Somatic Therapies as an Imperative Addition to the Integrative Treatment of Intergenerational Trauma Healing Work

by

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Abstract

This capstone offers an overview of the nature of intergenerational trauma (IGT) and explores mechanisms for the transmission of IGT in select populations. Though IGT has impacted many populations and communities, the focus of this capstone reflects primarily on the experiences of Residential School and Holocaust survivors and explores ways in which select somatic psychotherapies could lend themselves to the holistic landscape of trauma healing. The objectives of this capstone include exploring the pervasiveness of the hallmarks of trauma across generations from a bio/psycho/social/spiritual perspective, the role of epigenetics in the expression of trauma over time, and the impact this can have on individuals, communities, and institutions/systems. A further purpose is to explore the neuroscience behind experiential approaches that aim to regulate the nervous system through the discharge and integration of internal constriction due to trauma. Additionally, this capstone will incorporate the concept of constructive resilience to create individual and social transformation in a way that is evolutionary, developmental, and integrative.

Keywords: intergenerational trauma, transmission, epigenetics, somatic therapies, constructive resilience

Dedication or Acknowledgement

Writing this capstone has allowed me to reflect on my intersectional background and my forced migration journey. I cannot separate these life circumstances ranging from escape, near pitfalls and victorious pivotal moments that brought me to this degree. I am deeply stirred by knowing the ways in which my experiences in life and education as a Bahá'í living in Iran could have been far graver. In honoring the path of perseverance that it took to get to this point, I would like to dedicate my capstone not just to my family and friends who have supported me unwaveringly, but also to brave souls in Iran (my country of origin) who have been supported to continue their higher education against all odds through a global association known as the Bahá'í Institute for Higher Education (BIHE). This organization operates on the principle that having access to knowledge is a fundamental human right. The BIHE works with 160 higher learning institutions across the globe including the ranks of Harvard, Yale, and Columbia to support students who have been barred from their education on account of their beliefs

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Chapter 1: Introduction

The most exciting breakthroughs of the 21st Century will occur not because of technology but because of an expanding concept of what it means to be human.

John Naisbitt, Mindset! Reset Your Thinking and See The Future

Overview of the Topic

Trauma and traumatic events have the capacity to disrupt relationships with self and others as well as impact neurophysiological and attachment systems (Alford, 2015). Trauma's that occur between people including relational traumas incurred through the transmission of (IGT) are interpersonal in nature. When trauma occurs relationally it results in higher counts of Post-Traumatic Stress Disorder (PTSD) (Madigan, 2011). The nature of the transmission of IGT can be discrete or covert in presentation because it occurs through the impact of traumatic events passed along a lineage despite the individuals impacted in subsequent generations never being directly exposed to a concrete event (Isobel et al., 2021). IGT was first developed to understand the impact of the afflictions placed upon Holocaust survivors (Yehuda & Lehrner, 2018). The ripple effects of the traumas of the Holocaust have been documented over three generations (O'Neill, 2018). Since its inception with Holocaust survivors, the concept of IGT has been extrapolated to explore the impacts on forcibly displaced refugee families, communities affected by war, families of survivors of mass atrocities including residential schools, apartheid, descendants of enslaved peoples, and other categorically defined examples of politically marginalized peoples.

Therapeutic support for the survivors of IGT rooted in an I*ntergenerational Trauma Model* (Alford, 2015) uses empirically supported methods of exposure therapy, cognitive-based therapies rooted in reframing, stress management and parenting supports. The strengths of this

model are rooted in enhancing capacity in caregivers to support their children in families impacted by IGT. This model aligns with the findings that transmission of historical trauma across generations are connected to attachment system disruption and identifies the harms incurred when children are not made aware of the circumstances and ruptures experienced by their parents. (Alford, 2015).

Alford's model (2015) is supportive of family structures but lacks the capacity to lend support to the types of complex trauma witnessed in subjects where children become overwhelmed by the parents unprocessed and unintegrated experiences.

Attachment ruptures in primary relationships and the disruption of developmental milestones are predominant experience discovered in survivors of IGT (Alford, 2015). The mechanisms for transmission are in many cases subconscious and rooted in systemic family patterns often far removed in current time from the original traumatic event.

The organizational structure of the family unit can contribute to health and well-being even when impacted by factors related to IGT. In times of crisis the family unit can serve as a protective factor encouraging resilience or be the cause of further adverse experiences and risk (Reese et al., 2022). The transmission of IGT is manifested through a process where children learn to respond to their surroundings similarly to how their predecessors did (Lee et al., 2021). IGT is inherently systemic in transmission and interconnected with styles of attachment as it is passed along a lineage and community. Healing from IGT at the individual level necessitates awareness of family systems, and knowledge of effects within communities and nations (Menzies, 2013), as trauma does not occur in a vacuum. This type of historical trauma contains wounds that are cumulative in their impacts on emotions and mental states. Such wounds emanate from mass traumatic group experiences. They sustain over the lifespan of the individual

and across generations (Brave Heart, 2003). The far-reaching effects of IGT ripples across individuals, families, and communities with impacts on individuals at the level of governance and public policy. How communities and systems of power respond can determine the health of a people or create a subjective re-experiencing of the traumas that will continue to span forward.

This capstone will explore the gaps in the research stemming from the difficulty of treating traumas that have not been experienced directly yet have left deep and far-reaching impacts on individuals. Epigenetics are one current avenue that uses multi-generational studies in seeking to understand how our biology is permeated through individual, cultural and societal experiences (Yehuda & Lehrner, 2018). Healing modalities explored will include somatic therapies as they bring the body into practice while integrating past experiences into the here and now and increase the capacity for nervous system regulation within an individual. Two other modalities explored are narrative therapy for its methodology in building individual agency through restorying which also is encoded into the strength-based elements of somatic therapies, and lastly family therapies as the transmission of IGT across generations maintains a systemic element. All modalities will be considered through a rationale based integrative lens with the needs of the client at the forefront and embedded in trauma informed anti-oppressive practices.

Purpose Statement

1. To discuss the nature of IGT and the possible mechanisms of transmission.
2. To outline groups that suffer from IGT, including relevant socio-political factors, and to describe how individuals, communities and institutions are impacted by IGT.
3. To discuss how somatic, family, and narrative therapies can lend support to the healing of the transmission of IGT.

4. To outline best practices for mental health professionals to support nervous system regulation through an integrative lens that includes psychotherapy, culturally informed practices, and anti-oppressive trauma-informed interventions.

Theoretical/Conceptual Framework

From an umbrella perspective this capstone is developed from a constructivism lens. Constructivist fundamentals of psychotherapy suggest that humans are essentially meaning makers and it is precisely those meanings that in turn become tangible experiences in life (Raskin, 2002). From this view the client is an active participant in the development of their own path. Derived from the overarching perspective of constructivism arises personal construct theory, which suggests that constructs are developed as people interpret information that lends itself to their understanding of how the world works. These constructs are rooted in experience and observation and differ across individuals (Raskin, 2002). In the case of IGT there are gaping holes that disrupt continuity across families, create constrictions and omit knowledge. Such discrepancies make it difficult and confusing for individuals to identify themselves or understand the roots of their behavior and adverse psychological symptoms. These difficulties become heightened in the case of IGT when the original impacts were not directly experienced by an individual.

In addition to constructivist theories, this capstone employs the use of affect regulation theory (Hill & Schore, 2015), polyvagal theory (Porges, 2001) and attachment theory (Bretherton, 1992) to explore the impact on individuals and corresponding treatments using somatic therapies.

Lastly, this capstone draws on the interconnectivity of the human experience by exploring the reciprocal relationships between an individual and society. Through a critical

discourse analysis (Tavernaro-Haidarian, 2024) lens the concept of constructive resilience is used to support the healing of IGT through encouraging interconnection and cohesion.

Contribution to the Field

Accelerated understanding of issues surrounding mental health as well as treatment and prevention are emerging as scientist's map the relationship between gene expression and psychopathology. This is a promising direction for the ever-evolving science of genetics and epigenetics.

Through the assessment of gene expression, specific genes have been identified as prominent in populations that exhibit a range of disorders including depression, anxiety and schizophrenia (Feinstein & Church, 2010). There are gaps in the research on epigenetics, most notably that the research has not been subjected to human populations. Where research has been extended to human populations it is evidenced that there is a lack of clarity as to a concrete connection between the mechanisms that underly the transmission of epigenetic changes across generations at a molecular level and the events that lead to phenotypic changes downstream (Fallet et al., 2023).

Pioneer research in epigenetics reflects on two categories when exploring epigenetically mediated effects. The first has been coined as developmentally programmed effects such as early environmental exposure in offspring including in utero exposure to stress and corresponding post-natal maternal care. The second category reflects changes epigenetically in preconception trauma as observed in a combination of germline and fetoplacental interactions (Yehuda & Lehrner, 2018). Sex specific genetic effects in the aftermath of trauma exposure support traces pinpointed to maternal and paternal impacts. Newly researched subjects to date have been animal models which allows for controlled designs that support clear interpretations linking effects to

transmission. In human populations the studies have been scarce and maintain challenges related to methodology. Currently intergenerational effects have not been attributed to specific biological, or social determinants. Multigenerational studies have been supported theoretic understanding but are criticized for lack of inter-population validity (Fallet et al., 2023).

Despite not knowing the exact mechanisms responsible for patterns of altered gene expression, discoveries have been made suggesting the success of psychotherapy interventions in the variables of these altered genetic markers. The five biological changes noted include: "(a) exaggerated limbic system responses to innocuous stimuli, (b) distortions in learning and memory, (c) imbalances between sympathetic and parasympathetic nervous system activity, (d) elevated levels of cortisol and other stress hormones, and (e) impaired immune functioning" (Feinstein & Church, 2010, p. 283). Findings suggest that somatic psychotherapies may possess greater precision in beneficially shifting gene expression in biological markers related to adverse mental health conditions (Feinstein & Church, 2010).

Even though somatic therapies, an example of which includes somatic experiencing (SE), are deemed experiential, their therapeutic results are in line with other trauma treatments that support increased agency, self-efficacy, nonverbal processing, the movement of stuck emotions, and self-regulation. Case study findings support holistic body-based approaches offered by SE that support regulation at the level of autonomic, limbic, motor and arousal systems impacted by trauma (Payne et al., 2015). SE and other somatic modalities are not considered mainstream modalities. The emergence of more research and empirical testing are required. Case study examples of SE have been shown to have a positive impact on affective and somatic symptoms in both traumatized and non-traumatized samples (Kuhfuß et al., 2020).

To date there are no literature reviews on the effectiveness of SE despite promising results and preliminary evidence for treatment of PTSD symptoms (Kuhfuß et al., 2020). Notably, PTSD which is commonly experienced by individuals with IGT, is considered treatment resistant in some populations (Sippel, 2018). The concept of PTSD itself has been criticized for being culturally derived. In addition, there are dilemmas around the scope of its comorbidity as people who suffer from PTSD often suffer from depression, substance abuse or other disorders (Kleber, 2019).

Gauging the balance between normal and abnormal behavior in traumatized subjects has proved daunting, and there are debates about the complexities of life and resiliency markers that differ amongst groups. Such differences are highlighted and contrasted across populations that exhibit symptoms of PTSD such as refugees and veterans' communities. A deep dive into discrepancies between these and other populations may convolute the efficacy of treatment. As well, debates around the periphery of what constitutes PTSD conflate diagnostic criteria for abnormalities with normal life stressors (Kleber, 2019). Diagnostic criteria as reflected in symptomology at its root holds dysregulation of the nervous system. Somatic therapies could be beneficial to the amelioration of symptoms as the therapeutic target of somatic modalities resides in nervous system regulation and internal safety.

