohesive system that views life as a continuous and co-emerged effort to optimize energy investment and reduce uncertainty.

The free energy principle serves as the psychophysical foundation of BEHI, providing a junction point for "pleasure," "power," and "meaning". By minimizing free energy—an antagonist of the living order—organisms can achieve more pleasure and power while creating coherent and flexible meaning-making systems.

BEHI recontextualizes these classical theories by demonstrating how they operate within the broader biosemiotic processes that drive human behavior. This model seeks to resolve the paradox of pleasure (Konow & Earley, 2008) by presenting a multilevel, nondual approach where the body can be trained to contain both pain and pleasure better (McCracken & Zhao-O'Brien, 2010).

A. Will-to-Pleasure

Freud (1899) explained that releasing drives' tensions generates "pleasure," while inhibitions and blockages in these pathways can lead to dissatisfaction and symptoms. Freud's Pleasure Principle, which drives individuals to seek immediate gratification and avoid pain, aligns with the Free Energy Hypothesis, aiming to minimize prediction errors and reduce uncertainty (FREUD'S, 1920; Friston, 2010). The Pleasure Principle reduces demanding tension and psychological and physiological uncertainty by directly consuming resources to satisfy needs and demands.

The Reality Principle, which delays gratification when considering external constraints, can be considered a long-term energy management strategy. Through updating predictions and strategies, individuals decrease the demand for immediate energy consumption, enabling more futuristic energy

investment for the future. By reframing the eternal, tragic struggle of blind drives and reality obstacles into the tension between sooner versus more extended pleasure, we can regulate our emotions more effectively, steering away from the bleak fate often endured by those seeking utopian illusions on a challenging earth. This contemplation aligns actual pleasure with the power of controlling potential pleasures.

Additionally, FREUD'S (1920) later work on repetition compulsion and the death drive can be understood through the Free Energy Principle as the unlimited brain's attempt to resolve deep-seated prediction errors that do not conform to immediate pleasure-seeking behaviors (Adams et al.).

B. Will-to-Power

Adler's concept of will-to-power contrasts with Nietzsche's definition and is redefined as a compensatory mechanism to combat initial feelings of inferiority (Leibin & Bluvshstein, 2015). This aligns with the Free Energy principle, where striving for superiority allows individuals to enhance their predictive capabilities, thereby minimizing reward prediction errors and simplifying resource access (Friston & Ao, 2012). In the BEHI model, the will-to-power is viewed as a strategy for accessing and optimizing energy-information resources, which reduces psychological tension and uncertainty.

Adler's theory can be integrated with predictive coding, which explains how the brain continuously updates its mental models to reduce prediction errors (Friston, 2005, 2008). The will-to-power is the tendency to acquire energy resources to maximize potential pleasure. Certain traits and situations enhance executive functions and moral imagination, making exchanging immediate pleasure for potential future pleasure beneficial. This ability can increase one's influence or power over others (Bo O'Connor & Fowler, 2023; Shamosh et al., 2008). Fostering interoceptive awareness enhances our ability to contain emotions, leading to improved self-regulation and executive functions (Turel & Bechara, 2016). Individuals can reduce the psychological strain associated with uncertainty by improving their capacity to predict and respond to future events. This reinterpretation emphasizes that the will-to-power is not merely a drive for dominance or a way to compensate for primal inferiority; instead, it is a method

for optimizing energy investment and maintaining psychological equilibrium. However, these economic strategies can be applied in adaptive and maladaptive ways.

C. Will-to-Meaning

Freud (1918) long before Adler and Frankl, recognized the therapeutic value of reflective attributing meaning to unconscious experiences. This process transforms bodily iconic and indexical signs into a symbolic sign system that can be consciously processed.

In biosemiotic language, physical, mental, and social functions are referred to as different types of meaning-making systems that operate using various kinds of signs. Iconic signs represent something by resembling it, like an antibody that resembles its object, the antigen. Indexical signs indicate a direct connection or causation between the sign and what it signifies, like calcium ions as a second messenger that direct indicators of various signaling pathways, such as muscle contraction and neurotransmitter release, representing an indexical sign of activation. Symbolic signs are not inherent to the physical object but depend on cultural, social, or any momentary contextual interpretations; Facial expressions, body language, and various verbal and numerical languages (Goli, 2016).

Frankl's logotherapy focuses on the search for symbolic meaning as the primary motivational force in human life. Logotherapy helps individuals assign more adaptive meaning to life experiences, transforming potential chaos into organized narratives that reduce existential uncertainty (Frankl, 2017). Transforming potential chaos into an organized and meaningful existence underscores the connection between cognitive processes, symbolic systems, and biological imperatives (Truscott, 2022).

In the BEHI model, pleasure, power, and symbolic meaning, the core values of the Freudian, Adlerian, and Franklian schools of psychotherapy, are viewed as iconic, indexical, and symbolic meaning-making systems at different organizational levels. These systems aim to create more correlated meanings (functions) that minimize free energy. Let us explore how the BEHI model proposes to evolve our embodied cognition to higher levels of energy-information economy.

BEHI Model: Levels and Fields

A. Levels of Bioenergy Economy

BEHI reframes pleasure, power, and meaning as interconnected attractors directed to minimize prediction errors and optimize energy investment. Through this lens, pleasure, power, and meaning can be seen as economic models that regulate energy flow, stabilize the reward system, and balance dopaminergic functions (Friston, 2010; Ghassemi et al., 2021).

From Freud's perspective, the Pleasure Principle drives organisms toward the immediate satisfaction of desire, while the Reality Principle delays gratification to manage long-term consequences (Freud, 2008). These principles illustrate the brain's aim to reduce prediction errors and maintain a stable energy economy over time. The will-to-power, aligning with the reality principle, focuses on controlling resources to achieve overall more pleasure. Meanwhile, the will-to-meaning structures experience to create coherence and sustainability, offering a symbolic approach to managing energy and achieving enduring satisfaction.

In the BEHI model, these drives are integrated at various levels of the bioenergy economy, each contributing to an individual's capacity to navigate complex life challenges and maintain well-being. Pleasure is the most fundamental and direct economic model, aiming to reduce the free energy of immediate demands. Higher levels of the bioenergy economy translate into sophisticated economic strategies to achieve more spatiotemporally expansive and existentially sustainable pleasure.

2.1.1 Pleasure as Soul Glucose: A Naturalistic Reduction and Complexity

Various theories in economics, ethics, biology, and psychology are developed around a single intrinsic value, such as pleasure (Baumeister et al., 2016; Fano, 2021) or desire satisfaction (Parfit, 2004), or a set of values, such as happiness, liberty, beauty, justice, self-improvement, and autonomy (Ashwood & Bell, 2017; Ross, 2002).

We observe that minimizing surprise and its associated free energy can be considered a unifying principle that explains life, cognition, and communication. By reframing the concept, we can translate the reduction of prediction error or free energy into a positive value, thereby redefining pleasure as the core value of the organism.

In predictive coding, pleasure can be conceptualized as the result of minimizing prediction error in the reward circuitry (Maurer, 2021). Therefore, pleasure might be associated with achieving expected outcomes (Taniguchi et al., 2023).

In biosemiotic terms, pleasure is the coherence between possible and actual meaning-making processes in a symbolic-temporal context. As Luhmann (1982) defined, meaning is always the unity of possibility and actuality. In other words, meaning-making is the continuous processing of differences between expectations and perceptions. More excellent compatibility between the symbolic (possible order) and the temporal (actual order) results in increased pleasure.

Pleasure as an economic and ethical index cannot be exclusively a "sensory" quality but should also include "attitudinal" pleasure, encompassing the possible and transtemporal dimensions of the pleasure principle (Feldman, 2004).

I prefer multilevel pleasure over happiness, satisfaction, or meaningfulness as intrinsic value because of its substantial and visceral nature and its more empirically assessable qualities (Keyvanipour et al., 2019). Even during the strenuous pursuit of a goal, we can feel a certain degree of visceral pleasure in our bodies as we anticipate the potential reward (Knutson & Greer, 2008).

Seth (2013) explores how, based on the free energy principle, we assess the possible qualities of our bodily sensations in each emotional and behavioral response through interoceptive inference. He proposes that our brain continually predicts and updates its understanding of bodily states. Meaningful and purposeful efforts activate the dopaminergic pathways, and it is difficult to claim that these endeavors follow the reality principle without experiencing some degree of possible pleasure (Schmidt et al., 2020).

