

What is the freeze response?

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Abstract

The freeze response is a complex psychophysiological state universally observed in humans and has received increasing attention for its crucial role in treating psychopathology and promoting subjective well-being. Recent literature provides compelling evidence for the significant impact of the freeze response and offers valuable insights into underlying mechanisms and potential applications. This literature review systematically analyzes current literature on the freeze response and provides a comprehensive understanding of the concept. The central research question guiding this bachelor thesis is: “What is the freeze response?” An extensive analysis of three seminal books in the field was conducted:

Affective Neuroscience by Dr. Jan Panksepp, *The Body Keeps the Score* by Bessel Van der Kolk, and *In an Unspoken Voice: How the Body Releases Trauma and Restores Goodness* by Dr. Peter Levine. Results indicate that the freeze response is a third component of the fight or flight survival responses. It is characterized by complex psychophysiological reactions to an immense threat known as tonic immobility, functional freeze, or collapse. Findings demonstrate inconsistent definitions. This thesis presents a unique perspective on the topic and helps to understand, predict, and promote industry professionals and individuals suffering.

Keywords: freeze response, freeze, freezing, fight, flight, tonic immobility, collapse, somatic experiencing, meditation, defense response, trauma, sensorimotor psychotherapy

What is the freeze response?

Intro

The impact of combat and other traumatic experiences can have a detrimental effect on an individual's life. This is exemplified in the case of Ray, a young Soldier who returned from Iraq. Upon his return, Ray is diagnosed with multiple comorbid psychopathologies and medical conditions that drastically diminish the quality of his life, leaving him stuck in a seemingly endless cycle of hopelessness. After seeking help from multiple medical professionals, Ray ultimately meets with Dr. Peter Levine in a seminar about his problems, on December 8th, 2008. Dr. Peter Levine refers in his book, *In an Unspoken Voice: How the Body Releases Trauma and Restores Goodness*, to Ray's state as being "trapped in the gray limbo of nonexistence, where one is neither really living nor actually dying." (Levine, 2010, p.148). Trauma has many forms, whether experienced in combat, through physical or emotional abuse, domestic violence, or life stressors. The profound and lasting impact can leave individuals left broken, feeling trapped, and stuck. Dr. Peter Levine thoroughly explains how we "perceive (consciously or unconsciously) that when we are in danger, specific defensive postures necessary to protect ourselves are mobilized in our bodies." (Levine, 2010, p.243) Our innate biological and evolutionary psychophysical answers to threats help us to "duck, dodge, retract and stiffen or prepare to fight or flee." (Levine, 2010, p.50). In threatening situations, survival energies are organized in the brain and are expressed as states of muscular tension in readiness for powerfully energized actions. The fight or flight responses are familiar due to the work of Walter B. Cannon's 1920s on the sympathetic-adrenal nervous system. (Levine, 2010) Besides the already known fight and flight arousal, there is a third, less acknowledged reaction to threat: immobilization. Also

often referred to as the freeze response. The freeze response is a psychophysiological state activated by the autonomous nervous systems to imminent danger in life-threatening situations. Ethologists call this default state of paralysis tonic immobility (TI). (Levine, 2010) What do we know about the intricacies of the freeze response, including its psychophysiological responses and potential consequences, and how can these promote our idea on its conceptualization? Cannon's ethological and psychophysiological research provides the most comprehensive understanding of these responses. Dr. Peter Levine adheres to this framework as he outlines: "the A, and four Fs": Arrest (increased vigilance, scanning), Flight (try first to escape), Fight (if the animal or person is prevented from escaping), Freeze (fright—scared stiff) and Fold (collapse into helplessness)." (Levine, 2010, p.78) Dr. Levine complements:

*„In freezing, your muscles stiffen against a mortal blow,
and you feel scared stiff.” “On the other hand, when you experience death as being
unequivocally imminent (as when bared fangs are ready to annihilate you),
your muscles collapse as though they have lost all their energy.”
“In this “default” reaction (when it has become chronic, as it does in trauma),
you feel that you are in a state of helpless resignation and lack the energy to fuel your life
and move forward.” (Levine, 2010, p.67)*