The goal of this capstone will be to explore the ways in which trauma and IGT present, and the role that epigenetics and somatic therapies play in the integration of traumatic memories and experiences. Intrinsically tied in will be culturally sound and trauma informed resolution through an anti-oppressive lens. Despite not having a clear ability to pinpoint the mechanisms behind causation of IGT and only experiential benefits of somatic therapies, it is clear based on

the findings that there is overlap between the symptoms and the benefits of experiential modalities in the treatment of IGT related trauma.

As cited in Levine (2024), Carl Jung believed that to whatever degree of intensity certain characteristics showed up in the world that they would continue to perpetuate in accordance with that intensity. Those characteristics, if strong enough, were then cemented into archetypes and presented as expressions in individuals as shadows. This concept of Jung's may be in line with operating principles behind mechanisms such as socialization and environment that lend themselves to biological changes seen at the level of epigenetics. Epigenetics is fledgling in its discoveries because causation cannot be pinpointed, however, the direction the field is headed looks promising. Lastly, Levine (2024) notes the importance of interconnectedness and fortification of relationship as integral in any type of therapeutic relationship linked to trauma recovery.

Notably there are gaps in the body of academic research both in studying the survivors of IGT and in the benefits of somatic therapies. This capstone aims primarily to support learning for therapists interested in expanding their skillsets to work more deeply with the body and its corresponding sensations. Since therapists work within social systems, it is of paramount importance to create understanding for those involved at the level of policy that fund empirically tested therapies to include a wider range of acceptable therapies. To begin to address these interconnected concepts this capstone will weave in principles to support advocacy for the scope of this work. The nature of any therapeutic work is slow in pace and requires a restructuring at a foundational neuro-bio-psycho-social-spiritual level to leverage nervous system regulation and internal safety. By reflecting on the bio/psycho-social/spiritual aspects of trauma healing as related to individuals impacted by IGT, this capstone will identify the benefits and techniques of

select somatic modalities. All suggestions will be rooted in the current findings and theories related to polyvagal theory and affect regulation theory.

Reflectivity and Positionality Statement

This capstone pulls heavily on neurobiological mechanisms responsible for trauma and IGT. These measurable traits are indelibly linked to the social constructs that bind individuals to their social locations making it difficult to access affect regulation and relational safety in individuals, across communities, and over generations. Societal constructs related to race and class, and the negatively correlated inequalities resulting from systemic oppressions contribute immensely to the accumulation and transmission of IGT. Cumulative stressors layered with multiple traumas result in sustained inequities across individuals and communities spanning generations at times changing entirely the disposition of populations (Reese et al., 2022). These forces of oppression result in malaise and mental health maladies in individuals and are transmission to unborn generations (Yehuda & Lehrner, 2018).

My interest in this topic wells primarily from my life experience and social location. Self-identification and recognition of social location is a layered construct. Meta-analytic studies explore layered and interconnected disparities in subjects who experience trauma on account of race and ethnic identity (Lee et al., 2021). For myself, it has taken many years of grappling with my existence to begin to understand how my roots and social location continue to reflect my evolving presence in the world. I am a cis-gender woman of color who immigrated to Canada post the Iranian revolution. My family comes from a Bahá'í background. We were urged to leave Iran to escape pervasive religious persecution which was then newly emerging and continues to impact members of the Bahai community to this day. Our move was not a smooth transition. In many ways this migratory experience brought safety, yet in other ways it created an internal and

systemic upheaval within individuals in my family unit. In writing this capstone I recognize for the first time as I delve into the research, patterns of trauma transmission and experiences of survivors of IGT (Eplebaum & Bush, 2021) that mirror my own.

The topic of this capstone is the exploration of somatic therapies for IGT. Though the therapeutic process in most modalities is individualized and given due privacy the reality is there is an interconnectedness between the individual, the communities in which they reside, and the institutions that serve those communities. This capstone aims to highlight the importance of the interplay between these three protagonists, each of which play a role in the wellbeing of any individual. For myself, I recognize the ways that somatic therapies and connection outside of myself have been supportive to lessening the imprints and constrictions of traumatic events and IGT.

Definition of Terms

Adverse Childhood Experiences (ACEs)

Developed by Felitti and Anda (Felitti et al., 1998), ACEs were identified as potentially traumatizing events experienced in childhood that negatively impact health outcomes as well as undermine safety and stability.

Affect Regulation Theory

A scientific theory that postulates how humans regulate their emotions. The theory draws on and integrates concepts of "attachment, developmental trauma, implicit processes, and affective neurobiology" (Hill & Schore, 2015, p. 1).

Attachment Theory

Attachment theory, first published by John Bowlby (1958), in The Nature of the Childs tie to his Mother. Attachment theory is relational in concept and rooted in early life relationships

with primary caregivers, beginning with the infant-mother relationship which is likely the foundation for affect regulation. Individuals develop an internal working model for views of themselves and relationships.

Constructive Resilience

Rooted in critical discourse analysis as an alternative concept to social change, this was developed in response to normative adversarialism as a shift from practices rooted in confrontation towards practices arising from cohesion (Tavernaro-Haidarian, 2024).

Embodied Cognition Theory

Embodied cognition theory suggests a high degree of interrelatedness and mutual dependence exist between the mind, body, and environment (Craighero, 2022)

Epigenetics

The study of changes in organisms when they undergo a modification of gene expression rather than an alteration in the genetic code. The field of epigenetics was originally developed to study the differentiation and maintenance of specialized somatic cells in unique zygotes (Rey et al., 2018) and has been applied to populations impacted by IGT.

Family Therapy

Developed by Bowen (Prochaska & Norcross, 2018) as a systems-based theory with a principle focus on differentiation of self from the family of origin as key to optimal development. Families are helped to find resolution within the context of their family unit and mode of functioning.

Gemeinshaftsgefühl

A concept connected to social interest or the awareness of belonging within community or the cosmos. It was developed by Adler through his humanistic lens and spanned interconnectedness across the past, present and future (O'Connell, 1965).

Hypothalamic pituitary-adrenal Axis (HPA Axis)

A neuroendocrine system that supports the coordination of neural, endocrine and immune responses. Homeostasis is disrupted through the release of glucocorticoids when these interconnected systems are activated in response to stress (Kaiser et al., 2023).

Intergenerational Trauma

Constricted social, adverse psychological and altered physiological effects from trauma experienced by a group of people and passed on or transmitted to subsequent generations. Transmission has been connected to patterns in environment, early attachment relationships and epigenetics (Yehuda & Lehrner, 2018).

Intersectionality

Overlapping cultural identities of individuals and multiple systemic structures that contribute to and impact an individual's worldview (Lee et al., 2021).

Narrative Therapy

A collaborative approach used to support people in embracing their sense of being as an expert in their own lives. There is heavy emphasis on the stories that are developed and carried through life. These stories are often layered and impact the arenas of self, interpersonal relationships and work. It is grounded in feminist, anthropological and multicultural theories (Madigan, 2011).

New Wounded

Based on the work of Fenton (2018), this explores the destructive legacy of trauma as it presents in a person who has suffered from the transmission of IGT. That legacy presents in these individuals as psychological, biological, affective or sociocultural to such a degree that the subject is fundamentally changed post-trauma.

Oscillation

Also known as pendulation. It is an SE technique that is used throughout a session to orient mindfully between feelings of resourcefulness and painful feelings repeatedly (Leavit, 2006).

Old Wounded

A phrase coined to identify a traumatized subject that suffers from inherited consequences of trauma exposure such as PTSD, anxiety, depression, and/or substance abuse issues as related specifically to issues around IGT (Fenton, 2018).

Polyvagal Theory

Porges' theory that a visceral quest for safety is connected to a phylogenetic order. The tenth cranial nerve which is afferent in function and known as the vagus nerve serves as a physiological thoroughfare consisting of two separate vagal pathways of the parasympathetic nervous system. It is involved in the creation of the varying states of hyper and hypo arousal through ventral dorsal and ventral vagal states (Porges, 2011).

Sympatho-Adrenal Medullary Axis (SAM Axis)

This is an internal pathway for dealing with acute stress and is responsible for quickly activating the fight or flight response in the sympathetic nervous system by releasing catecholamines such as adrenaline and norepinephrine (Kaiser et al., 2023).

Sensorimotor Psychotherapy

A method that integrates sensorimotor processing, as well as cognitive and emotional processing to treat the symptoms of trauma. Sensorimotor psychotherapy works with arousal and defensive symptoms that arise because of trauma using the body as a primal point of entry. By treating the body directly there is a natural movement towards integrating associated emotional and cognitive processes (Ogden & Minton, 2000).

Somatic Therapies

Select experiential modalities that employ mind/body unity in expressing and aiding trauma healing. Somatic therapies use bodily sensations and the felt sense to integrate memories and traumas and help clients find safety in the body (Payne et al., 2015).

Somatic Experiencing

A therapeutic modality used to treat trauma symptoms through guided attention to interoceptive, kinesthetic, and proprioceptive experiences. Inner attention to these experiences supports resolution of symptoms stemming from chronic and traumatic stressors (Payne et al., 2015).

Structural Dissociation Theory

This physiological theory of the brain's developmental milestones identifies the fault lines and timelines for hemispheric development and interaction and posits that splitting is an adaptive response to chaotic environments and traumatic events (Fisher, 2016).

Titration

Titration is a method in Somatic Experiencing used to modulation activation through dosage of activation to assimilate experiences (Payne et al., 2015)

Outline of the Capstone Project Chapters

Chapter two of this capstone will explore the endemic nature of trauma from a bio/psycho/spiritual perspective and apply those principles to the exploration of IGT. Epigenetics will be explored as the predominant mechanism for the transmission of IGT as it presents in the research on Holocaust and Residential School survivors. In addition to reflecting on the current treatments for IGT this capstone aims to support the further use of somatic therapies as trauma-informed, body-based interventions to support the gaps in the understanding of treatments for IGT.

Chapter three will explore and the principles of affect regulation. Regulated affect states move individuals towards thriving states and give rise to the innate capacity for interconnection latent in an individual to engage as an active participant in personal life and the life of society. The application of these principles will be used to explore the potential benefits of somatic therapies through Sensorimotor Psychotherapy and Somatic Experiencing. Additionally, the final chapter will reflect on the context dependent nature of therapy and the use of integrative methods against a socio-political backdrop and engage concepts constructive resilience as contextual and resource rich directions to follow.

Chapter 2: Literature Review

The word trauma has slipped into modern day vernacular and creates the illusion that trauma ranks amongst the most overused word in the world today. Despite its popularity trauma has been diluted from incorrect use of its definition. By better understanding the nature of trauma in individuals and across generations and within a greater social context the better this seemingly at best managed phenomena can be supported through an integrative lens.

Trauma

Trauma Through a Bio/Psycho/Social/Spiritual Perspective

Trauma in its true sense is enduring and endemic in nature. According to the National Library of Medicine, seventy percent of people will be exposed to trauma in their lifetime (Bragesjö et al., 2021). Early effects after exposure to negative events that are induced by trauma include intrusion, avoidance, hyperarousal and changes to cognitive function and mood (Bragesjö et al., 2021).