In the BEHI model, the concepts of power and meaning are considered in relation to the eudaimonic aspects of well-being. Meanwhile, power and meaning as hedonic drives manifest in different temporal and symbolic dimensions. Thus, we define the organism's main drive and core values through a parsimonious reduction. We then explore the complex emergence of pleasure at higher levels of organization, ultimately leading to more intricate meaning-making systems.

Pursuing pleasure in our current or potential state propels us to construct or deconstruct something for ourselves or others. From the BEHI perspective, masochism, sadism, self-improvement, and altruism are different strategies for reducing interoceptive inference errors and releasing or organizing chaotic free energy.

Meaningfulness often stems from satisfying core psychological needs such as autonomy, competence, and relatedness, as well as contributing to the welfare of others, which collectively foster a sense of purpose (Martela et al., 2018). While happiness – in its general sense – is typically associated with the presence of positive emotions and the absence of negative ones, meaning involves integrating experiences into a coherent narrative that transcends immediate pleasure (Baumeister et al., 2016). Autotelic work, a concept developed by Mihaly Csikszentmihalyi, involves engaging in challenging tasks that are intrinsically rewarding, promoting autonomy and immersion in the present moment, thereby contributing to both happiness and meaning (Csikszentmihalyi, 1990).

We have now discussed pleasure, power, and meaning as three levels of pleasure regulation and the free energy economy. Energy-information flows are processed at different levels of the bioenergy economy, ranging from more modular and precognitive drives to more mentalized and complex symbolic constructs. Now, the question is: Is there any way to recreate balance beyond the sophisticated symbolic processing toward constructing meaningful happiness?

This multilevel pleasure model, which encompasses sensory and attitudinal dimensions, plays a critical role in the BEHI. It drives individuals toward activities that optimize energy investment and promote well-being, from pursuing visceral pleasure in goal achievement (Knutson & Greer, 2008) to engaging dopaminergic pathways in meaningful efforts (Schmidt et al., 2020). The following sections explore how power and meaning function as hedonic drives within this framework, ultimately leading to more complex and sustainable meaning-making systems.

B. The Fourth Level of Bioenergy Economy: Will-to-Being

Heidegger (1977) defines language as the "house of being," suggesting it is central to how we construct ourselves and the world. However, we aim to explore whether there are pre-linguistic, post-linguistic, or any

immediate ways to experience being without relying on language. Before language, we perceive and encode the world through sensory-motor modalities and bodily schemas (Johnson, 1999; Siegel, 2001). This raises questions about whether these pathways have evolved since we began verbalizing our perceptions. Is there a non-cognitive way to understand and achieve the satisfaction of being, as long as we have a sense of self-awareness?

We seem to be discussing the fourth type of will or desire, called the "will-to-being." This term may not be widely recognized and might seem peculiar and perplexing because to will or long for something, you typically need a sense of distance from it, yet we already exist as we are.

The "will-to-being" here is not merely a desire to maintain the status quo or a static construct but rather an act of existing in a state of becoming and re-creating the wholeness of our living body.

In this sense, will-to-being is our mindful state of desire, a nonjudgmental and noninterventional wanting of the present body in the present moment without the wish to change. Of course, we know that this purposeless and no-object will-to-being will change us by leading to a higher order through increasing the synchronicity of brain activities (Manuello et al., 2016), the accessibility of information (Jankowski & Holas, 2014), and the coherence of the narrative (Taniguchi et al., 2023).

Beyond seeking, controlling, and constructing pleasure, there is a more complex and paradoxical hedonic pathway of being pleasure. Rumi addressed this transpersonal state like this:

I am joyful,

Joy is me.

The strategies employed at this economic level that aim to reduce free energy and optimize dopaminergic functions are no-object desire and a boundaryless sense of self. In this state, there is no distance and no effort to attain pleasure and satisfaction; instead, joy becomes the qualia of our being. This most profound layer of the body, known as *anandamaya kosha* in the Vedanta tradition (Satpathy, 2018), is the connection to the atman or higher selves, as Assagioli (1961) explained.

Being in a state of no-object consciousness and experiencing boundlessness provides a quality of unconditional pleasure. This type of pleasure emanates from the nothingness and the lack of distance between

desire and its object. It is simply the joy of being a whole-body, nondual identity—a nondual and non-representational awareness (Butler, 2024; Josipovic, 2019)

C. Wholeness and Nonduality: The Path to Salutogenesis

At the heart of the BEHI model is the concept of wholeness and nonduality, which guide the evolution of consciousness from modular and conditioned approaches to more proactive and unconditioned ways of being. Wholeness is about maintaining bodily integrity and emotional homeostasis, while nonduality refers to understanding the complementarity of dualities such as pleasure and virtue, egoism, and altruism (Bahreini et al., 2024)

This perspective frames pathology as partiality, where individuals experience a part as if it were the whole. The BEHI model seeks to restore balance by promoting totality, where the whole assists in healing its parts, leading to a more holistic and salutogenic state (Bahrs & Mayer, 2024).

The salutogenic model of health reveals that how we perceive stress and dis/ease, as well as our coping capability, relies on the cognitive and behavioral accessibility of resources. This model is built on a sense of coherence, emphasizing the healing potential of totality and wholeness (Cicognani, 2024).

Here, wholeness is not seen as the ultimate mind-body coordination stage but as an immediate state of bodily awareness where we observe sensations without interpretation. Strategies like grounding, centering, engaging, and transcending help foster this experience of wholeness.

This is a way to fostering bodily wisdom; a nondual hedonic approach that leads consciousness to transcend from the imaginary and conditioned levels to the autotelic and existential levels of happiness. Levenson and Aldwin (2013) propose that self-transcendence is equivalent to wisdom as it entails overcoming self-centered barriers to empathy, understanding, and integrity (Levenson, M. R., & Aldwin, C. M. (2013). *The transpersonal in personal wisdom. In The scientific study of personal wisdom: From contemplative traditions to neuroscience* (pp. 213-228). Dordrecht: Springer Netherlands.)

Incorporating whole-body experiences and nondual narratives as coping strategies can promote wisdom and

salutogenesis by integrating somatic and symbolic meaning systems. These approaches emphasize observing and understanding rather than analyzing and manipulating, leading to a more harmonious and health-promoting being.

Biosemiotics and Nested Bodies

A. Dance of signs through a multiversal body

So far, we have discussed a hierarchy of four levels of pleasure economy, from seeking [immediate] and having [possible] pleasure to constructing [reflective] and ultimately being and embodying pleasure [transpersonal]. This model may offer a nondual framework to understand the hedonic and eudaimonic aspects of well-being. Furthermore, it reveals the emergence of higher orders of meaning-making systems and more sustainable levels of the bioenergy economy.

These are mechanisms that the brain employs to minimize prediction errors. The brain reduces the discrepancies between expected and actual states by continuously updating its internal models to predict outcomes better. This process is akin to optimizing economic models where resources are allocated efficiently to minimize loss or error.

A well-functioning reward system depends on accurate predictions of reward outcomes. For the sustainable development of happiness, we need the ability to receive more internal and external resources and perceive actual resources through marvel, gratitude, forgiveness, and bounty. Additionally, being proactive and timely in reducing expectations plays a crucial role. Without expanding and transcending ego boundaries to the interpersonal and transpersonal fields, we are highly susceptible to greed and dissatisfaction.

Optimization of energy investments requires a self-transcendental economy within our nested bodies, spanning from the mechanical and symbolic fields of semiosis to the relational and intentional fields.

From a biosemiotic viewpoint, we can imagine human existence as a multiversal body constructed from interwoven networks of indexical, iconic, and symbolic signs. Peirce illustrated the world as an interactive web of icons, indexes, and symbols (Hausman, 1997). In this model, desire represents unlimited semiosis and infinite interpretations by interpretants, akin to the cosmic dance of Shiva. Let us explore how this semiotic model

can help us conceptualize the spectrum of human behavior and experience and discover more integrative and sustainable pathways to happiness.