As Ray recounts the traumatic event to Dr. Levine, he elaborates on how a bomb detonated near him, causing him to be catapulted into the air and severely injuring him. Despite multiple medical treatments, Ray experiences involuntary movements in the form of spasms disrupting every hour and minute of his day. Being activated on a psychophysical level but prevented from completing the response action - as in the fight or flight response – the

immobilization gets activated, and the provided energized tension remains stuck in the vascular muscle system, which leads to the spasms. This current literature review aims to examine the popular referred to freeze response by reviewing three books: *Affective Neuroscience* (Panksepp, 1998), *The Body Keeps the Score* (Van Der Kolk, 2014), and *In an Unspoken Voice: How the Body Releases Trauma and Restores Goodness* (Levine, 2010). It aims to shed light on the understudied subject of the psychophysiological response to acute dangers and, consequently, answers the critical question “What is the freeze response?” examining its definitions, including its lesser-acknowledged classifications of the Tonic Immobility, Collapse function, and Functional Freezing. Finally, this Bachelor Thesis aims to comprehensively summarize the freeze response, including its underlying psychophysiological mechanisms and implications, fill gaps in the current literature and promote a profound understanding to help prevent and recover from responses, such as seen in the young marine Ray. The goal is to acknowledge the significance of the freeze response and contribute to the clinical field by conducting an examination as well as critically evaluating the key issues of its conceptualization. This paper emphasizes the importance of individual health and empowers those affected to proactively gain valuable insights enabling them to recognize symptoms and advance towards healing, fostering self-efficacy. It highlights clinicians and medical professionals to make informed and effective diagnoses to recognize symptoms and related psychopathologies, leading to improved patients’ health outcomes. This work accentuates the importance of a topic that has long been missed to acknowledge.

Methods

Design

The design employed a narrative literature review, which thoroughly examined prior specified research materials related to the freeze response. The design was structured to comprehensively address the focused clinical question, “What is the freeze response?”. The goal was to identify specific information to provide justification that supports evidence for the narrative work done in the field and helps explore the phenomenon’s nature, characteristics, and current understanding.

Data Collection Methods

Three books were priorly selected in consultation with Bachelor Thesis supervisor Dr. Cuijpers to obtain a complete understanding of the freeze response. The handpicked literature was aligned with the biopsychosocial model, ensuring a diverse perspective on the subject matter. First, Dr. Peter Levine’s book, *In an Unspoken Voice: How the Body Releases Trauma and Restores Goodness*, gave a therapist-focused approach while emphasizing psychodynamic clinical work. Second, *Affective Neuroscience* by Dr. Panksepp specifically focused on the biopsychological and neuroscientific research of the literature review. Finally, *The Body Keeps the Score*, a New York Bestseller, provided a social psychology viewpoint on the freeze response. The utilization of the biopsychosocial model enhanced the overall understanding and breadth of the review. The books picked represent literature that is either highly commercialized and directed towards a broader public audience or literature that is more relevant for a narrow niche group, a.k.a. psychotherapists, psychologists, and neuroscientists. Books were purchased online via the Apple Books store.

Data Analysis Methods

The data was thoroughly analyzed using qualitative content analysis. This procedure involved re-reading data, categorizing and coding themes into qualitative data. A thorough

analysis was conducted, scanning the keywords “Freeze,” “Freezing,” “Tonic Immobility (TI),” “Fight or Flight,” “Fight and Flight,” and “Trauma.” These keywords provided the most accurate representation of the topic and led to the most relevant sections of the books reviewed. The selected paragraphs were examined and critically reappraised on their frequency and relevance to address the clinical question. Concepts were compared to discern commonalities and differences.

Ethical Considerations

This literature review adhered to ethical principles throughout all aspects of the research. Reviewed books were legally purchased. To ensure ethical considerations, only relevant sections of the books were accessed; hence, all sensitive or confidential information was excluded from the analysis.

Results

This section aims to present the results of the research question, “What is the freeze response?” Moreover, it instigates summaries of the worthiest results to answer the focused clinical question.

The nature of the freeze response and the Classification of Humans

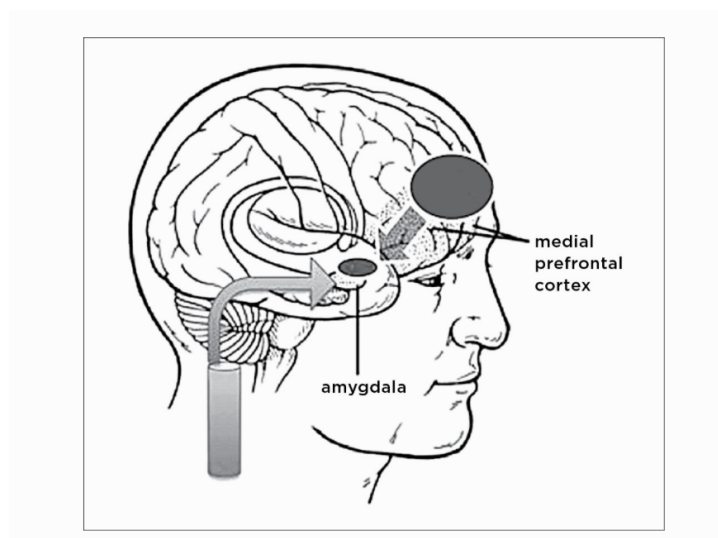
To understand the freeze response, it is essential to review the human taxonomy, which is the classification of humans. The book *Affective Neuroscience* (Panksepp, 1998) gives an understanding of fundamental brain-operating systems, bridging the gap between human and animal feelings. The book asserts that humans are classified in the animal kingdom due to their Chordata and the ancestral genetic material found in other mammals. (Panksepp, 1998). As described in *In an Unspoken Voice* by Levine (2010), the founder of Sensorimotor therapy, Pat Ogden (2019), considers automatic behavioral flight, fight, or