The American Psychological Association (APA, 2024) defines trauma as an emotional response in relation to a negative event. The APA names several examples of potentially negative events which may be accidental or criminal in nature, the result of a natural disaster, emotional abuse or neglect, the witnessing or experiencing of violent acts, the death of loved ones, and war (APA, 2024). Trauma arguably has the potential to pervade culture, personal functioning, social and family relationships as well as economics and politics (Mate, 2020). Reviews of individuals exposed to traumatic events suggest approximately five percent of the population have reactions which become chronic and can manifest into the long-term symptoms that present as (PTSD) (Bragesjö et al., 2021). This suggests trauma is a psychic event lodged in

the nervous system that can have adverse effects beyond an individual as it travels through a lineage and develops into IGT via the mechanism of transmission.

Trauma becomes diagnosable when the impact of an event is disruptive to life activities which is typically measured from a social deficit perspective; however, sometimes the symptoms of trauma can be hidden for years after a triggering event because the pain associated with the memories and symptoms is too extreme (Levine, 1997). This can cause the pain to be disavowed, or dissociated with the capacity to return unannounced, often with a seemingly unrelated trigger. To begin to understand the long-term effects of trauma requires that trauma be explored from more than the view of symptomology. Identifying what differentiates some subjects from others who experience the same event and yet are affected to varying degrees or not at all is under exploration. Some subjects have no memory of an event despite it being stored like an undetectable buried landmine capable of eruption in the face of a trigger, yet others are locked in the most harrowing and minute details.

Levine (1997) defines trauma as non-event dependent and describes it as an experience held within an individual in the absence of an empathetic witness. Trauma is a shift in the internal state of the individual and can be a result of an event or the absence of what did not happen that was supposed to have happened developmentally. In other words, were the components for secure attachment met? With the emergence of mind body unity and the social interconnectedness that is innate in humans as attachment creatures a comprehensive exploration of trauma requires not just categorical symptomatic diagnosis, but a holistic look at the bio/psycho/spiritual elements that present.

Brain scans of traumatized subjects (Reese et al., 2022) identify that structure and function are impacted when trauma has been experienced. The younger subjects are when

exposed to trauma the more adverse the effect on their brains. Early in development children are right brain dominant and during heightened stress the brain becomes easily overwhelmed due to a lack of coping mechanisms secured in comparison to their older counterparts. Structural dissociation theory posits that the fault lines for dissociation naturally exist in the brain (Fisher, 2016) and have a benefit in terms of protective factors. Around two to three years of age the individual is right brain dominant. With the development of the hippocampus as that age the left hemisphere begins to acquire the capacity to signal language and make meaning out of events. In turn the frontal cortex develops and continues its growth over several decades. The corpus collosum that integrates the two hemispheres does not fully develop until age twelve (Fisher, 2016), which allows for the initiation of integrating emotions and meaning making.

From the perspective of this theory, the brain does not have the capacity to verbalize and make meaning/story out of traumas that happen before those areas of the brain are developed and thus flood the emotion centers of the brain. In traumatized brains the corpus collosum is smaller meaning there are fewer connections between the two hemispheres (Fisher, 2016). When subjects are reminded of a traumatic event and enter fight or flight the left brain and frontal cortex stop working to the same degree. The left prefrontal cortex shuts down and the right amygdala becomes hyperactive as it scans for threat (Fisher, 2016). Through this process implicit traumatic memories are located through right side activation of the brain. Children then who are right brain dominant hold more activation for implicit, nonverbal, and intuitive processing of emotional and social interactions (Shore, 2014). Through an interpersonal neurobiological perspective of regulation theory, Shore describes the fundamental role played during the early stages of the developing right brain in relational processes as explored through early attachment

and the mother-child relationship. Schore's work underscores the idea of optimal attachment and the potential impacts that result through the interruption of attachment.

The development of the brain in children through the lens of regulation theory is seen less as resilient and more as malleable. Attachment plays a pivotal role in facilitating or inhibiting growth and is dependent on the environment and early infant to care giver interactions. When attachment is insecure or disorganized it can lead to prolonged activation in brain regions responsible for the stress response (Schore, 2014). This prolonged activation results in the ongoing release of neurochemicals associated with trauma. Such attachment or relational trauma is "imprinted into right cortical-subcortical systems, encoding disorganized-disoriented insecure internal working models that are non-consciously accessed at later points of interpersonal emotional stress" (Schore, 2014, p.3). The narrative for the distress may either not be available due to the time of imprinting or accessible due to the principles the body engages in during fight or flight responses. In addition to physiological and biological changes, Levine (2010) identifies that trauma has an element of psychic wounding that is held through implicit memories that are core to trauma and to access trauma one must speak to it in the voice in which it developed.

The Nature of Intergenerational Trauma

IGT is oppressive in nature. It is an external event that imposes restriction and meaning upon one person or people from another and continues to wind its way across generations and send ripples into generations yet to come. IGT is also referred to as inherited family trauma, multigenerational trauma, transgenerational trauma, and secondary traumatization (Marschall, 2024). What remains the same across definitions is the impact of the trauma, which is that it cascades outward from the subject and may manifest or be felt across generations, but also in spaces including communities, friendships, gatherings, and places of worship. IGT has been a

construct under study for over fifty years (Chou & Buchanan, 2021). The concept was developed to explore the ways that psychological wounding experienced as trauma in an individual could impact the wellbeing of their offspring. It was originally developed to understand the unique challenges faced by families impacted by the Holocaust. From its origin perspectives IGT is rooted in Jewish cosmology and praxis of responsibility towards parents and ancestors (Chou & Buchanan, 2021) despite being applied to other ethnic groups.

IGT is best described as the transmission of trauma or its legacy, in the form of a psychological consequence of an injury or attack, poverty, from the generation experiencing the trauma to subsequent generations (APA, 2024) and may show up as psychological (impacting consciousness), biological (hereditary), affective, and sociocultural, or a combination thereof (Fenton, 2018). The effects and enactments of trauma are passed from parents to children in families where members from past generations were impacted by traumatic events and systems of oppression. The transmission is unintentional and often unconscious but does not make the impact less innocuous. This transmission may present as attachment disruption, and coping adaptations affecting multiple generations in cumulative and complex ways (O'Neill, 2018). A lifetime susceptibility to depression is increased when IGT is present. The risk of PTSD, autism spectrum disorder (ASD) and schizophrenia as well as the multiplicity of neuropsychiatric disorders are present as well (Alhassen, 2021). Exact links cannot be made from transmission of IGT to specific neuropsychiatric disorders or differential diagnosis. However, parental trauma exposure and the sequelae of the legacy of trauma are known to create constrictions that impact insecure attachment, maladaptive parenting styles, diminished vitality and emotional availability (Alhassen, 2021). Stress accumulation can lead to decreased family functioning and create

dysfunction at the level of intra-family communication (Flannagan, 2020) and reverberating across generations.

IGT is identified as pervasive and broad in scope. It is studied in varying populations including Indigenous peoples, descendants of enslaved people, Holocaust survivors and families of countless mass atrocities but there is no diagnosis for it in the *Diagnostic and Statistical Manual*. Menaken (2017) states that trauma decontextualized in an individual looks like personality, decontextualized within the context of a family looks like family traits and decontextualized in peoples looks like culture. Trauma, regardless of the context which created it, presents as a sense of overwhelm in the nervous system. It can stay dormant for many years (Levine, 2010) until triggered by an external event making the root cause difficult to trace and distinguish. Despite the origin stories of traumatization, the reactions induced can vary across individuals. Symptoms include but are not limited to shame, anxiety, guilt, a heightened sense of vulnerability, attachment and relational difficulties, and depression and suicidality. Noteworthy is the work of Mark Wolynn (2017), founder of *The Family Constellations Institute,* who gives examples in case studies and vignettes across the academic literature identifying themes akin to unfinished legacies across a lineage. Individuals who discover their inherited family trauma through symptoms and core language around their wounding discover the uncanny ways that family members across generations often unknowingly experience variations on a theme in regard to symptomology and intrapsychic wounding.

Family constellations as cited in (Schneider, 2020) is described as systematic in nature and rooted in a body of knowledge around the nature of family dynamics and intimate human relationships. Despite the systematic nature of the work, it has been heavily criticized for its lack of empiricism due to its phenomenological nature (Schneider, 2020).

In his work, Fenton (2018) suggests that trauma related to stress and environment can create a transformation of a subject or create a metamorphosis so distinct that a single subject can be categorized as two. Through a phenomenological lens Fenton (2018) questions the continuity of the identity of a subject prior to and post-traumatic injury categorically defined as "the old wounded and the new wounded" (Fenton, 2018, p.1). He attributes a set of characteristics that include qualities of being withdrawn, detached, indifferent, with addition of cognitive difficulties, emotional impairments, and deficits in memory. As a result, "the new wounded" (Fenton, 2018, p. 1) is structurally unrecognizable. Despite the brain's propensity for plasticity and healing, Fenton (2018) explores destructive plasticity as the vehicle driving the metamorphosis witnessed in those referred to as "the new wounded" (Fenton, 2018, p. 1). The gravity of this transformation is so compelling that it highlights such stark differences from the countenance of a person prior to trauma and in the aftermath of a trauma that the continuity of the identity of a subject is put into question. Those who have had these profound and destructive shifts, whether they present as physical brain trauma, degenerative diseases or disturbances from psychological trauma, all present with the commonality of emotional disturbances consistent with the malfunctioning of affective signals required for decision making. It has also been noted that these subjects display to varying degrees and levels of permanence types of behavior indicating indifference or disaffection (Fenton, 2018).

IGT transmission can often be referred to as secondary traumatization and can be difficult to separate the definition of IGT without further plunging into the nature of trauma and the ways in which it impacts the brain through destructive plasticity as alluded to in Fenton (2018). Eplebaum and Bush (2021) refer to secondary traumatization as a phenomenon that holds within it a silencing similar to the lack of capacity for articulation of the traumatic events by those who

experienced the trauma directly. Eplebaum and Bush (2021) states that traumatization creates memories that are obscure and inaccurate within the impacted individual.

The construct of memory is one that is heavily debated to date (van der Kolk, 2022). The findings related to traumatic memories negate the notions behind the current understanding of memory. Memory is widely accepted as a constructive process. It is declarative in nature, present to conscious awareness and dissipates over time. The study of traumatic memories, however, suggests semantic representations and sensory imprints that persist over time may co-exist and do not align with the functions of declarative and temporal findings related to non-traumatic memory (van der Kolk, 2022). With such opposing parameters in the function of memory the better question posed by the quest for trauma healing becomes how to integrate the presentation of a memory as experienced in survivors of IGT.

The process of memory is ordinarily active and constructive in a non-traumatized brain. In subjects where PTSD is present, it is suggested that declarative memory may be overridden as a compensatory mechanism due to the organization of trauma on a somatosensory level (van der Kolk, 1994) and due to its impervious nature becomes resistant to change. To support the premise of somatic therapies in memory integration and affect regulation, Levine (2010) suggests that trauma emerges first in the soma and is then followed by associated mental states that are impacted by trauma. Levine explains that for healing to begin to occur the body must be engaged with the same language that created the trauma so it can tend to the depths where the injury resides. The injury, when as insidiously and perniciously rooted and resistant to change as is the nature with PTSD, is mirrored physiologically and hormonally through the repeated and hypervigilant misrepresentation of innocuous stimuli deemed as threatening (van der Kolk, 1994) without any recognition of the linear timeline of events or the passing of time. Repeated

exposure to long term stress (memory) tunes the nervous system to high levels of post-traumatic stress which can evolve into multiple co-morbid states that involve cognitive, affective, immune, endocrine, muscular and visceral systems (Payne et al., 2015). This can have adverse effects on inter- and intrapersonal relationships which can include mental health and social determinants of environment, parenting and overall health.