B. The World as Evolving Meaning-Making Systems

The semiotic evolutionary model of Peirce was a visionary concept introduced a few years after Charles Darwin's groundbreaking formulation of evolutionary theory. In addition to chance (tychism) and necessity (anancism), Peirce elucidated a third evolutionary force known as agapism, representing the nurturing power or love of the whole for the synchronization of its parts (Peirce et al., 2017). Agape entails the intricate interplay of chance, necessity, and law in a dynamic process that embodies spontaneity and purposefulness. While Freud revisited eros as the longing of individual parts towards one another, Peirce portrayed agape as a more encompassing and intricate force that unveils the top-down organization of life (Burks, 1996).

Information flows from DNA to RNA and proteins, and vice versa, from the environment to proteins and epigenetic regulations. Information is formally continued despite the discontinuity of substrate and maintains the structures and patterns. The information from DNA to protein maintains its constraints through DNA-RNA similarity (Iconic signs) and RNA-protein correlation (Indexical signs), ensuring the nucleotide sequence influences the amino acid sequence and related functions (Deacon, 2021).

At a higher level of organization, as LeDoux (1998) describes, emotions involve both indexical (correlational) and symbolic (arbitrary) processes. The amygdala plays a crucial role in indexical processing, while the cortex handles more complex symbolic processing.

Information flows in between, like the whiteness between the lines or the silences between echoes. As (Fano, 2021) noted, information is always about something else. It acts like a hermetic wind, connecting energy, matter, past, and future, and can be described as desire and love co-emerging in autopoietic orders. Our bodies and creations are nested, embodied meaning-making systems integrated iconically, indexically, and symbolically.

Human meaning-making systems have emerged from synergistic vibrations and molecules to higher orders of phenomenological and interpersonal worlds and the

noetic world of self-reflection. In the bioenergy economy-based health improvement or, briefly, BEHI model, these nested and interconnected bodies form the fields of bioenergy economy: body (mechanical body), narrative (symbolic body), relation (relational body), and intention (nonlocal body).

The Bioenergy Economy Fields

Self/non-self is the fundamental binary code on which life, communication, and consciousness systems are built. This "zeroth" level semiotic process interprets the fundamental distinction between self and non-self. Disruption of integrity signals non-self, prompting a reconstitution of stability by generating an interpretant that reconstructs the self/non-self distinction (Deacon, 2021).

Self-referentiality and self-dissipation are the main procedures that, in each situation and level of organization, recreate functional closure and structural openness of living systems (Holland, 2000). Self/non-self-games determine the openness and closures of systems and their struggles, alliances, cohabitations, fusions, extinctions, and temporal interactions and synchronizations.

Genomes, cells, organisms—including the microbiome—and phenomenological and social worlds are multiplex integrated systems in unstable sustainability. We can envision our multiplex multiversal body as a consortium of various value systems operating across different time forms. How these complex systems organize themselves and adapt to their highly variable ecosystems is fascinating.

We can conceptualize this hierarchy of systems through four dimensions of bodily awareness: the openings of consciousness toward the sensual body, the imaginary-symbolic body, the intercorporeal body, and the nonlocal body. I prefer to refer to these dimensions as *sensus*, *mythos*, *habitus*, and *numinous*. The higher-order bodies have emerged and supervened upon the lower orders.

In the bioenergy economy approach, we trace free energy flow through these nested bodies and examine how interconnected meaning-making systems constrain this free energy, directing it toward more complex and sustainable forms of fulfillment.

2.3.1. Sensus; the body economy

Sensus is a Latin word that refers to the power or faculty of perceiving through the senses. The sensus field is the realm of the qualia signs related to energy balance, and the sensations felt in our interoceptive and proprioceptive systems, guided by our orientation to exteroception. While we recognize that the flow of energy-information in this field is governed not only by genetics and modularity but also by our memories and relationships, we specifically focus our attention on the immediate qualities of the body.

In this field, which we can refer to as "body economy," we aim to develop our soft control over howness (interoceptive awareness), towardness (proprioceptive awareness), and whereness (exteroceptive awareness). The brain forecasts the body's internal states by synthesizing sensory input with prior beliefs, demonstrating the core mechanism of cognition and emotion (Seth, 2013). The essential physical capabilities (Gintis, 2000) and image schemata (Lakoff, G., Johnson, M., & Sowa, J. F. (1999). Review of Philosophy in the Flesh: The embodied mind and its challenge to Western thought. *Computational Linguistics*, 25(4), 631-634.), along with mind modules (Mercier, 2006), act as critical affordances that navigate our body through the complex systems of signs within the dimensions of the mind, time, and space.

The Key economic strategies and techniques we employ in this field include muscle economy, tensegrity, interoceptive homogeneity, and a shift in attention from external objects to the body.

The concept of muscle economy, as introduced by, offers valuable insights and techniques for releasing the accumulated physical tension in the body, allowing the body to connect with our present values and resources. Fostering a differential sensitivity to release untimely loads and optimize value-driven work changes how our bodies figure the world and enhances the security and accuracy of our minds (Khanam, 2022).

Tensegrity is a concept derived from architecture that explains how a tensegrous structure, such as our cells or the human body, is composed of continuous tensile and discontinuous compressive elements. This arrangement allows the structure to neutralize tensions effectively (Pole, 2007). Finding our subtle mechanical balance positions our body in a more effortless state. Tensegrity is a physical equivalent of security, allowing energy to be distributed more uniformly throughout the body. This

distribution reduces body armor activation, alleviating associated stressful memories and emotions (Leijssen, 2006).

Shifting attention from dysfunctional thoughts to a curious and compassionate awareness of the body and redistributing energy awakens the body, reorienting us toward present perceptions and values. This shift from the interpretation of mental content to a caring awareness of the body is an old, mindful approach to liberating ruminations and obsessions (Lane, 2024).

Whole-body experience, a key indicator of body economy, reflects enhanced bodily sensation integrity and greater accuracy in interoceptive inference. This level of bodily awareness optimizes energy investment and can liberate us from traumatic and compulsive patterns and passive worries (Van der Kolk, 2014).

2.3.2. Mythos; the narrative economy

Mythos, a Greek word, refers to story and plot, highlighting how we memorize, imagine, and narrate our sensus. Narratives shape our autobiographical memory by symbolizing and organizing experiences into coherent stories, helping us understand our past and build our identities (Burks, 1996). This memory is not just factual but emphasizes emotional significance and contextualizes it within the ongoing story of our lives (Conway & Pleydell-Pearce, 2000).

Language, internalized relationships, and others and other memes or cultural codes formed our "self" and our "world" as well as our "others." Emotions are formed in relationships, and relations are formed in emotional fields. That is why intrapersonal and interpersonal intersubjectivity develop mutually and synchronically. Narratives are deeply linked to memetics, the study of how ideas spread and evolve like genes (Dresow & Love, 2023). Just as memes compete for survival, narratives and myths shape our collective consciousness.

Language is crucial in this process, serving as the primary medium through which mythos is articulated and transmitted. We can encode, share, and modify our myths through language, allowing them to resonate across generations (Gintis, 2000). The stories and symbols we tell reflect our cultural context and influence our perceptions, beliefs, and behavior (Varela et al., 1991).

Achieving consistency between the precognitive (mainly bodily) and cognitive meaning-making systems through good-joy nonduality is a crucial strategy for the

narrative economy. Being grounded and centered in the body and positioning the mind securely led to more functional attention, pragmatic speech, and coherent narratives (Goli, 2018).

Redirecting attention from non-functional objects to howness/whereness/towardness reorientation is essential for an economic narrative. Despite its transient nature, attention is a complex memory, anticipation, and feelings construct. Each moment of attention forms a micronarrative that remains unconscious mainly due to its short duration. Mindfully redirecting attention to desirable and practical elements makes it more manifest and economical (Goli, 2023; Kabat-Zinn, 2023). The attention economy posits that human attention is a scarce and valuable resource, and media and technology have evolved to capture and retain it (Hayles, 2019). In the age of attention merchandising, managing and preserving our attention for meaningful and enriching activities requires a whole-body presence and a non-dual attitude.

Belief work and overcoming cognitive biases can organize our mythos, as can reframing and re-narrating. However, the BEHI model focuses on the nondual narrative. A nondual narrative involves the attunement and synergy of bodily and symbolic meaning-making processes. It involves experiencing the pleasure of virtues through nurturing moral imagination, investing in others as extensions of ourselves, and fostering spirituality by caring for our boundless bodies (Goli, 2018).