freeze responses as evolutionary heritage. Bessel Van Der Kolk (2015) emphasizes this point in his book, *The Body Keeps the Score*, stating, “When the brain’s alarm system is turned on, it automatically triggers preprogrammed physical escape plans in the oldest parts of the brain.” (Van der Kolk, 2014, p.72) The Dutch psychiatrist is referring to the nerves and chemicals that belong to the fundamental structures of the brain. The older parts of the brain shut down the prefrontal cortex, which is predominantly found in humans and monkeys, commanding the body to fight, flee, freeze, or even collapse. Before even being aware and conscious of the threatening situation. According to Van Der Kolk, “If the fight/flight/freeze response is successful and we escape the danger, we recover our internal equilibrium and gradually regain our senses.” (2014, p. 73) Panksepp (1998) says that “our understanding of the neurobiology of human fears has emerged largely from basic research on the brains of lower animals.” (p.327) For a more profound understanding, it is crucial to shift attention toward the biopsychological processes involved in the immobilization response. Literature suggests the emphasis of an evolutionary perspective, as the response has always been functional for survival.

The biological processes involved in the immobilization response

As stated by Van Der Kolk, (2014) "Danger is a normal part of life." (p.81) The brain is responsible for detecting and organizing our neuropsychological responses, with the autonomic nervous system (ANS) also playing a role in regulating the three fundamental physiological states. Our five senses perceive sensations, which are then converged in the thalamus, referred to by Van der Kolk (2014) as the cook, blending the incoming perceptual information into an integrated, coherent experience. From there, the information passes two pathways to the amygdala, the brain's emotional center, which lies in the limbic system, the

unconscious. This structure is to identify if the threat has relevance for survival. During this automated and immediate process, the hippocampus helps by sending signals of accommodating old experiences or accumulating new ones. If the amygdala perceives a threat, it links down to the hypothalamus and the brain stem, which is then "recruiting the stress-hormone system and the autonomic nervous system (ANS) to orchestrate a whole-body response." (Van der Kolk, 2015, p.71) Second is the frontal cortex region, the conscious brain. Van der Kolk quotes neuroscientist Joseph LeDoux to characterize the prefrontal cortex as the high road and the amygdala as the low road, with the latter being faster with the perception in the event of an actual threat. As the amygdala receives faster input from the thalamus, the activated bodily responses may be underway long before the region of the frontal lobes, the conscious mind, takes notice.



Picture 1: Abstract from *The Body Keeps the Score* explaining how to intervene in a threat detection system (Van der Kolk 2015, p.84)

In this case, the amygdala signals trigger the release of powerful hypothalamic-releasing agents, which include cortisol and adrenaline, increasing "heart rate, blood

pressure, rate of breathing, muscle tension to fight back or stiffen to collapse. This last-ditch immobilization system is meant to function acutely and only for brief periods." (Levine, 2010, p. 78) As danger passes, the reptilian brain tries to establish homeostasis again to its normal state. However, when the pathways are blocked, the body stays triggered to defend the individual, making people feel agitated, aroused, or immobilized. Dr. Peter Levine describes one of his patients: "Sharon was caught in a conflict between two very different centers in her brain: the raw, primitive self-preservation messages from the brain stem and limbic system were demanding that she run for her life, while her frontal cortex was sending messages of inhibition and restraint." (Levine, 2010, p.120) If the muscular tensions remain only partially used or unused, the stream nerve impulses send the spinal cord to the thalamus. If energy is trapped in the ANS, the amygdala, the hippocampus, and other neighboring structures the individual remains in constant tension. This electric nerve signals the continued presence of danger, and survival energies are constantly assessed. According to Dr. Peter Levine (2010), this only occurs when the active responses fail, meaning that when social engagement or fight or flight in escaping or removing the source of threats is not possible, we enter a freeze or collapsed state. The most primitive physiological neural subsystems control the immobilization mechanism. The unmyelinated part of the Vagus nerve, also called the tenth cranial nerve, mediates energy conservation. This structure gets triggered only when there is a life-or-death situation, specifically the adjoining nerves that activate the muscles relating to the face, throat, middle ear, and voice box or larynx. (Levine, 2010). There is no relevance whether the threat is perceived internally, such as thought-action fusion or illness, or externally such as in the case of a predator. Levine refers to these major energy processes stating:

"Both of these challenges require that one hold still and conserve one's vital energy. When this most archaic system dominates, one does not move; one barely breathes; one's voice is choked off; and one is too scared to cry. One remains motionless in preparation for either death or cellular restitution." (Levine, 2010, p.78)

The Possible Functions of Subjective Emotional Experiences in the freeze response

Dr. Panksepp (1998) notes four primary ways stimuli are associated with threat defense mechanisms. First, he states that, for a fear-potentiated startle reflex to be initiated, it takes less than a hundredth of a second, which supports the assumption that threat states are not immaterial but a representation of neurocircuits as they have a functional role. Panksepp (1998) states "(1) the commonsense view that emotions cause bodily responses; (2) the possibility that the two are independently but concurrently organized; (3) the counterintuitive James-Lange type of view that emotions arise by the way we bodily respond in emotional situations; and (4) a more realistic view, which suggests that all levels of information processing in the generation of emotional responses interact with each other." (p.42) The map suggests that the interpretation of stimuli and emotions in humans has an essential function and implications for subjective emotional experiences and thus social life. By being able to trigger these brain circuits artificially, it is reasonable to argue that these functional consequences are the basis for a shared mammalian experience.

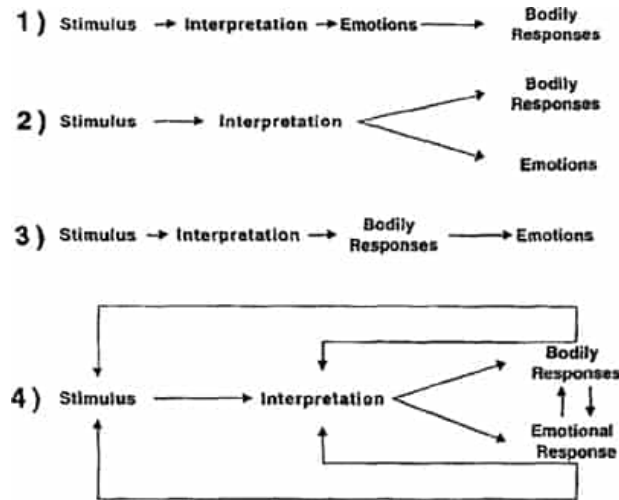


Figure 2. Affective Neuroscience Stimuli Interpretation (Panksepp, 1998, p.42)

Animal research on the freeze response

Affective Neuroscience gives a research example of the freeze state compared to animals and their behavioral change. Panksepp (1998) describes the innate fear of rats of the smell of a natural predator. When a tiny cat hair is placed in a rat's cage, it "exhibits dramatic changes in behavior—it plays less, eats less, and demonstrates an elevated level of wary attention. Such animals do not simply freeze (even though that behavior is elevated) but outwardly appear to be in a confused state, full of trepidation about something...." (p.293)

To understand the power of psychophysiological threat responses, precisely the freeze response, we must take a closer look at the symptoms. Emotions such as fear, terror, rage, and helplessness serve as an example of primal force.

The source of fear and why it is maladaptive

“Fear produces an agony and anxiety about the heart not to be described; and it may be said to paralyze the soul in such a manner, that it becomes insensible to everything but to its own misery....” “When the effects of fear operate powerfully, without any mixture of hope, these passive impressions are predominant but where there is a possibility of escape, the

mind re-acts with wonderful energy ... enabling the sufferer to precipitate his flight, by exertions that would have been impracticable in a more composed state of mind."

T. Cogan, On the Passions (1802) quoted from Affective Neuroscience (1998, p.272)

The symptoms

According to Levine (2010), the Greek root for angst is descriptive, which means to press tight or to strangle. Fear and the potential for it are integrated parts of the human nervous system. The evolutionary perspective suggests that dangers shape the operating neural to narrate behavioral, physiological, psychological, and perceptual changes. All these alterations help for the survival of the individual. Panksepp approaches the emotional experience of fear as an alteration of neural processes that help animals to hide and freeze when needed. To understand and help humans, he states that we must "mediate homologous fearful states in other mammals." (Panksepp, 1998, p.272) Moreover, since punishment can direct FEAR circuits, Panksepp elaborates that it is of mere importance to analyze unconditional (instinctual) responses, which provide the most insights into unlearned brain mechanisms involved in mediating fear. Furthermore, Panksepp (1998) mentions many models which evoke the freeze response in animals' the most compelling model is the electric magnetic stimulation of FEAR circuits, including to specific "subcortical locations (including the central amygdala, anterior hypothalamus, and PAG)." (p.268) In his book, he states: "Such brain stimulation induces freezing at low currents and flight at higher current levels, accompanied by intense autonomic indicators of fear such as increases in defecation, urination, heart rate, blood pressure, and adrenal stress responses. This approach provides a direct estimate of the localization of the major unconditional FEAR circuit in the mammalian brain. However, he mentions that these practices have not yet become