A traumatized brain forms memory narratives in a subconscious way that activates the past by enfolding it in the present. The grip of the past in the present moment has the capacity to silence, displace, or otherwise disorganize memories. Eplebaum and Bush (2021) suggest that to compensate for the inherent disorganization that arises from the loss of accurate memory, that subjects derive a sense of order to life after a traumatic event by creating a narrative. As cited in Eplebaum & Bush (2021), traumatic memory morphs into a narrative memory so that it can be integrated into a whole story when a traumatic memory is incomprehensible to the survivor. Trauma may be stored outside of the apparatuses that are used for conscious awareness (Payne et al., 2015). Attachment or relational traumas imprint layers into right cortical-subcortical systems and become encoded as disorganized-disoriented insecure internal working models (Schore, 2001). Without warning, interpersonal emotional distress can arise when working models become non-consciously accessed. Consensus now lies in a body of knowledge that posits that affect dysregulation is correlated with deficits in right brain relational processes. Therapeutic interventions across modalities suggest a main goal of therapeutic intervention is to improve emotional self-regulatory processes (Schore, 2021).

In addition to emotional self-regulation, the integration of traumatic memories is thought to be necessary to move beyond a survival instinct and towards thriving and social engagement. When trauma occurs, memories that embody an instinct for survival become integrated. Such

memories are disordered and fractured and require extreme suppression unless integrated to allow for more linear memories which are associated with accomplishment (Eplebaum & Bush, 2021). Specific types of memories are associated with cortical and subcortical layers of the brain. The connection and awareness between mind and body states are mediated by the insula and the cingulate which create the pathway between subcortical and cortical functions (Levine et al., 2018) mediating responses to implicit and explicit memories. Ongoing research is still attempting to uncover the extent of overlap between implicit and explicit memories, but evidence suggests that implicit memories can influence explicit ones (Voss & Paller, 2008). Implicit memories do not require conscious awareness to be encoded in the brain and in turn recall of those memories can be evoked unintentionally. Such memories are experienced as fragmentations of a sensory nature and are often dissociative. They include behaviors and movements that are habitual and emotionally conditioned responses (Levine et al., 2018). Explicit memories, on the other hand, include conscious recall for access and are developed in the cortical layer after two years of age and carry autobiographical and temporal qualities (Levine et al., 2018).

Traumatic memories from the earliest moments of inception are implicit traumatic imprints that occur in utero and during the perinatal period further cementing the idea that implicit memories can be invoked unconsciously (Levine, 2024). Levine (1997) was credited with the finding that cognitive functions are not accessible to a traumatized brain flooded by lower brain activation. In tandem, these findings lay the groundwork for a flooded nervous system without warning. Levine (1997) identified that states of shock absorbed by the system and developmental traumas must be addressed prior to accessing the information processing systems connected to higher order functions of the brain to accessing an integrated sense of

safety and regulation. States of shock elicit fight/flight/freeze responses in the body as witnessed in many of the survivors of IGT and are sometimes buried through dissociation or embedded in the subconscious until triggered.

The survival mechanisms of dissociation and forgetting are coping mechanisms. Deeply rooted beneath them are the attachment experiences and corresponding affect that began in the right brain during infancy. Affect management and attachment strategies which underpin internal working models are imprinted or encoded in the self. They are non-conscious and can emerge on account of interpersonal stress (Schore, 2019) and must be addressed. These findings imply that non-conscious interpersonal stress or stress that is not remembered may be linked to insecure attachment to the caregiver and early environment. When heightened affect is aroused unconscious processes impact the internal working model of attachment and impact implicit memories in the right hemisphere (Schore, 2019). The operational principles of somatic therapies are supportive of integrating right brain activation which can be extended to the types of trauma experienced by survivors of IGT. The benefit of therapies that use the body as an entry point such as SE and SP is that they involve the apparatus that is involved in nervous system regulation and tap into the mind and body to access safety and trauma healing integration.

The role of families is pivotal both in child development and the transmission of trauma across generations. Factors such as family functioning, parental ability, quality of the parent-child relationship, cognitive appraisal of trauma, PTSD, and the level of severity of childhood trauma experienced by a parent all impact the transmission of IGT (Reese et al., 2022). O'neill, (2018) reports findings that trauma can be passed intergenerationally across three generations. In human subjects, the information on third generation transmission is sparse and contradictory. There are suggestions of overrepresentation in the research and lack of differentiation from

control groups. The transmission of transgenerational trauma is generally thought to cease by the time it spans three generations, but O'neill,(2018) reports samples that link symptomology in a third generation to hidden traumas two generations before.

Epigenetics

Epigenetics is the study of changes in organisms when they undergo a modification of gene expression rather than an alteration in the genetic code. The field of epigenetics was originally developed to study the differentiation and maintenance of specialized somatic cells in unique zygotes (Reyes & Brezeski, 2018). Epigeneticists suggest that reversible chemical changes are the mechanisms responsible for gene regulation and phenotype expression. Environmental factors including exposure to toxins and stress as well as diet are thought to contribute to epigenetic modifications which create changes in gene expression but do not alter DNA sequencing. The mechanisms involved include DNA and RNA Methylation, covalent modification at the level of histones and non-coding RNA (Yehuda & LeDoux, 2007) with DNA methylation being the most documented (Reyes & Brzeski, 2018).

The discovery of methyl groups having the capacity to inactivate genes in cells was unearthed in 1975. Additionally, it was discovered that adding chemicals that caused destruction of methyl groups could often turn genes back on. Scientists identified that DNA is coiled densely around proteins called histones and that the placement of histones contributes to epigenetic regulation. Tight association of genes with histones limits access to the mechanisms that read genes within a cell. This has led to the discovery that chemical changes on the surface of histones can create changed associations of a protein with a particular area of DNA (Williams, 2013). This suggests that epigenetic elements and genetic information interact to modulate phenotypes

during development (Reyes &Brzeski, 2018). Some patterns apparent in epigenetic changes are in response to environmental factors and stressors and could have direct implications for variations noted in human subjects. The exploration of biological markers for epigenetics are under exploration to see what can be attributed to genetic determinism and the social sciences postulate the social markers that contribute to phenotypical development including behavior and development.

From a biological perspective epigenetics explore the form and function of cells and how structure and functioning is transmitted through a lineage. Though much still needs to be learned about the emerging science of epigenetics, there are implications on views of heredity and evolution that have been predominantly centered and widely accepted through the lens of neo-Darwinian thought (Jablonka & Lamb, 2006). The idea that epigenetic inheritance systems allow the transmission of non-DNA variations in cells and organismal lineages broadens the body of knowledge around heredity despite creating more questions. Though normative biological consequences of trauma exposure have been identified, the exploration of phenotypic differences in subgroups within populations, typically researched in animal models, are thought to be helpful to identifying why some people develop PTSD (Bowers and Yehuda, 2016) and others do not.

Studies that explore stress and in particular markers for PTSD reflect the complexity associated with attributing its validity in the research. There are a limited number of gene related findings in subjects that exhibit symptoms of PTSD. An exploration of pre-traumatic changes seems linked to gene related alteration rather than specific genetic polymorphisms. Studying these mechanisms spurs the path towards identifying how concrete molecular pathways might be involved with the alteration of gene expression (Yehuda & LeDoux, 2007). Such discoveries

could allow for further understanding of individual differences in functions related to gene expression and in turn vulnerability to disorders.

The emergence of the field of epigenetics has identified possible mechanisms for the transmission of IGT. Evidence that supported the hypothesis that offspring affected by stress exposure or parental traumas was once anecdotal, but has become empirically supported (Bowers and Yehuda, 2016). Severe and chronic stress exposure in a parent can result in mental health conditions including anxiety, depression, and PTSD. Despite no clear mechanism underlying the pathway for transference from parent to offspring, the research shows that psychopathology in a parent maintains a risk factor for adverse mental health outcomes in their offspring. The capacity for "stress exposed parents to confer vulnerability via genetic risk factors…or through behavioral alterations stemming from the development of stress related psychopathology" has been researched (Bowers and Yehuda, 2016, p. 232). As the understanding of epigenetic mechanisms has advanced, the hypothesis has emerged that the offspring of subjects severely exposed to stress are at risk for adverse outcomes. This process, referred to as 'intergenerational transmission', results from "enduring epigenetic changes in parental biological systems" that have arisen in response to stress exposure and are transmitted (Bowers and Yehuda, 2016, p. 232).

When dissecting the research, it is pertinent to highlight studies that explore intergenerational transmission after stress exposure as opposed to the transmission of parental psychopathology as transmission to offspring may be differential in nature. Fenton (2018) explores differentiation as an outcome connected to growth and developmental patterns in repressed individuals and the phylogenetic nature of multigenerational growth and the development of a repressive civilization.

Intergenerational transmission of effects from environmental based adversity has been traced across multiple generations in animal models. Despite excitement and anticipatory promulgation extrapolated from animal studies, human studies have yet to demonstrate that the effects of trauma are transmissible through the mechanism of epigenetics (Yehuda & Lehrner, 2018). It is suggested that the word transmission, which is often attributed to offspring effects to epigenetic mechanisms, lacks validity because of its inexact and varied use in the research. Now that animal research has found a definitive molecular pathway that facilitates the potential transmission of trauma effects, more precision is required to distinguish clinical observation and biological mechanisms (Yehuda & Lehrner, 2018). Research is still at the hypothesis level when considering that epigenetic mechanisms are responsible for clinical observations in the offspring of trauma survivors. Though epigenetics holds the potential to regulate gene expression without changing DNA, there is within this promising field a potential for safety and ethical concerns if preformed in humans given that environmental factors such as diet and stress would have to be controlled for (Aboud et al., 2024).

Select Populations Who Suffer from Intergenerational Trauma

The psychiatric literature first explored the idea of IGT when it studied behavioral and clinical problems in the offspring of Holocaust survivors (Yehuda & Lehrner, 2018). Though research has focused on many other groups including communities affected by war, Indigenous peoples, residential school survivors, descendants of enslaved people, families of survivors of mass atrocities including genocide, ethnic cleansing, political persecution, and politically marginalized people, this capstone will look predominantly at Holocaust survivors and the Indigenous peoples of Canada who were impacted by residential schools.

Holocaust Survivors

The multiplicity of ways in which individuals are impacted by IGT are cited across the literature and include the social, psychological, and cultural impacts on second and third generation survivors of the Holocaust, yet little has been evidenced in regard to how and when surviving generations begin to move beyond the pathologies (Kahane-Nissenbaum, 2011). There is a large body of research dedicated to those who survived the Holocaust but the multiplicities in impact across generations have negative implications for the ways in which individual survivors of IGT can receive supportive and effective treatment in the present moment.