In this model, bottom-up techniques, such as the "pragmatics of speech" and the "yes-and" cueing, are also employed to modify narrative articulation and function. This sentence discusses techniques that help trainees understand and explore the physical aspects of how thoughts manifest and the direction those thoughts take.

By using strategies like the "yes-and" cue while we are centering in our bodies, often used in improvisational practices to build ideas instead of shutting them down, trainees can learn to recognize and work with a variety of emotions and attitudes as various energy patterns, even if they seem opposing. This process encourages moving to a higher level of understanding through maintaining a nonjudgmental attitude, which allows for better synchronization and integration of thoughts and feelings. Like any contextual method, these techniques

aim to change the context of cognition and behavior, starting with the context of contexts: the body.

C. Habitus; the relation economy

The "habitus" concept introduced by sociologist Pierre Bourdieu (1984) describes individuals' ingrained habits, skills, and dispositions through their life experiences and social context. This idea encompasses how people perceive, interpret, and act within their social environment. It is fundamentally shaped by upbringing, education, and social interactions within a specific cultural code and setting.

Habitus consists of embodied dispositions shaped by social structures and cultural codes that regulate behavior and perceptions while being adaptable over time. Habitus is a somatized social relationship embedded in the body, a socialized subjectivity that transforms into an incarnate social structure (Maurer, 2021). These complex intersubjective energy-information flows shape our relational body field through intercorporeal, symbolic, and physical meaning-making systems.

We explore our relational body's anatomy when we discuss our relationships and the sharing of meaning through these biopsychosocial meridians. This embodied view of relationships reveals a self-other WHOL and aligns our self/object energy investments. Others live with and in us, which is why we can speak of altruistic egoism—a way in which we take care of others as extensions of our own body and as integral to our social life values. It is a step beyond the I-It relationship and the instrumentality of others.

Jürgen Habermas's concept of communicative action emphasizes social interactions aimed at mutual understanding through rational dialogue, prioritizing communicative rationality over instrumental rationality (Habermas, 1984). Communicative rationality values open dialogue and consensus-building, using a shared system of signs and symbols that encompasses syntactic (structure), semantic (meaning), and pragmatic (context) dimensions of communication. Unlike instrumental rationality, which pursues individual goals through strategic means, communicative rationality focuses on genuine dialogue and collective truth-seeking (Heidegger, 1977).

Self-other nonduality and whole-body experience in communicative action are fundamental strategies for

relationship economy. Enhancing bioenergy flows in this domain focuses on increasing the flexibility of communicative articulations by mindfully adjusting our distance, angle, and bond with others (Goli, 2018). Through this reflective and bodily-aware approach, we can release communicative blockages and rigid relationships, allowing us to experience greater synergy and wholeness within our body field.

Being "engaged" or connected to interpersonal fields represents a more advanced stage of bodily awareness, following grounding (connecting to the earth) and centering (connecting to the core/center of gravity). While the concept of body field may initially seem abstract, various empirical studies provide substantial evidence to support it. From the bodily sensations associated with proxemics (Hausman, 1997) to intercorporeality and embodied interpersonal cognition (Varela et al., 1991) and the neuroscientific basis for empathic connections through mirror neurons (Hayles, 2019), all suggest an engaged or what might be called, fielded feeling of others in different communicative contexts.

Furthermore, experiments indicate the presence of biofields—electromagnetic fields generated by living organisms—assessed by devices such as magnetoencephalography (MEG) and magnetocardiography (MCG), illustrating how these fields intertwine with our physiological states (Oschman, 2015) and exhibit the potential healing effects of the complex, extremely weak electromagnetic biofield (Rubik, 2002).

Cultivating higher field awareness and engaging mindfully with our subjective and objective distance, angle, and bond with others can enhance our relational economy and promote synergism in our interpersonal meaning-making systems. While we contextualize our feelings through an extended bodily awareness, we have a greater chance of breaking free from the shadows of traumas, distortion of fixed relational patterns, and dysfunctional family scripts.

Numinous; the intention economy

Numinous originates from the Latin word "numen," which refers to a divine power or spirit. Numen implicates existential and transpersonal experiences. It pertains more to the ontic and what we can perceive through our being in the world rather than what we

think about ontology or the meaning of life (see Hood, R. W., & Chen, Z. (2005). *Handbook of the psychology of religion and spirituality*, 348-364.). Here, I define numinous as the deeply felt experiences of the transcendent that provide the basis for the being's needs.

In the BEHI model, the numinous does not indicate the ideological and imaginary aspects of spiritual experience, as Yaden and Newberg (2022) explain in their book, *The Varieties of Spiritual Experience: 21st Century Research and Perspectives*. Here, the numinous implies the boundarylessness of the mystic experience, an openness to the whole, and the provocation of feelings of awe. Awe, described as a self-transcending, moral, and spiritually transformative feeling, is the core emotion within this domain (Knutson & Greer, 2008). While the free energy principle reveals the organism's drive to reduce the free energy of surprise, awe can organize free energy within the vastness of an extended body. Awe serves as the gate to the heart and, unlike surprise, does not adhere to fixed expectations. It is associated with transcendental qualities such as openness, humility, epiphany, and boundarylessness (see Keltner, 2024).

The most unconditioned area of economics is related to a mindful connection to one's needs and experiences. It involves a Dasein awareness attuned to our past, expresses the present moment, and remains open to possible futures.

Intentionality encompasses more than just our towardness or openness toward the future or something specific. Daniel Dennett (1987) defines intentionality as what we assign to our minds to help make sense of them. This perspective aligns with the concept of active inference, which emphasizes how an agent actively shapes perception through action (Noë, 2004). Moreover, each intention is associated with a potential body that is felt and either motivates or inhibits us concerning the objects of our focus (Goli, 2023).

To achieve a more sustainable intention economy, we must transcend from a fragmented desiring body to a wholehearted will to being. As mentioned earlier, the will-to-being is not a mere silence of desire; rather, it represents a nondual and holistic longing that encompasses our entire past and future. It embodies the state of *amor fati*, a genuine state of acceptance, affirmation, surrender, and eudaimonia (Truscott, 2022).

We must actively attune ourselves to the harmonies of time, desire, and intention to enhance our will-to-being. "Become who you are," the famous advice of Nietzsche, highlights the distance between our consciousness and existence and our grand endeavor for self-transcendence to realize the totality of who we are in the present moment. We should explore our faceless face and experience our boundaryless body without attempting to reduce it to words.

Four Persian words are integral to this transpersonal field concept map, each with deep roots in Sufism: *aahang*, *del*, *heech*, and *mehr*. The word "aahang" possesses a rich and inspiring semantic network, embodying meanings such as music, intention, and manner. Intention can be perceived as a complex form of music, resonating within our interoception and proprioception towards an object. The qualia of that object manifests as mood and manner induced by perception (Goli, 2018). I favor the term "aahang" – it encapsulates the embodied music we experience and signifies our dance toward the future.

Del, which means heart in Farsi, is the central concept in Sufistic anthropology and psychology (Dresow & Love, 2023). It represents the essence of humanity, and the goal of life is the alchemic formation, or discovery of Del. Del is the most paradoxical organ- internal and external. It has a Mobius-like structure continuously channels energy and awareness from the inside out and the outside in. We never know whether Del is the seed or the fruit of unconditioned love. Another natural paradox is that when Del consists of reactive, conditioned emotions (*delrizeh*), we do not truly possess it. However, when Del emerges surprisingly, we become *bidel* (= heartless) and transition to a transpersonal identity.

Sufis views *del* as a channel extending from sensory-motor pre-personal processes to transpersonal processes, connecting to the holomovement of the agapistic order. It is unclear whether love creates the heart or vice versa; love is the heart's song.

Heech, which means "nothing," is one of the Sufistic mantras that implicates the ultimate state of consciousness, nothingness, or, more accurately, nothing-allness (Wilber, 1993). To approach the Numinous, we need a boundaryless identity in which we are not the subject but the conscious passage through which the world experiences itself (Goli, 2018).

The fourth field of BEHI is primarily the field of agapistic economy, referred to as "Mehr" in Farsi. *Mehr*, in Persian mythology, is another name for Mithra and signifies the sun, justice, promise, and omnipresent love (McCracken & Zhao-O'Brien, 2010). It represents the primal nurturing love that drives the desire for self-knowledge and facilitates the holotropic connection. This cosmic love underpins nurturing and top-down organization.