fashionable. Dr. Peter Levine suggests that fear can also stimulate panic. People are the frequently hurt as they chronically feel like a "deer in the headlights" of a car. (Levine, 2010, p.29) The emotion that helps activate to freeze or collapse is certainly maladaptive. Many models suggest that a multifactor model is necessary to describe a fear-directed immobilization's response. Our body responds to danger; if we cannot perceive the cause of our distress, we will continue to search for one.

Helplessness

The literature suggests that freezing induces patterns of helplessness and stores muscle tension or feelings of disintegration in the assaulted areas of the victim's body. In accident victims, the head, back, and limbs, and in victims of sexual abuse, the vagina. (Levine, 2010) These disintegrations of experiences and unprocessed psychophysiological stimuli of the unconscious lead the victims to a permanent state of helplessness. (Van der Kolk, 2014) It is important to note that the idea of trauma being "stored" is metaphorically used; it must be avoided to be seen as something like computer storage.

Numbing

Dr. Peter Levine (2010) refers from his own clinical experience that many trauma survivors he met over the years try neutralizing these unwanted sensory experiences. Furthermore, he emphasizes that most people he met had become experts in self-numbing. As their inner world is intolerable, they try to numb it by becoming obese, anorexic, or addicted to exercise or work. (Levine, 2010) According to him, half of the traumatized patients try to dull themselves with drugs. However, the flip side of numbing is sensation seeking. While other people self-harm and engage in high-risk activities like extreme sports, prostitution, and gambling. These self-numbing methods can give a false and paradoxical

feeling of control. (Levine, 2010) Bessel Van der Kolk (2014) describes that numbing plays a significant role in PTSD, displaying commonalities in their work. Untreated survivors gradually shift towards numbness later in life.

Depersonalization and Dissociation

The Body Keeps the Score refers to blanking out in response to past trauma, while the correct medical term is depersonalization. The outward manifestation of the freeze reaction is observed in clients who deal with trauma and correlates highly with other psychopathologies such as PTSD and depression. (Van der Kolk, 2014) Van der Kolk states that depersonalization is one symptom of the massive dissociation created by trauma. The book „Affective Neuroscience gives a neuroscientific perspective while saying, “the clearest evidence for the dissociation is that fear-like behaviors in animals and fear states in humans are not readily produced by electrical stimulation of the classic spinothalamic pain systems. “(Panksepp, 1998, p.284)

Chronic pain

Van der Kolk (2014) suggests that when people are chronically angry or scared, the constant tension of the muscle leads to “spasms, back pain, migraine headaches, fibromyalgia, and other forms of chronic pain.” (p.83) As in the case of Ray they are diagnosed by multiple specialists, without ever solving the underlying issues. “Their diagnosis will come to define their reality without ever being identified as a symptom of their attempt to cope with trauma.” (Van der Kolk, 2014,p.207) Results show that chronic pain states are a prominent symptom that accompanies the freeze response.

Duration of the Freeze Response - “Functional Freeze”

The severity and duration of the freeze response may vary individually. Dr. Peter Levine described three situations where the levels are further explored. The first level is where it comes to a brief activation of the freeze response, whereas the animal or human can shake off the encounter which initiated the psychophysiological response. This process is defined as self-paced termination. On the second level, the individual remains stuck in terror and cannot establish equilibrium. Peter Levine (2010) describes that “the immobility is far deeper, lasting for a much longer time. This paralyzing terror is the effect of fear-potentiated immobility and leads to PTSD.” (p.56) Dr. Peter Levine described further in another chapter that when humans are stuck in this state that the suffering “carry their burden with diminished energy” it is though that we “continue to see ourselves at death door,” “as though it is still happening although the real danger has passed already. (p.56)) Bessel van Der Kolk (2015) describes this specific situation as when the individual is prevented from taking effective action, and the normal response is blocked, the brain keeps secreting stress chemicals, and electric circuits continue to fire to escape a threat that is long gone. The time freezes; thus, the danger is much longer perceived than it is happening. Van der Kolk adds that the stress hormones system fails the balancing act, which can result in PTSD. When people remain in this state over time, they develop something called a functional freeze, offers Peter Levine. In this state, people can live, however, at the expense that limits them from living their life with fulfillment in all their senses. The third level is the successful exit out of the freeze response, leading the patient out of their immobility and helping to finalize the process stuck in the nervous system back to their senses and equilibrium. However, new questions arise, what if people fail to guide their way out of the immobility response

effectively? We must understand how to effectively integrate the freeze response to prevent and recover from immobilization after life-changing events.