Transmission of trauma in Holocaust survivors as a term describes consequences for thoughts, feelings and behaviours generated in survivors of the Holocaust and passed to their offspring (Dahorst et al., 2019). In supporting individual lives impacted by the Holocaust, consideration is owed to the facts that the liberation of survivors is bound in layers of trauma that potentially existed in the environment prior to births of some subjects and that survival has the potential to be compounded in survivor guilt as well as cultural and familial narratives and practices employed to maintain safety. Converging evidence suggests that offspring can be affected by parental trauma occurring prior to the birth or through the lens of epigenetics possibly even prior to the conception of their children (Yehuda & Lehrner, 2018). Explicit theory and clinical work have been devoted to the plight of those impacted by the transgenerational effects of war trauma related to the Holocaust. Of note is the difficulties in regulation tendencies in those individuals impacted by separation individuation and aggression in the children of Holocaust survivors (O'Neill, 2018). Despite findings on the intergenerational impact of genocide, the exact mechanism for the transmission of trauma is still unclear.

In a cross-sectional online study Békés and Starrs (2024) assessed parenting styles of Holocaust survivors to determine how parenting was impacted by coping efforts when participants had experienced traumatic events. Reports from participants who were direct survivors of the Holocaust as well as their offspring identified their efforts to cope and adapt. The reported symptoms that impacted coping styles included symptoms of PTSD, Complex PTSD, anxiety and depression. Further analysis of this sample identified that the higher the intensity of parental styles, the higher the environmental adaptations and negative coping strategies appeared in the subjects and in turn presented as negative mental health symptoms (Békés and Starrs, 2024).

Studies suggest that the quality of verbal and non-verbal communication regarding the traumatic experiences of a parent may heavily impact the inner and interpersonal lives of their children. Associations between intra-family communication style regarding trauma experienced by parents in the past has been found to negatively impact their children's psychosocial adjustment and attachment security (Dalgaard et al., 2015). A communication style identified in families of survivors known as the conspiracy of silence (Epelbaum & Bush, 2021) refers to a nonverbal code of silence that maintains a distance from unspoken and detached experiences of the sustained trauma from daily life. This silencing served to support the parents' need to forget, adjust to a new context of social reality, and placed a stronghold in their belief that withholding the horrors of the past would allow for their children's normal development. Children became vigilant of and adhered to their parents need for silence which was then mutually maintained by both generations. This pattern of knowing and not knowing presented in interpersonal relationships in adulthood for the second-generation children (Epelbaum & Bush, 2021).

Clinical findings suggest that overvaluation and overprotectiveness by parents were present in the lives of the survivors' children, both of which were a means for sustaining meaning and hope. The expectation placed upon the children of Holocaust survivors was one of restitution for the losses sustained through the Holocaust. As all relationships are reciprocal, the sensitivity of the children to their parents' suffering created a guilt-based protectiveness bestowed from children to parents which left little room for the expression or externalization of anger or any level of conflict (Wisemen et al., 2006). Even when the psychological functioning of offspring of Holocaust survivors was within a normative range the propensity for separation-individuation, anxiety, depressive experiences, and psychosomatic complaints were present. Expressions of guilt, anger and other emotions ranging from impulsivity to hostility were difficult to express. This suggests that self-expression was limited and may be linked to attachment quality. Children raised by caregivers whose operating principles are fear-based because of their own trauma histories are raised by parents who are extremely anxious about all aspects of caring for their children (O'Neill, 2018). This fear-based way of parenting may create a lack attunement which can create further preoccupation in the child.

Residential School Survivors

There are an estimated 370 million Indigenous people who live in 90 countries worldwide. Despite a wide range of health inequities and disparity in life expectancy there remains an insufficient amount of research on determinants of health within Indigenous populations (Moon-Reily et al., 2019). An insistence of colonial methods intended for the assimilation of Indigenous people is what gave rise to the inception of residential schools. Under the guise of assimilation, which was touted as estimated best practice, the attendees of these

schools were isolated from their families and forcibly endured abuse and neglect. In Canada spanning from 1870 to the 1990's children were forcibly removed from their families to be assimilated into settler cultures without any thought to what separation from families would bring. Poorer health and social outcomes have been documented in Indigenous populations in comparison to white counterparts living within Canada and other colonized countries with self-reports from Indigenous populations reflecting deeper intensity and higher frequency of mental health difficulties than other populations living in the same countries (St. James & Paul, 2019).

Child maltreatment continues to be a major public health challenge and impacts the physical, social and emotional wellbeing of individuals. Mounting evidence suggests that cumulative traumatic experiences, including interpersonal violation of a child's care network as witnessed in the removal of children and the neglect and abuse faced by the residential school survivors, can impact brain development and activate conflicting attachment and defense systems (Chamberlain et al., 2019). As cited in O'Neill (2018), van der Kolk suggests based on findings from the DSM-IV field trials that the most pervasive impacts of trauma present in the first decade of life, a time when the children who are now residential school survivors were moved into cumulatively taxing environments.

When exploring the biological markers of parents and the children whose parents attended residential schools, it was hypothesized that the next generation would carry an altered allostatic load, referring to the cumulative effects that stress has on mental and physical health. Allostatic load presents as a physiological process creating stability in the body in the face of environmental challenges. Homeostasis and markers of biological dysfunction are measured by altered neuroendocrine systems, particularly the "hypothalamic pituitary adrenal axis and the sympathetic-adrenal-medullary (SAM) axis (Moon-Reily et al., 2019, p.2)". In addition to

biological markers, the transmission of intergenerational trauma was identified as a marker of social dysfunction (Moon-Reiley et al., 2019). The findings indicate that increased biological dysregulation was present in adults of mothers who attended Indigenous residential schools, and that increased Adverse Childhood Experience (ACE) scores were present in adults of mothers and fathers who attended residential schools. ACE scores, despite known impacts on determinants of health and social outcomes (Felitti et al., 1998), were not identified to be indicative of biological dysregulation among the children of maternal residential school survivors (Moon-Reiley et al., 2019).

The policies and actions enacted upon the Indigenous Peoples by the Canadian Government holds long term consequences regarding social and environmental determinants of health. Colonialist policies have been described as a form of cultural genocide impacting transgenerational and intergenerational processes including psychosocial, developmental, environmental, neurobiological mechanisms and trauma responses (Matheson et al., 2019).

Individuals, Communities and Institutions

By virtue of the nature of IGT it cannot be measured by the impact or limited to the individual alone. Though individuals are impacted on personal and interpersonal levels the legacy of their life experience flows beyond their immediate selves, beyond their families and into the communities in which their lives are embedded. This bi-directional relationship implies that individuals and families are incorporated at a foundational level into the bedrock of the society that forms the institutions that in turn support them. The capacities latent within the individuals lend themselves to the strength of the fabric of the welfare of society as supported through institutions. The degree to which these capacities can be exercised are impacted by the

intersectional safety available to individuals in the ways that society and corresponding systems offer support and safety.

To this point this capstone has explored intergenerational trauma through the lens of Holocaust survivors because they were the first to be identified in the research and the residential school survivors as they are native in part to Canada's legacy. In truth all of us in Canada are either Indigenous or immigrants. Collectively embraced in this nation is an identity that is post-national, and rule based within an international order. The basis of this national order is raised from international law, which is described as cosmopolitan or alternatively phrased, the result of the violent negation of diversity refractory to the traumas of the collective historical experiences (Akhavan, 2020). The impacts that our individual and collective histories have are intertwined. Individuals are embedded in the collective tapestry that make up communities and the institutions that serve communities. Today, broad sociological and systemic mechanisms perpetuate harm and limit access to beneficial cultural networks (Johnston, 2022).

Communities and institutions are involved in human development. A shift in discourse from the pursuit of material endeavours to enhancing human well-being, which includes maximizing income to expansion of human capacities while optimizing growth and enlarging freedoms (Penn, 2021), requires awareness and support and interconnectedness of individuals. As individuals begin their healing process, they inevitably become connected to community resources in ways they may previously not have interfaced. Individuals often come to see themselves as protagonists in their own development as they regain a sense of agency. In part individuals whose harms are intergenerational in nature may have a harder time with societal integration when the harms inflicted upon them were in the name of societal best interest as

witnessed in Holocaust and Residential School victims. Understandably the fear lingers consciously and viscerally.

The concept of Gemeinschaftsgefühl as described by Adler as social interest or the awareness an individual has of belonging in and to community and in the cosmos. Humanistic identification is defined as a feeling of close kinship to humans in the present as well as an affinity to the whole of humanity in the past and the future (O'Connell, 1965) and seems to be the very essence that is shaken through the silencing of stories and the lack of feeling of belonging that is present in traumatized subjects and victims of IGT.

What is Known About the Treatment of Intergenerational Trauma

If trauma frequently happens relationally, it can be reasoned that the healing from trauma requires a relational aspect. Despite this being a requisite for effective trauma intervention, root cause analysis and integration become more difficult when tracing the meaning given to traumatic events becomes obscured. This obscurity arises from the passing of time and the diminishing proximal causes as events become distanced from subjects over time as witnessed through transmission as a mechanism for epigenetic factors as well as parent child relationships.

Childhood trauma significantly impacts healthy development and psychopathology in the life span. Brain images of subjects exposed to childhood trauma have revealed decreased volumes in the frontal cortex, and related issues with reasoning, emotional regulation and accessing language. The psychopathology of a parent can contribute to increased risks of childhood trauma passed on to their children suggesting that families play a central role in both child development and the cyclical nature of IGT (Reese et al., 2022).

One of the difficulties encountered in intergenerational research is the heterogeneity of generational participants with members of the second and third generation. Variables affecting individuals include the age of parents, their backgrounds, the type of trauma, emotional disposition, and other personal assets (O'Neill et al., 2018).

Trauma Focused Therapies (Narrative, Family and Somatic Modalities)

Narrative Therapies

Talk therapy has been heavily criticized as a perhaps limited approach to the treatment of trauma. Nevertheless, a meaningful and intentional conversation is integral to a therapy session and supported empirically through various modalities. Narrative therapy is built on the premise that a subject's sense of identity is comprised of interacting stories. In that vein, the problems the clients bring to therapy are not restricted to the client's internal state but impacted by influences related to cultural discourses surrounding power and identity. By identifying the client intersectionally, a modality known as *restorying* is employed to support a client to re-consider and reauthor live perspectives and relationships (Madigan, 2019).

When traumatic or problem laden stories are transmitted down a lineage they collapse from nuanced and dynamic events into single storied reiterations. The legacy of a lineage then loses resilience as the focus narrows primarily onto the traumas and harms which rippled through generations (Madigan, 2019). This narrowing often presents in the form of stories and is often silenced or buried internally at that level. An approach known as intergenerational narrative focuses on the way in which multiple story lines journey through generations. The focus of therapy is present moment inquiry and encourages clients to identify their values and skills. This strengths-based approach then allows for the unfoldment of a second story. It is the tracing of the

history of the second story that allows for the individual to better understand their sense of self in relation to the roots and history of their lineage and make connections to patterns that have presented across generations (Cramer, 2019).

Levine (2010) suggests that trauma is stored in the body and thus must be spoken to in the language of the body which requires going beyond verbal language. While restorying is powerful with regard to effects of naming and reframing events when stress and trauma reside in the soma, the person who has experienced trauma focuses typically on interoceptive cues as a heralder of distress. It is suggested that interoceptive cues play a significant role in activating instincts or preconscious judgements about the environment (Payne et al., 2015).