The numinous and intention economy emphasizes a musical (*aahangin*) understanding of the body and others rather than viewing everything as reified objects with instrumental values.

In this field, practicing mature ego defenses such as amazement, gratitude, forgiveness, and liberality opens our hearts (*del*) to ourselves, others, and the future. Furthermore, fostering our boundaryless bodily awareness and practicing *mehr* meditation can expand our unconditioned love towards ourselves and others, as well as our past and future. This shift may transform our sense of security and broaden our identity and the scope of our economy.

Summary: The Steps of BEHI

In this essay, I present BEHI as a contextual model aimed at the mindful contextualization of our experiences in our grounded (tensegrous), centered (focused-fluent), fielded (engaged), and boundaryless (transcended) nested bodies. The goal is to develop security and gradually integrate symbolic and non-symbolic meaning-making systems. Like many consciousness-focused and resource-based approaches to health, BEHI can be considered a positive and transdiagnostic approach to health and illness.

The topological condition of the BEHI fields is not merely akin to nested Russian dolls; it is far more complex. Each field encompasses the others: the narrative, relational, and intentional fields represent the symbolic, intercorporeal, and nonlocal bodies, as all fields are narrated and embedded within autobiographical memory. Furthermore, our brains and bodies are shaped and influenced by intricate sociocognitive relationships; consequently, our bodies, minds, and relationships are always about something and oriented toward something and reflect both implicit and explicit intentions.

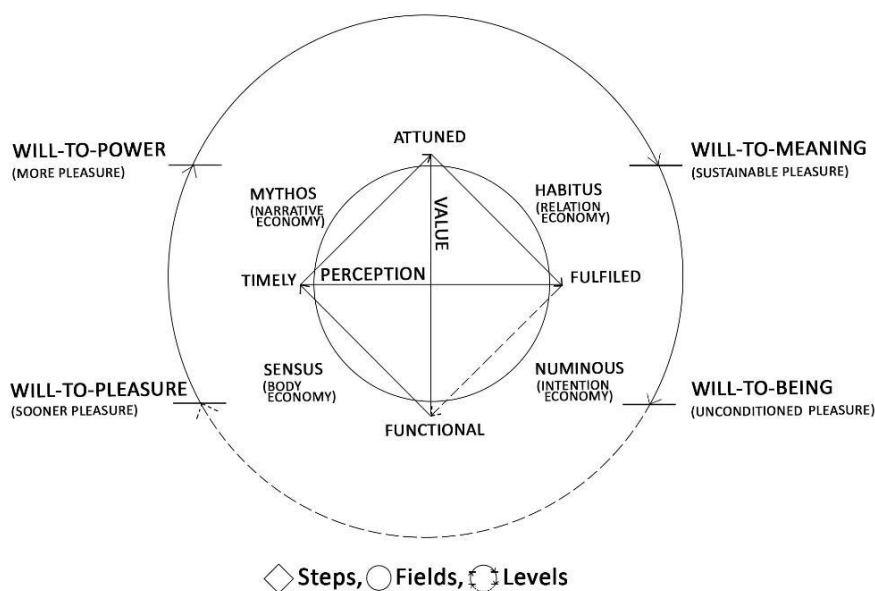
In the four fields of the bioenergy economy, we focused on liberating energy from bodily blockages and fixed emotions while connecting free energy to our deficits and essential values. This process involves transitioning from the sooner and more pleasure strategies to the sustainable and unconditioned or agapistic levels of the bioenergy economy. In each field, it is essential to recognize dysfunctional, untimely, disattuned, and unfulfilled cathexes. Advancing our economic model from the will-to-pleasure and power to the higher orders of will-to-meaning and being is the opus magnum of Dasein.

The BEHI approach contextualizes mental and physical investments within our current perceptions and clarified values. While our bodily and environmental perceptions reveal that our investments are related to our current communicative needs and resources (being timely) and translate resources into happiness (being fulfilled), our futuristic value orientation reveals productive values (being functional) and the optimization of investing in our totality of values (being attuned).

Figure 1 summarizes the whole BEHI model and illustrates the levels, fields, and steps of the bioenergy economy.

Figure 1

The squared circle of bioenergy economy-based health improvement (BEHI)



This diagram depicts the sequential journey of clients and trainees from the fields of body (sensus), narrative (mythos), and relationships (hábitus) to the field of intentionality (numinous) within the bioenergy economy. The squared circle symbolizes our efforts to categorize perceptions and manage our energy rationally, transforming the irreducible circle of being into meaningful squares through our bodily extensions across these fields.

We also have a vertical orientation in each field, moving from immediate and pleasurable levels to sustainable and unconditioned pleasure. How do we achieve this? By reprocessing our bodily energy

investments through our mental and physical activities, step by step, we can make them functional—timely, attuned, and fulfilled.

You can imagine this squared circle as an ascending spiral, which aims to create a holistic body in each field, emerging as a subtler body through a more complex meaning-making system and a more sustainable path to happiness.

Empirical Insights

Over the past decade, empirical research has increasingly validated the effectiveness of the Bioenergy Economy-based Health Improvement (BEHI) model in

addressing a range of psychological, physical, and educational issues. These studies, conducted across diverse populations and geographic regions, provide compelling evidence for BEHI's ability to optimize bioenergy flow and enhance well-being.

One notable study by Derakhshan et al. (2016) demonstrated BEHI's effectiveness in reducing depression, anxiety, and pain intensity in migraine patients. This aligns with BEHI's focus on the body economy field, where the regulation of energy and information reduces symptoms and improves psychological and physiological health. Similarly, Goli and colleagues (2019) found that BEHI significantly reduced pain levels and improved the quality of life in women with Myofascial Pain Syndrome, further supporting the model's emphasis on managing bioenergetic flows to alleviate physical and emotional distress.

[Khanam \(2022\)](#) Keyvanipour and her colleagues (2019) highlights BEHI's impact on reducing anxiety sensitivity, suggesting that the model's integrative approach can mitigate the heightened awareness of physical sensations associated with anxiety. In a different context, [Goli and Biroumand \(2016\)](#) reported successful treatment of a complex case of tethered cord syndrome, a complex neurological and urological condition, using BEHI principles. This case underscores the model's potential to influence critical physical functions and structures by optimizing the body's bioenergy systems.

Additional studies have explored BEHI's impact on cardiovascular health. [\(Tavakolizadeh et al., 2021\)](#) reported significant improvements in vegetative functions and quality of life in patients with coronary heart disease. [\(Farzanegan et al., 2024\)](#) extended this research by demonstrating improvements in cardiac function, specifically metabolic equivalents (METs), highlighting BEHI's broader applicability in managing chronic conditions.

BEHI has also been shown to improve psychological well-being and quality of life in breast cancer patients [\(Farzanegan et al., 2024\)](#), enhance body image among obese women [\(Ghassemi et al., 2021\)](#), and increase sexual satisfaction [\(Goodarzi et al., 2023\)](#). In the general population, research by [Pirzadeh and Abotalebi \(2023\)](#) confirms BEHI's effectiveness in reducing distress,

anxiety, and depression, while simultaneously enhancing overall happiness and quality of life.

Qualitative research by [\(Goli, 2018; Goli, 2023\)](#) at Ohio University explores the impact of a bioenergy economy-based program on teachers' presence, emotion regulation, communication with students, and teaching effectiveness. These studies suggest that BEHI's principles extend beyond health and into educational practice, supporting personal and professional growth.

These empirical findings affirm BEHI as a versatile model capable of addressing various psychological, physical, and educational challenges. The next steps involve further research to refine and expand the model's applications across different health conditions and fields, such as pedagogy and management.

Conclusion

The BEHI model represents an experiential and integrative framework for enhancing psychosomatic health outcomes across diverse conditions and populations. By emphasizing biosemiotics as a metalanguage, BEHI offers a nondual approach to understanding the body, mind, society, and culture as interconnected meaning-making systems. This holistic perspective suggests that nonduality and wholeness can enhance the security and organization of mindful bodies and embodied minds, leading to improved well-being.

The empirical evidence supporting BEHI indicates its potential to balance hedonic and eudaimonic aspects of well-being, providing a comprehensive approach to health promotion and life coaching. As research continues to explore BEHI's applications, its capacity to contribute to sustainable happiness and well-being will become increasingly evident.