Effective action versus Immobilization

The selected literature gives examples of effective action, the result of social engagement, and fight-and-flight responses, which end the threats. However, when practical action is not possible, Immobilization can keep the body in a state of inescapable shock and learned helplessness. (Levine, 2010) When humans face imminent danger, the stress hormones fuel resistance and escape. The Brain and body are programmed to find homeostasis. In the state of Immobilization, the stress hormone levels remain elevated and are “turned against the survivors, stimulating ongoing fear, depression, rage, and physical disease,” leads to the manifestation of physical symptoms, to what experts call Trauma. (Van Der Kolk, 2014, p.65)

Trauma

Trauma is a state of emotional or physically overwhelming experiences related to everyday life. Levine (2010) refers to the ancient Greeks, who also identified trauma as paralyzing and corporeal. To emphasize his point, he quotes Zeus and Pan, who were "invoked to instill terror and paralysis in the enemy during times of war." (p.35) These characters could freeze the enemies' bodies and induce panic. Furthermore, Levine states that in a book of the Homeric epics, the Iliad and the Odyssey, 8th century B.C., "trauma portrays as ruthlessly destructive to self and families." Levine uses important narrative tools to picture the psychodynamic narrative of the freeze response and the implications for its practical use in therapeutic interventions.

The Body Keeps the Score refers to French psychologist Pierre Janet who published the first scientific account of traumatic stress. In this regard, Van Der Kolk (2014) recognizes that trauma survivors are likely to "continue the action, or rather the (futile) attempt at action, which began when the thing happened." (p.42) Affective Neuroscience supports this by stating that a vast network of interconnected parts of the brain organize to help us survive and flourish. Understanding these parts means understanding how to resolve traumatic stress—moreover, tapping into the increased risk of misunderstanding due to the amygdala wrongly interpreting danger clues. Slight misreading of the intentions of others can lead to misunderstanding on the social level. As social environments are dynamic and complex, a continuous adjustment of behaviors is needed. Dr. Peter Levine literature also suggests a reenactment of traumatic experiences. (Levine, 2010) Somebody might be engaged in behavioral cues or that display patterns of the traumatic experience. In *In an Unspoken Voice: How the Body Releases Trauma and Restores Goodness* Tiger, Levine (2010) refers to children who have become stuck and engaged in "habitually ineffective and often compulsive patterns of behavior." (p.99) He describes the child as follows:

“The child’s uncoordinated fragmented efforts are not registered as normal, explicit, narrative memories but rather are encoded in the body as implicit, procedural memories including discomfort, constriction, distress, awkwardness, rigidity, flaccidity, and lack of energy. Such memories are encoded not primarily in the neocortex but, instead, in the limbic system and brain stem. For this reason, behaviors and memories cannot be changed by simply changing one’s thoughts. One must also work with sensation and feeling—really with the totality of experience.” (Levine, 2010, p.99)

What is the freeze response?

The three key books reviewed, prove sophisticated insights into the nature of the psychophysiological threat response of freezing in the face of adverse or life-threatening events. The books not only give an understanding of the responses and their nature but also help to understand linked characteristics related to psychopathy, diseases, and trauma. First, the New York Bestseller *The Body Keeps the Score* (Bessel Van Der Kolk, 2015), written for a broader public audience, gives us a chance to understand the freeze response. It must be said, however, that the freeze response is explained as part of the three-dimensional conduct of the fight, flight, and freeze responses. The definition of the Collapse is not specifically substantiated from these systems, nor put in a sub-category, but must be understood as an add-on. *Affective Neuroscience* (Panksepp, 1998) refers to three systems using the words “freeze,” “fight,” or “flight” and once writing about “tonic immobility.” However, the findings present no clear taxonomy of the threat responses. *In an Unspoken Voice: How the Body Releases Trauma and Restores Goodness* (2010) proves to be the most efficient and insightful, with the terminology of the immobilization response using Cannon’s discovery. The freeze response is defined as a popular generalization term, while tonic immobility and the collapse mechanisms are sub-types that are distinguished within the model of the freeze response. To answer what is the freeze response, we must critically reappraise the research question. The results of this literature review, reveals that the definition the freeze response is not coherently agreed on by the scientific community. Still, each book gives conceptualizations on the topic with changing terminologies. Instead of speaking of “freezing”, the word “tonic immobility” is the most preferred and referred word to describe the process of immobilization, without specifying TI as a subtype.