Perhaps the findings for nervous system regulation, story reauthoring and the benefits of social engagement including rapport building, which is one of the most significant markers of effective therapy, signal the importance of the use of integrative modalities by incorporating somatic therapies to engage the parasympathetic nervous system which supports survival through the dorsal and ventral vagal complexes. By activating the ventral vagal system, one comes into social engagement (Porges, 2007) thus allowing for nervous system regulation which supports safety in the body and the potential for the integration of traumatic memories. The container of the face-to-face therapeutic context creates the opportunity for “reciprocal intersubjective communications represent[ing] an interpersonal context in which both members observed each other nonverbal cues, facial expressions, and gestures” (Schore, 2021, p.8), allowing for increased synchrony on a neural level and creating the conditions for co-regulation within therapy. This softening from survival mode allows one to look beyond the distress signals and begin to weave a story that may be layered outside of themselves.

An intergenerational narrative approach facilitates unearthing the ways externalized problems may be caused by more broadly contextualized and intergenerational histories (Cramer, 2019). Most importantly, narrative therapy is not focused on working from the past to the present. The focus of therapy begins in the here and now but often supports healing through drawing on past stories and unique outcomes.

Family Therapies

Family therapies are another approach that can be used to facilitate treatment for the transmission of IGT. Family therapy first emerged from the work of Murray Bowen who was convinced of the importance of differentiating oneself from the family of origin as a central principle to optimal development. He defined this operating principle in life as the ability to remain in emotional control while remaining within the emotional intensity of one's family (Prochasca & Norcross, 2018). Emotional intensity is modulated by the degree to which understanding, and self-control are present. Often there is a gap of knowledge in autobiographical history in the survivors of IGT and that gap widens over the span of generations. This disturbs equilibrium in sense of self and can lead to disruptions in the family unit. Studies have demonstrated that the silence noted in IGT is the clinical feature around trauma that occurs in families and presents as denial, repression, and conscious omission (Abrams, 1999).

With better understanding of their history, individuals gain a capacity for higher levels of differentiation of self and encapsulate greater abilities to modulate emotional arousal, reflect greater emotional maturity and interpersonal competence (Calatrava et al., 2022). Integration of these emotional experiences is important.

Within families Bowen referred to fusion as undifferentiated family ego mass and a sense of “stuck togetherness” on an emotional level. The higher the level of insecurity in a family the more they tend to fuse (Prochasca & Norcross, 2018). The more emotionally fused the child is with the family unit the higher the risk of this child developing symptoms of psychopathology and the smaller the chances of this child achieving differentiation because of the role assigned unconsciously to the child (Mendez, 2023). It is from this view that Bowen believed that psychopathology is rooted in a process that is multigenerational in transmission. The severity of harshness in parenting and the quality of couple relationships were cited as mechanism of transmission of trauma and linked to behavioural and emotional problems. Negative relationship quality was a significant factor linking maternal trauma to mental health problems in children (Prochaska & Norcross, 2018). These interlocking concepts are the bedrock of Bowen Family Systems therapy and mirror the impacts that IGT transmission creates across individuals and families.

When working with IGT it is important for a therapist to remain socio-culturally attuned and mindful of the value ingrained in coping mechanisms both in individuals and as part of the family emotional process (Kerr & MacKay, 2024), while remembering that barriers to differentiation can be rooted in attachment, as Bowen suggests.

From this perspective, therapy can be effective for IGT even when all the members of the family are not present. By working slowly and deliberately and drawing on strengths within a family the client can begin to situate themselves and begin the process of individuation.

Somatic Therapies

Somatic therapies are referred to as an embodied experience because they address trauma from the perspective that it is stored in the body. Trauma is stored in an individual in the aftermath of a traumatic event and affects functioning at the individual and intergenerational level. The impacts of trauma are transmitted across people through the body vis-a-vis biological and environmental impacts (Rosenthall, 2022).

Trauma informed therapies that exercise somatic modalities range from an understanding of polyvagal theory that incorporates body centered awareness to illicit stored sensations and attunement with the body as part of talking therapy and scale to full somatic interventions including but not limited to Somatic Experiencing, and Sensorimotor Psychotherapy, Hakomi, Eye Movement Desensitization and Reprocessing (EMDR). Despite the body of research on trauma much of the research connected to somatic therapies as a treatment for trauma healing remains limited and experiential. Due to the implicit nature of trauma and the transmission of IGT body-based therapies that engage the nervous system as a means to internal regulation are uniquely positioned to support clients in psychotherapy (Rosenthall, 2021).

Affect Regulation Theory employs the perspective of interpersonal neurobiology as reflected in right brain activity. The right brain is instrumental in "implicit, nonverbal, intuitive holistic processing of emotional information and social interactions [and] can elucidate the neuro-biological mechanisms that underlie the relational foundations of psychotherapy" (Schore, 2014, p.1). When trauma is recalled non-verbally the memories are encoded as bodily and emotional states. These states present as if enacted in the present moment and without awareness that the internal sensations are memories being recalled from past influence. (Fisher, 2021). It is through connection to the body that internal sensations can be accessed and integrated at a level that encourages healing through interacting with sensations while rewiring the neural pathways.

Cultural Healing Practices

Cultural healing practices are starting to emerge within western clinical practices. Stemming from the world's wisdom practices many of the healing arts are being incorporated into modern psychology. Therapists who have departed from purist modalities integrate and borrow from other cultural practices. A caveat is that this borrowing must be heedful to issues surrounding cultural appropriation and cultural humility as well as mindful of harm reductionist approaches appropriate to the needs of the client. Cultural healing practices are reflective of the cultures from which they emerge and span across cultural divides. Though many forms of cultural therapies exist this capstone will explore only self-compassion and mindfulness meditation for the purpose the purpose of somatic therapies as interventions for IGT.

Self-Compassion

Self-compassion is reported as a helpful tool used in the prevention of and as a therapeutic intervention for the negative and long-lasting effects associated with complex trauma (Zhang et al., 2023) which is often a comorbid trait present in survivors IGT. A complication of IGT is that the events associated with the trauma no matter how complex are not directly experienced, yet the constrictions of the trauma are expressed within the unlived capacity of the individual. Self-compassion has been cited as a protective factor for well-being with reduction in behaviors associated to stress responses (Zhang et al., 2023) and may support survivors of ITG when engaging with trauma informed and somatic based healing modalities.

Mindfulness Meditation

Mindfulness originates from Buddhist traditions that human suffering including the idea that effects of pain, fear and anger are rooted in craving (Penn, 2021). Buddhism also suggests

that emotional, mental and physical well-being are inseparable, and that meditation serves to clarify the mind (Penn, 2021) and bring grounding to the nervous system. Mindfulness meditation has been cited to activate pain relief in higher order regions of the brain including the orbitofrontal and cingulate cortices (Zeidan et al., 2015). These findings were compared to placebo methods that were associated with decreased pain-related activations. The comparisons suggest that unique mechanism may be responsible for pain reduction in the brain as facilitated through the mechanism of mindfulness mediation (Zeidan et al., 2015) and lend credence to the mind-body unity principle that is partial to both meditative practices and healing modalities that are somatic in nature. Mindfulness meditation was found to play a role in a sensory-cognitive sequence where "localized attention to body sensations enabled subsequent gains in emotional and cognitive regulation by enhancing sensory information processing in the brain" (Kerr et al., p. 12, 2013) which mirrors practices used to access and integrate implicit memories.

Methods employed when engaging in healing practices, particularly culturally based modalities must consider *cultural safety* a term coined to challenge views around uniformity of care practices (Tujague & Ryan, 2021) which applies heavily to the awareness and intention required to engage in trauma informed care. Somatic therapies first and foremost adhere to the principle of safety through trauma informed care by engaging with the body through *titration* a term employed by somatic experiencing as a method used give time and space to a dose so that healing can occur without destabilization (Scataloni, 2024) to not overwhelm the nervous system. Part of nervous system safety includes cultural safety and requires that the therapist be aware of their client's intersectionality which can be clouded when cultural narratives are passed through mechanisms associated with IGT.

Community Support and Social Determinants of Health

The benefits of cultural healing practices and the long-term positive impacts they can have on an individual underscores the importance of individuals being connected to the communities in which they are from and how those communities can aim to offer supports.

Trauma is never purely an individual problem. In larger scope, intergenerational trauma is not solely a family problem or connected to one's ancestral tree. The consequences of trauma, its cumulative effects of personal, familial, and historical consequences seep across communities and nations (Hübl & Avritt, 2020). The APA (retrieved August 19, 2024) notes that trauma-informed mental health care requires attention devoted to understanding cultural contexts. Culture is significant in vulnerabilities related to, experiences of and recovery from mental health afflictions. Ethically sound treatments must prioritize cultural awareness and cultural humility and maintain awareness around intersectionality (Bryant, 2019). The multiple ways in which marginalization presents in personal experience is rooted in cultural identity and the forces of oppression with which the individual has interfaced. Awareness of the realities of racism, sexism, heterosexism, classism, ableism, and their influences on trauma recovery must be maintained (Bryant, 2019). Communities thrive when the individuals that inhabit them are healthy, interconnected and functioning in ways that align with cogent mental health ideals. The reality is that the face of communities are changing, particularly in developed countries in the West that are increasingly becoming home to individuals who have been forcibly displaced at an alarming rate, and in turn the potential for the generation and transmission of IGT rears its head. The *Office of the United Nations High Commission for Refugees* reports that the number of forcibly displaced individuals worldwide has exceeded 100 million in 2022 (Migration Data Portal, 2022). This means that one in every 78 people on the planet are experiencing challenges connected to displacement. With recent world events those numbers have

increased and more than ever the tangible social determinants of health must be considered alongside and supported through community resources and public policy enactments. The World Health Organization considers social determinants of health as "conditions in which people are born, grow, live, work and age…and are shaped by the multilevel distribution of money, power and resources" (Compton & Shim, 2015, p.419). From this stance, mental health must be targeted not just from health care professionals, but also supported by the structures that support multiple generations of families in the present and future looking orientations. As displacement and forced migration continue to rise, new and surviving generations are of young people spending their formative years being impacted from these global trends. Whether exposed to traumatic events directly or not these children and youth are still at risk developmentally and psychosocially as a result of IGT transmission. Knowing that attachment is a key mechanism for transmission of IGT across families, protective factors that support positive family connections, and feelings of belonging and interconnection are as integral to healing as is any depth work or reframing therapeutically.

Summary

The chasm that spans what trauma is and how it impacts individuals across a life span, across families and across generations is as vast as the situations, individual variables and environments that laid host to the emergence of traumatized individuals and communities. The nature of IGT proves less definitive in scope despite having equally as valid and palpable long-term consequences. To learn more about the specific populations who have been impacted by IGT, the social and environmental factors that perpetuate the plight of a people over generations, as well as what resiliency and protective factors have served these populations must be

considered. Scientists and those who work with healing modalities aim to advance the sciences and healing practices to support survivors of IGT. Integrative modalities learn from empirical therapies and aim to better understand the causes of psychopathology as related to social determinants of health. Developments in neuroscience and neuroaffective based therapies have begun to support the use of somatic therapies in affect regulation as adjunct practices in integrative methodologies. Further education and empirical testing alongside promising directions in the field of epigenetics could further support the use of experiential somatic therapies in the treatment of IGT but requires more evidence-based research to emerge.