In conclusion, BEHI offers a comprehensive framework for understanding and addressing health conditions by integrating biosemiotics, which connects molecular changes with symbolic actions. This approach supports health promotion and consciousness evolution through whole-body perception and nondual narratives. BEHI's integrative model, which combines cognitive, emotional, behavioral, dynamic, and transpersonal principles, is versatile and adaptable to various clinical and educational settings. As a systemic and contextual approach, BEHI, along with its novel techniques, effectively complements and integrates existing

psychoeducational programs. By utilizing a top-down approach to release bioenergy from fixed ideas and emotions, BEHI aligns happiness, satisfaction, and meaningfulness within a sophisticated care model that spans four levels of pleasure.

Looking forward, future research should focus on exploring BEHI's applications in various health conditions, pedagogy, and management. Further empirical studies are needed to examine the model's long-term effectiveness and its potential to foster sustainable development in happiness. My hope is that BEHI will continue to evolve, opening new pathways for well-being and health promotion.

Acknowledgments

I would like to express my heartfelt gratitude to Michael Wirsching and Carl Eduard Scheidt for their patience and unwavering support throughout this journey. Their guidance and encouragement have been invaluable. I am deeply grateful to Mahboubeh Farzanegan for her intellectual contributions and attentive practice in the field, as well as her kind support over the years, which have greatly enriched this work and made it possible. I appreciate Dr. Hadi Alitabar's sophisticated review, which enhances the clarity of the message in this essay. Additionally, I extend my sincere appreciation to all my knowledgeable colleagues who continue to push the boundaries of the BEHI model through their dedicated practice and research.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

None.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

Authors' Contributions

All authors equally contributed to this study.

References

- Adams, W., Graf, E., & Ernst, M. Adams, RA, Brown, HR, Friston, KJ (2014). Bayesian inference, predictive coding and delusions. *Avant*, 3 (5), 51–88. DOI: 10.26913/50302014.0112.0004. Adams, RA, Stephan, KE, Brown, HR, Frith, CD, Friston, KJ (2013). The computational anatomy of psychosis. *Frontiers in Psychiatry*, 4 (47), 1–26. DOI: 10.3389. *Sciences*, 36(3), 204-205. <https://doi.org/10.26913/50302014.0112.0004>
- Ahmadi, S. A., Henning, J. E., & Goli, F. (2017). Awakening Teachers to their Presence: An Experiential Course in Body Wisdom. *The Practitioner Scholar: Journal of the International Trauma Training Institute*, 6(1). <https://thepractitionerscholar.com/article/view/17557>
- Ashwood, L., & Bell, M. M. (2017). Affect and taste: Bourdieu, traditional music, and the performance of possibilities. *Sociologia ruralis*, 57, 622-640. <https://doi.org/10.1111/soru.12135>
- Assagioli, R. (1961). *Self-realization and psychological disturbances*. Psychosynthesis Research Foundation Greenville, DE. <https://www.psychosynthesis.org.uk/wp-content/uploads/2014/12/Self-Realisation-and-Psychological-Disturbances-Assagioli.docx>
- Bahreini, F., Azizi, A., & Roohafza, H. (2024). Effectiveness of Bioenergy Economy-based Health Improvement versus Mindfulness-based Stress Reduction on the Occupational Stress and Psychosomatic Symptoms of Distressed Employees? *International Journal of Body, Mind & Culture* (2345-5802), 11(2). <https://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=23455802&AN=178489000&h=zh3jiP2w6sTOChnZiu%2BVjUtryTVRMwERmbF0%2Flnxq2FLA6P2ii2Pmq7Ahr689vFuP8zhLi6PtCqRQ7VBdlasag%3D%3D&crl=c>
- Bahrs, O., & Mayer, C.-H. (2024). Psychobiographical reflections on Viktor von Weizsäcker within the cultural framework of salutogenesis and medical anthropology. *International Review of Psychiatry*, 36(1-2), 129-142. <https://doi.org/10.1080/09540261.2023.2244072>
- Baumeister, R. F., Vohs, K. D., Aaker, J. L., & Garbinsky, E. N. (2016). Some key differences between a happy life and a meaningful life. In *Positive Psychology in Search for Meaning* (pp. 49-60). Routledge. <https://www.taylorfrancis.com/chapters/edit/10.4324/9781315751450-6/key-differences-happy-life-meaningful-life-roy-baumeister-kathleen-vohs-jennifer-aaker-emily-garbinsky>
- Bo O'Connor, B., & Fowler, Z. (2023). How imagination and memory shape the Moral mind. *Personality and Social Psychology Review*, 27(2), 226-249. <https://doi.org/10.1177/10888683221114215>
- Burks, A. W. (1996). Peirce's evolutionary pragmatic idealism. *Synthese*, 106, 323-372. <https://doi.org/10.1007/BF00413590>
- Butler, M. (2024). *Technology-Based Maternal Parenting Education and Perceptions of Youth Resilience Among*