This bachelor thesis addresses the question, "What is the freeze response?": The freeze response is a complex phenomenon characterized by complex psychophysiological reactions to immense threats. Identified by the reviewed literature on the freeze response, it can be classified into three subtypes and summarized Tonic Immobility (TI), which is a state of paralysis in reaction to fear; Functional Freezing which is a prolonged state of TI; and Collapse, which is a complete submission characterized by a loss of all muscle tension in response to severe trauma. We freeze in paralysis and or collapse in overwhelming helplessness. If the energy of the immobilizations state is not resolved in the body, (also referred to as the unconscious), meaning the psychophysical structure doesn't find back to homeostasis the individual remains in terror. If this process becomes chronic, it is hypothesized to associate with psychopathologies such as depression and trauma, as in functional freezing or PTSD. (Dr. Levine, 2010) Moreover, other medical conditions may manifest through the constant tension that the psychophysiological systems exert. (Van Der Kolk, 2014) Ultimately, these findings suggest a comprehensive understanding of the freeze response and its subtypes. This understanding can help to promote mental health and resolve psychopathologies, helping individuals suffering from trauma to strive and regain access to their life forces, as with the young Marine Ray, who was able to overcome his trauma by leaning into the experience of the self. Here presented results draw from three books, well-regarded in the psychological and popular field, published by reputable academic publishers. However, these books do not represent recent developments, being published in the years 1998, 2010 and 2014. This review is based on a diligent analysis of the books and has been thoughtfully evaluated for credibility and reliability. Limitations have been considered while analyzing the results.

Discussion

This study aimed to examine the nature of the freeze response; this discussion section provides an in-depth analysis of the findings and their implications.

The question of causation

For a comprehensive understanding of the freeze response, it is imperative to differentiate the concepts of etiology and teleology. This discussion section approaches the research question from both perspectives. From an etiological perspective, the study of causation is essential to understanding the freeze response. Rooted in psychodynamic theory, etiology recognizes that trauma may lead to a manifestation in symptoms of the freeze response. Associated symptoms such as anxiety, numbness, and dissociation help to support this notion. Conversely, the teleology approach, as defined by Adlerian psychology, defines the freeze response as goal-directed behavior. However, this perspective denies the existence of trauma, hence negating the argument at hand. Considering both perspectives help to conceptualize the complex phenomenon of the freeze response and answers the question of causation altogether.

The Problem of Definition

After a meticulous examination of the existing literature, one must mark and highly criticize the inconsistency of the literature concerning the definition of the freeze response with its classifications of tonic immobility and the fold or collapse responses. Dr. Peter Levine refers to this problem in his book “Note: Although some recent authors tend to call the initial arrest response “freezing,” I will avoid possible confusion by using the term “freezing” only to describe behaviors involving tonic immobility.” (Levine, 2010, p.44)

In *The Body Keeps the Score*, the freeze response is defined as the collapse response, which uses Porge's theory to provide an overview of the three known responses to threat:

1. *The social engagement system: an alarmed monkey signals danger and calls for help.*

VVC.

2. *Fight or flight: Teeth bared, the face of rage and terror. SNS.*

3. *Collapse: The body signals defeat and withdraws. DVC.*

Similarities can be found on page 93 of *In an Unspoken Voice*. Dr. Peter Levine divides into "immobilization, hyperarousal or social engagement"; however, as aforementioned, he prefers to adhere to the updated version of the one A and the four Fs by Cannon, which he clearly states. In *Affective Neuroscience*, no clear distinction is made; however, the neuroscientific explanations allow a more nuanced in-depth understanding of the neurobiological processes involved. To answer, "what is the freeze response?" we must critically reappraise the research question of "What is the freeze response?" The results of this literature review reveal that the "freeze response" definition is not coherently agreed upon, making the research question less targeted. Each book gives a structural perspective on the topic with changing terminology. Instead of speaking of "freezing," the word "tonic immobility" is the most preferred word to describe the process of immobilization. With the alignment of all three books, TI occurs when we are beyond frightened and are either physically restrained or perceive that we are trapped. It is a universal psychophysiological dynamical response. We freeze in paralysis and collapse in overwhelming helplessness. If the energy of the immobilization state is not resolved in the body (also referred to as the unconscious), meaning the psychophysical structure does not return to homeostasis, the individual stays stuck in terror. If this process becomes chronic, it is hypothesized to

associate with psychopathologies such as depression and trauma. Moreover, other medical conditions are also suggested to manifest through the constant tension the psychophysiological systems exert.