Chapter 3: Discussion and Application

In the book *Memories, Dreams, Reflections* Jung is quoted to have said "Our souls as well as our bodies are composed of individual elements which were already present in the ranks of our ancestors. The 'newness' in the individual psyche is an endlessly varied recombination of age-old components" (Jung, 1965, p. 235). Despite best efforts of diagnostic manuals to streamline definitions and treatments individual variables are the cornerstone of the subjective experience of trauma and in the case of IGT present in relation to mechanisms of transmission. The combination of interpersonal variables, coupled with epigenetics and other environmental factors animate the degree to which memories persist in relation to the time space continuum implicit in the defining parameters in the presentation of IGT.

Discussion

To support the need for empirical findings to maintain integrity in a field so implicated by individual variables, a heralded call for "a consilient field that embraces all branches of science, as it seeks the common, universal findings across independent ways of knowing in order to expand our understanding of the mind and well-being" (Siegal, 2012, p. 394) is necessary. Until sufficient research emerges, somatic therapies will remain in the realm of experiential methods.

The aim of this final chapter is to outline best practices to support trauma healing in individuals through nervous system regulation and accessing the pathways of implicit memories to support reintegration of bodily sensations and associated memories in the here and now while addressing the environmental factors. Somatic therapies will be used as the mechanism that support nervous system regulation on the principle that the organism is a whole and that there is reciprocity between the subsystems that make up the brain apparatus, the mind and the body

(Hill, 2015). Without first establishing safety in the nervous system there cannot be effective trauma healing. To negotiate and support client safety through the process of therapy the techniques and methodologies used must be trauma-informed, anti-oppressive, and sensitive to cultural adaptations.

A body-based integrative approach to support survivors of IGT must establish a relationship with the mind, the body, as well as the historical and cultural contexts in which the trauma occurred. Embodied cognition theory suggests a high degree of interrelatedness and mutual dependence exists between the mind, body, and environment (Craighero, 2022). An integrative method to somatic therapies maintains a heavy focus on body-based techniques but employs other modalities to support trauma processing from alternate angles. These alternatives include nervous system regulation as witnessed through the PVT, emotional expression through narrative, cognitive and emotion focused therapies, biology, and relational elements to individuals, communities, and cultures.

Trauma-Informed and Anti-Oppressive Practices

Trauma and IGT can create the conditions of fight/flight and dissociation. The aftermath of trauma can cause difficulty in establishing safety for an individual to build and maintain the relationship with anyone and particularly a therapist. Some cultures reject the notion of individual therapy and the western values of individual evolution. Therapists must be mindful not to assert their views of their role and assume the motivations of the client.

A trauma-informed approach in psychotherapy places safety and empathy at the forefront of the therapeutic relationship. Safety for clients incorporates the need for a deeply supportive environment. This is especially true for survivors of IGT who have suffered long-term and across

generations and potentially in cultures where the collective good is at the forefront of their values and therapy may be a foreign concept.

When working with those impacted by IGT through a trauma-informed lens the therapist must consider the pacing of the session while accessing information about family histories and ancestral traumas. The story provided by the client provides crucial information and the future direction for therapy. That telling of the story can ignite trauma-related responses that then spontaneously become the focus of the session in the present moment (Ogden et al., 2006). Talking about trauma has the capacity to reactivate implicit memories leading to dysregulated physiological and emotional arousal (Fisher, 2004). The skill of maintaining safety in the room by keeping a client in their window of tolerance is the chief responsibility of the therapist.

Cultural Humility

A posture of humility and sensitivity to the cultural background and experiences brought into the room by a client must also be held by the therapist within the therapeutic container to further maintain safety. The relational dynamic in which the client unpacks their story requires a sensitivity and responsibility on the part of the therapist to make themselves aware of conditions related to cultural oppression, migration, and colonial histories, and any cultural biases that they themselves may hold. The responsibility on the part of the therapist to educate themselves on a client's intersectionality is part of ethical care. Equally as important to the preparation on the part of the therapist is for them to remain aware that the client is the expert in their own life. Clinicians need to elicit client feedback to know what is or is not working for them. Culture, context, and intersectional identities create the meaning of trauma in each individual, many of whom are already marginalized (Brown & Courtois, 2019). Due care and diligence are required on the part of the therapist to not further marginalize already vulnerable populations.

The consideration of safety goes beyond the posture of the therapist. It requires the therapist to be acutely aware of changes in arousal levels in the client. Shore (2012) has identified that unconscious affect cues the bodily based affective material which is central to empathetically attuned communication. Placed at the core of the therapeutic work is the regulation of affect both conscious and unconscious. Any modality that is engaged could benefit from a therapist having a strong understanding of PVT. This is particularly true of somatic therapies that can deeply stir implicit memories that unleash bodily sensations.

Porges' work promulgates the visceral quest for internal safety. His theory is centered on the afferent vagus nerve which serves as a physiological thoroughfare consisting of two separate vagal pathways of the parasympathetic nervous system involved in the creation of the varying states of hyper- and hypoarousal through ventral dorsal and ventral vagal states (Porges, 2011). Dorsal vagal and ventral vagal states of arousal are linked to body sensations and memories and can elicit different levels of arousal in the face of evoked implicit and explicit memories. Tracking bodily states is a helpful measure of arousal aimed at keeping clients within their window of tolerance.

The Need for Integrative Psychotherapy

An integrative method to psychotherapy requires a therapist to recognize when somatic therapies on their own may not be sufficient. Somatic symptoms and emotional reactions can release powerful affect and are not always understood. Clients can become easily aroused and flooded by feelings or simply become overwhelmed in the process of reconnecting to felt senses and sensations. Clients may also have trouble locating sensation or applying abstract feelings and sensations to life events. When clients have trepidation or are not prepared to engage with body-based therapies a therapist must consider what other therapeutic modalities may augment

treatment to make it meaningful for a client. Even when using body-based approaches incorporating elements that support the interpersonal frame held in therapy make engaging the body a more relational process.

Treating relational trauma is often difficult especially in cases mired in IGT where the relational piece is intertwined in complex and often invisible ways. “Like the observable complex traumas, [invisible relational trauma] too leaves an indelible mark on the primary affect regulating system and on one’s sense of self, and it too is an obstacle for further development” (Hill, 2015, p.187). Integrative therapies that maintain a strong interpersonal frame engage principles of attachment theory to help clients earn secure attachment as a steppingstone towards affect regulation. Schore (2015) identifies the impact of early attachment experiences in the development of affect regulation and the necessity of secure attachment as laying the groundwork for optimal emotional development. For individuals impacted by IGT the earning of secure attachment is one of the integral components of successful therapy. Schore (2015) suggests affect regulation is the process by which emotions are experienced, expressed and regulated and are dependent on our view of self and others. A body-oriented approach provides another avenue to examine resilience and predictions for best practice across modalities to support developmental and traumatic issues (Buckley, 2018).

An integrative therapeutic approach pulls from other modalities not at random, but through a thorough assessment of client-based needs. Elements of cognitive behavioral therapy can powerfully tackle thoughts and corresponding behaviors in certain forms of distress (Brown & Courtois, 2019). This may be a necessary starting point if accessing body-based sensation creates excessive activation in a client. Cognitive frameworks may be augmented with breath to create regulation and grounding in early stages of therapy. Narrative therapies allow for the

telling of a story. The method of restorying aims to create agency for the client as the engaged protagonist in a rewritten narrative (Madigan, 2019). Family systems work, and the family constellations model work to support clients in unravelling inherited emotional and psychological patterns and traumas (Schneider, 2020). The efficacy of an integrated body-based approach lies in the merits of melding bottom-up approaches of somatic therapies with top-down cognitive approaches. Top-down approaches that use cognitive and language-based interventions are criticized because individuals who experience trauma are negatively impacted by traumatic experiences and show impairment in cognitive function with a propensity towards increased negative affect in the experience of trauma-related situations. The efficacy of cognitive-behavioral treatments may have reduced efficacy due to trauma-related distortions of cognition (Kuhfuß et al., 2021).

The Contributions of Somatic Approaches Towards Integrative Psychotherapy

SE operates on principles connected to interoception or interoceptive awareness which describes an awareness of or shifts in bodily state. In part, interoception is mediated by the insula and cingulate regions of the brain that serve as an intermediary between cortical and subcortical layers of the brain allowing for shifts in present moment awareness states. As a result of the capacity to shift awareness states rooted in physiology, interoception also has the capacity to shift autonomic states. The sympathetic branch of the ANS supports excitation and the parasympathetic branch, which is connected to the tenth cranial nerve known as the vagus, supports relaxation and inhibitory processes (Levine, 2018).

The criticisms stacked against methodologies are an integral part of the quest inherent in the scientific method to constantly disprove itself in the name of growth. The emergence of psychoanalysis was not well received and to many is still not. Cognitive behavioural therapy was

heavily criticized and thought of as replacing one symptom with a less harmful substitute (Brown & Courtois, 2019). Today cognitive behavioural therapies are amongst the most sought out empirically based treatments by clients, medical professionals, and insurers. Each orientation draws on strengths in the profession of psychotherapy, which while scientific in its approach, remains a healing art. Well thought out integrative therapies require deliberate practice. Somatic therapies require astute knowledge of the operating principles involved as much as the reasoning behind the use of top-down practices.

Application

To this point, the capstone has identified the nature of trauma individually and across generations and extrapolated those findings to gain a better understanding of the underpinnings of IGT. By blending neurobiological and social science perspectives this paper then shed light on the impacts of trauma and IGT on the social realities of Holocaust and Residential School survivors. After reflecting on the shadows that IGT has cast on two selected populations, and exploring the research on theories and practices used to engage therapeutically with these and other populations, it has become clear that the use of somatic therapies which target affect regulation have not yet emerged as a best practice when working with trauma and IGT.

Initially, SE was developed in response to ethology to support incident traumas (Levine, 2024) and is based on a biopsychological model of resilience (Levine, 1997). SE then evolved to incorporate elements of neuroscience and PVT to support a wider array of trauma healing (Levine, 2024). Best practices in somatic therapies can be woven into integrative practices with a goal for regulation and co-regulation at the helm.

There is a palpable degree of overlap amongst therapeutic approaches in talk-based therapies. Somatic therapies also share a degree of overlap. When somatically-based clinical

goals are addressed through a trauma-informed approach, the result blends into an integrative approach based on the intuition of the therapist and the visible willingness, capacity and engagement of the client as a gauge for where to begin the work and the pace to move forward.

On their own, talk therapies are not sufficient as they cannot access the imprint of trauma on the nervous system, particularly across generations. Traumatic imprints even in IGT go beyond the biological. Trauma, as described by Schore (2021), is damage to the relational life, meaning that "essential right brain functions of communication and interactive regulation thus refer to two-person neurobiological interaction, as expressed in dynamic interpersonal and intersubjective contexts" (Schore, 2021, p.1). This suggests that there is a relational piece of trauma that needs tending to in addition to the biological imprint. The efficacy of somatic therapies could be helpful for engaging preverbal or ancestral traumatic imprints that are less easily accessible. Integrative methods that include the telling and reframing of events also engage the nervous system and have a potential to empower the client. The transmission of positive adaptations are passed through the same mechanisms as per Schore's (2019) finding that secure and insecure working models engage the same apparatus. These findings are promising for the healing of relational trauma and trauma that has been passed along generations as well as integration and growth across individuals and generations.