- African American Mothers Walden University]. <https://search.proquest.com/openview/a1be9e2b514624d716d53a5893f1b939/1?pq-origsite=gscholar&cbl=18750&diss=y>
- Cicognani, E. (2024). Sense of community. In *Encyclopedia of Quality of Life and Well-Being Research* (pp. 6314-6318). Springer. https://doi.org/10.1007/978-3-031-17299-1_2648
- Conway, M. A., & Pleydell-Pearce, C. W. (2000). The construction of autobiographical memories in the self-memory system. *Psychological Review*, 107(2), 261. <https://doi.org/10.1037/0033-295X.107.2.261>
- Czikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper & Row. https://www.academia.edu/download/61507600/Flow_The_Psychology_of_Optimal_Experience20191213-16391-wlbah5.pdf
- Deacon, T. W. (2021). How molecules became signs. *Biosemiotics*, 14(3), 537-559. <https://doi.org/10.1007/s12304-021-09453-9>
- Dresow, M., & Love, A. C. (2023). Teleonomy: revisiting a proposed conceptual replacement for teleology. *Biological Theory*, 18(2), 101-113. <https://doi.org/10.1007/s13752-022-00424-y>
- Fano, R. (2021). Interview in Aftab, Cheung, Kim, Thakkar, Yeddanapudi (2001) Information Theory & The Digital Revolution 6.933 Project History, Massachusetts Institute of Technology. In.
- Farzanegan, M., Hashemi Jazi, M. S., Derakhshan Jan, A., Sadeghi, M., & Roohafza, H. (2024). Evaluation of the Effectiveness of BEE Method in Improving Biological and Psychological Factors in Post-MI Patients: A Randomized Study. *ARYA Atherosclerosis Journal*, 20(2 (Incomplete Issues)). https://arya.mui.ac.ir/article_29604.html
- Feldman, F. (2004). *Pleasure and the good life: Concerning the nature, varieties, and plausibility of hedonism*. Oxford University Press. <https://doi.org/10.1093/019926516X.001.0001>
- Frankl, V. E. (2017). *Man's Search for Meaning: Young Adult Edition: Young Adult Edition*. Beacon Press. [https://books.google.com/books?hl=en&lr=&id=umJ8DgAAQBAJ&oi=fnd&pg=PP1&dq=Frankl,+V.+E.+\(2017\).+Man%27s+Search+for+Meaning:+Young+Adult+Edition:+Young+Adult+Edition.+Beacon+Press.+&ots=EzffCwyYY&sig=_eqo6u_tIqG7DCXVr7SjJaTuiqU](https://books.google.com/books?hl=en&lr=&id=umJ8DgAAQBAJ&oi=fnd&pg=PP1&dq=Frankl,+V.+E.+(2017).+Man%27s+Search+for+Meaning:+Young+Adult+Edition:+Young+Adult+Edition.+Beacon+Press.+&ots=EzffCwyYY&sig=_eqo6u_tIqG7DCXVr7SjJaTuiqU)
- FREUD'S, O. (1920). " BEYONDTHE PLEASURE PRINCIPLE. <https://api.taylorfrancis.com/content/books/mono/download?identifierName=doi&identifierValue=10.4324/9780429477799&type=googlepdf>
- Freud, S. (1899). The Interpretation of Dreams.(J. Strachey, Trans.) Basic Books, New York (1955). *Original Work Published in*. <https://psychclassics.yorku.ca/Freud/Dreams/dreams.pdf>
- Freud, S. (2008). *General psychological theory: Papers on metapsychology*. Simon and Schuster. [https://books.google.com/books?hl=en&lr=&id=T3F2XT_LxNwC&oi=fnd&pg=PR9&dq=Freud,+S.+\(2008\).+General+psychological+theory:+Papers+on+metapsychology.+Simon+and+Schuster.+&ots=DbEr0zr-8o&sig=-cZDg-j-hNj8ICTMvFsBotoT4rQ](https://books.google.com/books?hl=en&lr=&id=T3F2XT_LxNwC&oi=fnd&pg=PR9&dq=Freud,+S.+(2008).+General+psychological+theory:+Papers+on+metapsychology.+Simon+and+Schuster.+&ots=DbEr0zr-8o&sig=-cZDg-j-hNj8ICTMvFsBotoT4rQ)
- Freud, S. (2018). Formulations on the two principles of mental functioning. In *Unconscious phantasy* (pp. 67-76). Routledge. <https://doi.org/10.4324/9780429484469-2>
- Friston, K. (2005). A theory of cortical responses. *Philosophical transactions of the Royal Society B: Biological sciences*, 360(1456), 815-836. <https://doi.org/10.1098/rstb.2005.1622>
- Friston, K. (2008). Hierarchical models in the brain. *PLoS computational biology*, 4(11), e1000211. <https://doi.org/10.1371/journal.pcbi.1000211>
- Friston, K. (2010). The free-energy principle: a unified brain theory? *Nature reviews neuroscience*, 11(2), 127-138. <https://doi.org/10.1038/nrn2787>
- Friston, K., & Ao, P. (2012). Free energy, value, and attractors. *Computational and mathematical methods in medicine*, 2012(1), 937860. <https://doi.org/10.1155/2012/937860>
- Ghassemi, Z., Vahedi, S., Tabatabaei, S. M., & Alivandi Vafa, M. (2021). Effectiveness of Bioenergy Economy Intervention on Self-compassion, Self-efficacy, and Weight Loss. *Iranian Journal of Health Psychology*, 4(4), 27-46. https://ijohp.journals.pnu.ac.ir/article_8325.html
- Gintis, H. (2000). Beyond Homo economicus: evidence from experimental economics. *Ecological economics*, 35(3), 311-322. [https://doi.org/10.1016/S0921-8009\(00\)00216-0](https://doi.org/10.1016/S0921-8009(00)00216-0)
- Goli, F. (2016). Medical Practice in/with the Semiosphere. In *Biosemiotic Medicine: Healing in the World of Meaning* (pp. 217-239). Springer. https://doi.org/10.1007/978-3-319-35092-9_9
- Goli, F. (2018). Bioenergy Economy: Fields and Levels—A Narrative Review. *Int J Body Mind Cult*, 5(4), 171-182. <https://ijbmc.org/index.php/ijbmc/article/view/130>
- Goli, F. (2023). Abandoned Bodies, Lost Gods: A Bioenergy Economy-based Trauma. *International Journal of Body, Mind & Culture* (2345-5802), 10(2). <https://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=23455802&AN=166097155&h=WbyRuhAhIEzLyBFyblCExrIENCMOP1DRzrs7oz8wWNAXB8O%2Fyon4tMk%2B3RYzXo0uirEYUvBtr2vqafh%2Be5Crg%3D%3D&crl=c>
- Goodarzi, S., Rezakhani, S., & Fattahi Andabil, A. (2023). THE IMPACT OF BIOENERGY ECONOMY-BASED AND COGNITIVE-BEHAVIORAL THERAPY ON SEXUAL SATISFACTION AND SEXUAL ASSERTIVENESS OF WOMEN. *Nursing and Midwifery Journal*, 21(6), 491-502. <https://doi.org/10.61186/unmf.21.6.491>
- Hausman, C. R. (1997). *Charles S. Peirce's evolutionary philosophy*. Cambridge University Press. [https://books.google.com/books?hl=en&lr=&id=Ueu9kctiBhYC&oi=fnd&pg=PR7&dq=Hausman,+C.+R.+\(1997\).+Charles+S.+Peirce%27s+evolutionary+philosophy.+Cambridge+University+Press.+&ots=Lx7qFsoDGq&sig=ISmOa3wkZu3DMHwZokQYB6B94J8](https://books.google.com/books?hl=en&lr=&id=Ueu9kctiBhYC&oi=fnd&pg=PR7&dq=Hausman,+C.+R.+(1997).+Charles+S.+Peirce%27s+evolutionary+philosophy.+Cambridge+University+Press.+&ots=Lx7qFsoDGq&sig=ISmOa3wkZu3DMHwZokQYB6B94J8)
- Hayles, N. K. (2019). Can computers create meanings? A cyber/bio/semiotic perspective. *Critical Inquiry*, 46(1), 32-55. <https://doi.org/10.1086/705303>
- Heidegger, M. (1977). Basic writings: from Being and time (1927) to The task of thinking (1964). https://archive.org/details/basicwritingsfro0000heid_i1o0
- Holland, J. H. (2000). *Emergence: From chaos to order*. OUP Oxford. <https://books.google.com/books/about/Emergence.html?id=VjKtpujRGuAC>
- Jankowski, T., & Holas, P. (2014). Metacognitive model of mindfulness. *Consciousness and Cognition*, 28, 64-80.
- Johnson, M. (1999). *Philosophy in the flesh: The embodied mind and its challenge to western thought*. Basic Books. <https://www.semanticscholar.org/paper/Philosophy-in-the-flesh-%3A-the-embodied-mind-and-its-Lakoff-Johnson/1745ec3f918cd551a8579261d3cfb0403de6a7be>
- Lakoff, G., Johnson, M., & Sowa, J. F. (1999). Review of Philosophy in the Flesh: The embodied mind and its challenge to Western thought. *Computational Linguistics*, 25(4), 631-634.