How to resolve trauma

As we established, the freeze response is a pivotal link to trauma; this section will provide how to resolve trauma and help to understand the freeze response further. The books, *In an Unspoken Voice: How the Body Releases Trauma and Restores Goodness*, *The Body Keeps the Score*, and *Affective Neuroscience* gives a glimpse into the resolution and healing of traumatic experiences. The results suggest that the psychophysiological responses brought up by disproportionate stressors and experienced traumatic events compared to everyday life can be dampened through therapy. Dr. Peter Levine experienced with his clients as, “For a traumatized individual, to be able to touch into his or her immobility sensations, even for a moment, restores self-paced termination and allows the “unwinding” of fear and freeze to begin.” (Levine, 2010, p.80) Dr. Levine states that by becoming more conscious of sensorimotor impulses, individuals can work towards a mobilized state, unwinding the freeze. Completion of the psychophysiological answers to threats can help the body establish homeostasis. In addition to therapy, Van der Kolk and Levine promote helping individuals to recondition the freeze response by teaching them to transform fear into positive energy. Levine refers to his earlier work, in *Waking the Inner Tiger: Healing Trauma* the renown therapist already implies that transforming energy is involved in awakening one’s inner tiger. Van Der Kolk (2014) suggests that practical training in combat sports can help foster individual agency, overcome patterns of submission, and finally restore equilibrium.

“One of my favorite body-oriented ways to build effective fight/flight responses is our local impact center’s model mugging program, in which women (and increasingly men) are taught to actively fight off a simulated attack.” “The model mugging program teaches women to recondition the freeze response through many repetitions ... learning to transform fear into positive fighting energy.” (Van Der Kolk, 2014, p.168)

This section provides a comprehensive overview to integrate the freeze response and use it as a critical element to resolve traumatic experiences.

Monism vs. Dualism

Monism and Dualism give a different view for defining the freeze response. Monistic theories explain the freeze response as a purely physiological response from the autonomic nervous system. This perspective pictures the mind, and the body, as one entity. The freeze response is merely the defense cascade of the sympathetic nervous system (SNS).

Conversely, dualistic theories provide us with an explanation of an interplay between the mind and the body. This view promotes the idea that the mind is separate from the body, perceiving the threat while the body reacts to it. These perspectives help to understand the freeze response further.

Limitations and Future Directions

The limitation of this review is the number of sources available. These do not represent all available perspectives on the freeze response. As well as these books are established, they are dated and thus may need to display recent developments in the field. Given the limitations, the findings must be interpreted with caution. Despite these limitations, this review offers valuable insights into the freeze response. The presented findings extrapolate the inconsistent conceptualization in the literature on the popularly

referred freeze response. There are no united definitions, which makes it unnecessarily difficult for psychologists, therapists, and the public worldwide. The literature assessed exposes the indistinct conceptualization and promotes a unanimous decision that professionals must make. Future research must address shortcomings and answer the question of a united definition, to aid society and affected individuals. Once established, a taxonomy must be defined, which includes the responses of Social engagement, Fight, and Flight, Freeze, Tonic Immobility, Functional Freeze, and Collapse.

This review critically assesses gaps in knowledge and offers recommendations that can guide industry professionals for future directions. This bachelor thesis fills a crucial gap in the current literature and promotes a standardized definition of the freeze response.

Theoretical and Practical Implications

The presented study poses significant theoretical and practical implications on multiple levels. First, the findings contribute to a comprehensive understanding of the freeze response as a complex psychophysiological phenomenon while acknowledging its subtypes, tonic immobility (TI), Functional Freezing, and Collapse. Second, this review informs the professional field and helps to develop effective tailoring therapeutic interventions for individuals suffering. Third, this thesis represents the biopsychological modes and combines key insights from social psychology, biology, and psychology. Fourth, the practical implication may be of great value for practicing therapists, clinicians, and trauma survivors. Finally, the bachelor thesis strives to provide the reader with clear evidence-based insights into mental health implications.

Conclusions

The three books reviewed establish a comprehensive understanding of the often-neglected freeze response. The scientific consensus on the definition of the freeze response, tonic immobility, fold, or collapse remains elusive. However, the freeze response is ultimately recognized as a complex psychophysiological phenomenon of immobility as a psychophysiological response to an acute threat imminent in the decision of death or life. Notably, the freeze response encompasses three subtypes tonic immobility, functional freezing, and collapse – as detailed in this thesis.

References

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