Body-based techniques can use breath as a centering point. Breath can be used as an entry point to the body to gain center or grounding. The simple act of noticing the breath without changing it can be a less intrusive invitation into the body. Breath when used intentionally can engage with bodily functions to connect to sensations and felt senses stored within the body. Intentional breath can also allow one to navigate their attention onto subjective experiences as well as shared affective experiences (Tsaknaki et al., 2021). Resourcing or reminding the client

of their positive attributes is key to grounding in the face of activation as one moves towards discomfort. As discomfort rises a temporary diversion of awareness from current experience to one that is deemed safe or positive can allow for inner rebalancing before consciously turning attention back to internal disturbance in small doses (Payne et al., 2015). This titration is used to modulation activation through dosage of activation to assimilate experiences. Titration is modulated by an oscillation technique (pendulation) that is used throughout a session to orient between feelings of resourcefulness and pain (Leavit, 2006) intentionally and repeatedly.

SE uses neuroscience-based principles to integrate implicit memories and observable actions to contribute to affect regulation and social engagement. SE attends to neurobiological and physiological processes to process trauma and facilitate healing (Levine et al., 2018). These can be particularly helpful in releasing trapped sensations and energies and calming the nervous system. It is known that stress can impact epigenetics. Relief in stress levels held in the system can positively impact gene expression which over time may impact gene expression in future generations (Yehuda & Lehrner, 2018).

Sensorimotor psychotherapy (SP) is also a body-based therapeutic practice rooted in structural integration models (Ogden et al., 2006). While there are similarities across SE and SP, the guiding principles of SP integrate sensorimotor processes alongside cognitive and emotional processing (Ogden & Minton, 2000). SP attends to the ways in which the body is processing the traumatic imprint while also interfacing with the emotional processes and cognitively-based meaning making attributed to an event at the level of story. SP is beneficial when working with dissociated states, flat or frozen affect, and hyperarousal (Ogden & Minton, 2000). SE avoids the intensity of sitting with sensations directly or for long durations. Preferring an indirect and

gradual approach, the practitioner moves towards new corrective interoceptive experiences that physically contradict previous experiences of overwhelm (Kuhfuß et al., 2021).

An integrative approach may integrate elements of SE and SP while adding psychodynamic and cognitive approaches to explore relational and emotional patterns. The combination of cognitive schemata, psychodynamic approaches, and somatically-based interventions foster an ability to engage the frontal lobes. Such engagement allows for language to be put to felt experiences, a mindful witnessing of self, and the integration of new actions. Together these activate empowerment in the individual (Leavit, 2006). Additionally adding systemic approaches such as family systems therapy or family constellations can allow for context and greater understanding.

Mindfulness approaches are another avenue to consider incorporating into integrative work as they may be beneficial for neuroplasticity. When considering the use of mindfulness, cultural humility becomes paramount for the integrity of its use. Where appropriate, the use of effective Asian body-mind systems can be used in tandem with somatic therapies and other body-oriented psychotherapies which attest to and value body-based experiences. The therapist will need to gauge the appropriateness of traditional Asian practices rooted in body-based experiences. Qigong, yoga, Tsa-Lung practices may not be appropriate or comprehensible in Western practice (Payne et al., 2015). Where appropriate, the benefits of breath, posture, and balanced muscle tone in relation to mindfulness meditation could prove beneficial in Western practice (Payne et al., 2015). Eastern contemplative practices including mindfulness meditation give rise to challenges of an emotional and physical nature and can negatively impact mental and emotional health. Somatic therapies aim to tend to the biological completion of such interoceptive or proprioceptive experiences (Payne et al., 2015).

In addition to mindfulness approaches, rituals and ancestral healing practices can help bridge personal and collective traumas but must be culturally appropriate for both the client and the therapist if the therapist is the one suggesting its use in integrative modalities. The tie of the individual to the collective, even through a ritual such as breath work, can have affective and somatic functions that bind ties (Tsaknaki, 2021).

According to Menaken (2017), all trauma is embodied. Its life and breath are encoded in the flesh, cells and spirit of the body and transference can emerge unconsciously through housed retention of trauma within the body. Take for example a concept as seemingly innocuous as breath. It is known that breathwork can engage the body and potentially create activation which could lead to disturbance. Less thought about are the traumatic affiliations in recent years around breath. Breath is experienced as an individual function but is also a shared social construct as illustrated through the Black Lives Matter movement and Covid-19 (Tsaknaki, 2021). Therapists often remind individuals of the choice and freedom that breath begets in the body, but if breath has been associated as distressing after masking and social distancing or the chant associated with the lack of ability to breath in the devastating parting words of George Floyd, the link to breath as freeing becomes constricted as the association then links to inequity (Tsaknanki, 2021). The right to breath, which is a function of the individual body in this sentiment, becomes linked to racial disparity and socio-economic status and has the potential to create negative affect in the body. Such a seemingly benign example as accessing breath is a reminder that great care must be taken when deciding what form of culturally-informed integrative therapy takes.

Socially Responsible Clinical Care

The role of mental health practitioners is not separate from the cultural and socio-historical/political spheres. Suffering in individuals as well as across generations is

contextualized within a larger framework. While considering these questions, it is of equal importance to consider the cultural contexts that might foster resilience as well as address the psychotherapeutic needs of individuals. Diane Poole Heller is renowned in her expertise in addressing unconscious issues that clients have difficulty expressing. As a prime example of someone who uses integrative modalities in constructing her framework, Heller pulls from an approach grounded in attachment theory, SE, and integrative mind-body methods that serve to create a bond between client and therapist (PESI, 2013). Mental health professionals in any capacity must remain vigilant to the individual before them and with revered sensitivity be clinically attuned to the intersectionality of the client.

Western psychotherapy values authenticity as a central approach to living and relating. This value-based approach has a cultural context which includes the privacy around suffering and healing, the construct of personal boundaries, the notion of vulnerability and heavy emphasis on language which creates a bias towards more articulate middle-class populations (Mustokova et al., 2014).

A profession whose pedagogy was rooted in colonial European praxis must in today's global climate begin to examine the relationship between current clinical practice and socio-cultural contexts to support individual suffering. Maladjustment in some cultures is addressed at the level of the individual and treated as such. In other cultures, maladjustment would be considered a disconnect from spiritual and social ties, and support may be augmented by the community for the individual or the family (Mustakova et al., 2014). Cultural context becomes further complicated the more removed one is from the culture and moment in time as is present in IGT. This distance also convolutes treatment and best practices for IGT.

In their work, Mustakova et al. (2014) reflect on general orientations towards clinical practice and reflect on the spectrum which spans traditional clinical approaches whose aims are to foster the self determination of individuals, humanistic approaches which tend to promote human diversity in addition to self-determination, and feminist approaches that promote the self determination of both the individual and marginalized groups. Even from a constructivist lens in which this capstone is rooted it is important to consider that the focus remains on the pursuit and development of identity. Where the work of Mustakova et al. (2014) mirrors the aims of this capstone is to recognize the interconnectedness of the individual, social relationships and communal life while exploring best practices for individual treatment. Though this capstone is exploring specifically treatment for IGT, the argument put forth by Mustakova et al. (2014) is that the world needs to move towards globally aware psychotherapy and to reflect on the degree to which the individual is centered by differing orientations. The gaps in the research explored in this capstone also concerns the question of how to centre the individual in psychotherapy when the conditions that contributed to their symptoms were not directly experienced by the individual.

Regardless of orientation and the placement of the individual in relation to ailment or treatment, (Siegel 2010, p.80), defines the mind as “the embodied and interpersonal process of regulating the flow of energy and information”, offering a paradigm shift to orientations that operate to optimize individual values and gains. Embodied therapies that include mindfulness and somatic therapies are heavily centered on individual values. That individualistic nature moves the individual into a re-ordering of the mind and gives rise to higher order functioning in the individual in relation to their environment but reinforces systemic binds related to distributive justice (Mustakova et al., 2014).

Constructive Resilience

IGT is a multifaceted construct with roots deeply entangled in systemic and interpersonal oppression. To this point this capstone has explored the biological, social, and metaphysical contributions to the phenomenon. From a strength-based and holistic approach to building resilience it would be remiss not to include this concept of constructive resilience. Rooted in Critical Discourse Analysis, it is a response to oppression that removes itself from strategies framed by resistance or liberation.

Resilience itself has garnered a divisive rap as the argument bridges both sides of support for individual agency. Resilience has the potential to challenge the implicit harms of systemic structures and support the building of healthy communities in the face of IGT. The question, however, emerges in the context of the offerings of support to garner resiliency vs. the inherent resilience held within a group of people as a resource. A long-contended concept in the literature, resilience from a physics definition referred to the capacity of an object to absorb and release energy based on elasticity. Today, resiliency is used in relation to the overcoming of adversity. The measures and end point are points of contention in relation to constructs of agency and social change in the face of oppression (Swanepoel, 2023).

Constructive resilience dares to approach social transformation from a lens that is developmental and integrative. It aims to place cohesion rooted in the internal strengths of a grouping in the face of what oppression has robbed from them (Tavernaro-Haidarian, 2024). A similar approach coined collective resilience is strength-based aggrandizing assets and tenacity in populations. In reflecting on the strengths inherent in collective resilience, Swanepoel (2023) cited similarities between the principles of collective resilience and the work of Porges and Dana that found a similar thread in the PVT, which holds what humans carry from evolutionary history

and includes the resources they brought into the world with their arrival. The common thread in constructive resilience, collective resilience, and polyvagal theory is that they all approach reparation by focusing on what has been upset and use strength-based non-adversarial methods which are already inherent in the subject(s) as a means for resilience and healing.

Conclusions

At the core of every therapeutic alliance is connection. One iconic marker of trauma is the scenario in which what should have been available relationally was not. Skillful therapeutic modalities vary in scope and practice but the pivotal tenant amongst them is indisputably the therapeutic relationship.

The relationship is the container that holds the room as facilitated by the therapist regardless of modality. Van Loben Sels (2005) refers to the importance of beholding a client. “Beholding gives priority to the tactile, kinesthetic, rhythmic, and musical dimensions of personal interaction rather than to verbal and visual stimuli, as is the case in Western culture in general, and even in some psychotherapeutic practice” (Van Loben Sels, 2005, p. 221). This act of beholding is perhaps the simplest yet significantly profound paradigm shift that has the capacity to allow for a client to be seen in the crevices where trauma lingers and has been stored. Beholding through this language holds the client’s nervous system in relational safety. It lays the groundwork for which the proclivities of somatic therapies can be used to facilitate affect regulation and engage with the client in the process of healing using the body as the point of entry.

The pinnacle of any therapeutic process is the necessity to respect the need to feel safe as it is unequivocally linked to survival. It is imperative, according to Porges (2020), to maintain

respect for our phylogenetic heritage and move towards social engagement as a neuromodulator or function of resilience. Such an imperative provides scientific validation for a societal focus towards experiences of safety and co-regulation. Here Porges outlines the operating principle that tackles the essence of the intersubjective experiences of traumatization stored within the body and can be applied to the symptoms that are evoked through direct affliction or transmission as is the case in individuals affected by IGT. Regardless of the mechanisms behind the transmission of IGT, it cannot be negated that there is created an interruption in affect regulation and in turn interpersonal relationships. As humans, “affect is at the core of our being, a measure of our heart. It excites and deflates us, connects, and distances our relations with others. It organizes and undoes us” (Hill, 2015, p. 1). Somatic therapies aim to address the very structures and functions through an internal reorganizing that brings us back to our inherent ways of knowing and being and that is not contingent on the degrees of separation as seen across generations between the precipitating event and the struggle present in individuals.

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