- Josipovic, Z. (2019). Nondual awareness: consciousness-as-such as non-representational reflexivity. *Progress in brain research*, 244, 273-298. <https://doi.org/10.1016/bs.pbr.2018.10.021>
- Kabat-Zinn, J. (2023). *Wherever you go, there you are: Mindfulness meditation in everyday life*. Hachette UK. [https://books.google.com/books?hl=en&lr=&id=9Y63EAAAQBAJ&oi=fnd&pg=PT11&dq=Kabat-Zinn,+J.+\(2023\).+Wherever+you+go,+there+you+are:+Mindfulness+meditation+in+everyday+life.+Hachette+UK.+&ots=C1_3zI9STY&sig=wLRikpHglxMRyOFz7eIlCj0SqIA](https://books.google.com/books?hl=en&lr=&id=9Y63EAAAQBAJ&oi=fnd&pg=PT11&dq=Kabat-Zinn,+J.+(2023).+Wherever+you+go,+there+you+are:+Mindfulness+meditation+in+everyday+life.+Hachette+UK.+&ots=C1_3zI9STY&sig=wLRikpHglxMRyOFz7eIlCj0SqIA)
- Keltner, D. (2024). *Awe: The new science of everyday wonder and how it can transform your life*. Penguin. <https://www.jpc.de/jpcng/books/detail/-/art/dacher-keltner-awe-the-new-science-of-everyday-wonder-and-how-it-can-transform-your-life/hnum/11616939>
- Keyvanipour, M., Goli, F., Bigdeli, I., Boroumand, A., Rafieinia, P., & Sabahi, P. (2019). The effects of a bioenergy economy based program on attention bias modification in people with high anxiety sensitivity. *International Clinical Neuroscience Journal*, 6(4), 133-139. <https://doi.org/10.15171/icnj.2019.25>
- Khanam, M. (2022). Neural correlates of an introductory cognitive behavioral intervention with mindfulness in strengthening resilience to post-traumatic stress injuries among public safety personnel. <https://mspace.lib.umanitoba.ca/handle/1993/36692>
- Knutson, B., & Greer, S. M. (2008). Anticipatory affect: neural correlates and consequences for choice. *Philosophical transactions of the Royal Society B: Biological sciences*, 363(1511), 3771-3786. <https://doi.org/10.1098/rstb.2008.0155>
- Lane, C. N. (2024). *Effects of Braintap on Irritable Bowel Symptom Severity* [Saybrook University]. <https://search.proquest.com/openview/ae7ca11ad2e509eda9a0294141c62fdd/1?pq-origsite=gscholar&cbl=18750&diss=y>
- Leibin, V., & Bluvstein, M. (2015). Paris: Freud and Adler. *The Journal of Individual Psychology*, 71(4), 399-414. <https://doi.org/10.1353/jip.2015.0034>
- Leijssen, M. (2006). Validation of the body in psychotherapy. *Journal of humanistic psychology*, 46(2), 126-146. <https://doi.org/10.1177/0022167805283782>
- Luhmann, N. (1982). The world society as a social system. <https://doi.org/10.1080/03081078208547442>
- Manuello, J., Vercelli, U., Nani, A., Costa, T., & Cauda, F. (2016). Mindfulness meditation and consciousness: An integrative neuroscientific perspective. *Consciousness and cognition*, 40, 67-78. <https://doi.org/10.1016/j.concog.2015.12.005>
- Martela, F., Ryan, R. M., & Steger, M. F. (2018). Meaningfulness as satisfaction of autonomy, competence, relatedness, and beneficence: Comparing the four satisfactions and positive affect as predictors of meaning in life. *Journal of Happiness Studies*, 19, 1261-1282. <https://doi.org/10.1007/s10902-017-9869-7>
- Maurer, H. (2021). *Cognitive science: Integrative synchronization mechanisms in cognitive neuroarchitectures of modern connectionism*. CRC Press. <https://doi.org/10.1201/9781351043526>
- McCracken, L. M., & Zhao-O'Brien, J. (2010). General psychological acceptance and chronic pain: There is more to accept than the pain itself. *European Journal of Pain*, 14(2), 170-175. <https://doi.org/10.1016/j.ejpain.2009.03.004>
- Mercier, H. (2006). Some ideas to study the evolution of mathematics. In *Evolutionary epistemology, language and culture: A non-adaptationist, systems theoretical approach* (pp. 351-377). Springer. https://doi.org/10.1007/1-4020-3395-8_16
- Oschman, J. L. (2015). *Energy medicine: The scientific basis*. Elsevier Health Sciences. [https://books.google.com/books?hl=en&lr=&id=04GICgAAQBAJ&oi=fnd&pg=PP1&dq=Oschman,+J.+L.+\(2015\).+Energy+medicine:+The+scientific+basis.+Elsevier+Health+Sciences.+&ots=OIEfuOeM1_&sig=uWcXxAp4F0U8agnQ6uUB9-9NsF8](https://books.google.com/books?hl=en&lr=&id=04GICgAAQBAJ&oi=fnd&pg=PP1&dq=Oschman,+J.+L.+(2015).+Energy+medicine:+The+scientific+basis.+Elsevier+Health+Sciences.+&ots=OIEfuOeM1_&sig=uWcXxAp4F0U8agnQ6uUB9-9NsF8)
- Parfit, D. (2004). What we could rationally will. *Tanner Lectures on Human Values*, 24, 285-370. http://individual.utoronto.ca/stafforini/parfit/parfit_-_what_we_could_rationally_will.pdf
- Peirce, C. S., Cohen, M. R., & Dewey, J. (2017). Evolutionary Love 1. In *Chance, Love, and Logic* (pp. 267-300). Routledge. <https://doi.org/10.4324/9781315823126>
- Pirzadeh, A., & Abotalebi, Z. (2023). The effect of relaxation education intervention on stress, anxiety, and depression in female teachers during the COVID-19 pandemic Relaxation education intervention in female teachers. *Journal of Education and Health Promotion*, 12(1), 348. https://doi.org/10.4103/jehp.jehp_1546_22
- Pole, N. (2007). The psychophysiology of posttraumatic stress disorder: a meta-analysis. *Psychological Bulletin*, 133(5), 725. <https://doi.org/10.1037/0033-2909.133.5.725>
- Ross, W. D. (2002). *The right and the good*. Oxford University Press. <https://doi.org/10.1093/0199252653.001.0001>
- Rubik, B. (2002). The biofield hypothesis: Its biophysical basis and role in medicine. *The Journal of Alternative & Complementary Medicine*, 8(6), 703-717. <https://doi.org/10.1089/10755530260511711>
- Satpathy, B. (2018). Pancha Kosha theory of personality. *The International Journal of Indian Psychology*, 6(2), 33-38. <https://doi.org/10.25215/0602.105>
- Schmidt, C., Skandali, N., Gleesborg, C., Kvamme, T. L., Schmidt, H., Frisch, K., Møller, A., & Voon, V. (2020). The role of dopaminergic and serotonergic transmission in the processing of primary and monetary reward. *Neuropsychopharmacology*, 45(9), 1490-1497. <https://doi.org/10.1038/s41386-020-0702-3>
- Schrödinger, E. (1944). What is life? The physical aspect of the living cell. <https://libarch.nmu.org.ua/bitstream/handle/GenofondUA/7717/45433b74d43c9b573f78d5f16a9b5f8f.pdf?sequence=1>
- Seth, A. K. (2013). Interoceptive inference, emotion, and the embodied self. *Trends in Cognitive Sciences*, 17(11), 565-573. <https://doi.org/10.1016/j.tics.2013.09.007>
- Shamosh, N. A., DeYoung, C. G., Green, A. E., Reis, D. L., Johnson, M. R., Conway, A. R., Engle, R. W., Braver, T. S., & Gray, J. R. (2008). Individual differences in delay discounting: relation to intelligence, working memory, and anterior prefrontal cortex. *Psychological science*, 19(9), 904-911. <https://doi.org/10.1111/j.1467-9280.2008.02175.x>
- Siegel, D. J. (2001). Toward an interpersonal neurobiology of the developing mind: Attachment relationships, "mindsight," and neural integration. *Infant Mental Health Journal: official publication of the world association for infant mental health*, 22(1-2), 67-94. [https://doi.org/10.1002/1097-0355\(200101/04\)22:1%3C67::AID-IMHJ3%3E3.0.CO;2-G](https://doi.org/10.1002/1097-0355(200101/04)22:1%3C67::AID-IMHJ3%3E3.0.CO;2-G)
- Stocker, M. (1992). *Plural and conflicting values*. Clarendon Press. <https://doi.org/10.1093/0198240554.001.0001>
- Taniguchi, T., Murata, S., Suzuki, M., Ognibene, D., Lanillos, P., Ugur, E., Jamone, L., Nakamura, T., Ciria, A., & Lara, B. (2023). World models and predictive coding for cognitive and developmental robotics: Frontiers and challenges. *Advanced Robotics*, 37(13), 780-806. <https://doi.org/10.1080/01691864.2023.2229983>

- Tavakolizadeh, J., Goli, F., Ebrahimi, A., Hajivosough, N., & Mohseni, S. (2021). Effectiveness of a bioenergy economy based psycho-education package on improvement of vegetative function, forgiveness, and quality of life of patients with coronary heart disease a randomized clinical trial. *International Journal of Body, Mind and Culture*, 8(1), 36-50. <https://ijbmc.org/index.php/ijbmc/article/view/259>
- Truscott, J. (2022). *Working memory and language in the modular mind*. Routledge. <https://doi.org/10.4324/9781003158172>
- Turel, O., & Bechara, A. (2016). A triadic reflective-impulsive-interoceptive awareness model of general and impulsive information system use: Behavioral tests of neuro-cognitive theory. *Frontiers in Psychology*, 7, 601. <https://doi.org/10.3389/fpsyg.2016.00601>
- Uexküll, T. v., & Pauli, H. (1986). The mind-body problem in medicine. *Advances: Journal of the Institute for the Advancement of Health*, 3(4), 158-174.
- Van der Kolk, B. (2014). *The body keeps the score: Brain, mind, and body in the healing of trauma*. New York, 3. <https://www.thepermanentejournal.org/doi/pdf/10.7812/TPP/14-211?download=true>
- Varela, F. J., Thompson, E., & Rosch, E. (1991). *Cognitive science and human experience*. Massachusetts: Massachusetts Institute of Technology. <https://direct.mit.edu/books/monograph/3956/The-Embodied-MindCognitive-Science-and-Human>
- Wilber, K. (1993). *The spectrum of consciousness*. Quest books. <https://philpapers.org/rec/WILT50-5>
- Zlatev, J. (2018). Meaning making from life to language: The semiotic hierarchy and phenomenology. *Cognitive Semiotics*, 11(1), 20180001. <https://doi.org/10.1515/cogsem-2018-0001>