Neuroticism: Development, Impact and Treatment. A Biopsychosocial Study of Problematic Early Attachment

by

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Abstract

This capstone project critically examines the impact of neuroticism and how early childhood experiences influence this personality trait into adulthood. Neuroticism has become a public health issue and although we may touch on it in the mental health field, literature has demonstrated its magnitude growing in the medical field as well. A biopsychosocial perspective allows us to recognize the layers that encompass this issue and view treatment and healing through a multifaceted approach. Recommendations for counselling include ACT and CBT while approaching client conceptualization from an attachment-based framework.

Keywords: neuroticism, adverse childhood experiences, anxiety, attachment trauma, biopsychosocial lens

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Chapter 1: Introduction

How do practitioners facilitate and teach restoring connection with others for those that have experienced maltreatment in their early years. Experiencing chronic and or pervasive trauma whether that be through physical abuse, sexual abuse or significant amounts of neglect, the interpersonal connections one makes in their adulthood are sometimes hindered by these experiences. The ways in which we attach to caregivers as infants oftentimes influence our future relationships. It is within these developmental years where one learns about safety, reassurance, love, care and consistency. Correcting these experiences with practitioners that have created a safe space for clients are incredibly beneficial for one's well-being.

Neuroticism has been viewed as a public health crisis as it brings a complexity that often shows up within both the medical system and mental health practitioners. It has become problematic within many adults as highly neurotic behaviour has become a coping strategy for those that have been unsuccessful in dealing with emotions, therefore, repressing traumatic experiences from one's past.

Overview

This capstone will attempt to theorize the impact of early caregiving and attachment experiences on neuroticism as it shows up in early adulthood. It is with hopes it will reveal the behavioural and social responses that individuals demonstrate in relation to childhood experiences of neglect, abuse, abandonment, and inconsistent caregiving practices. Research has shown a strong correlation with the polymorphisms of genes and neuroticism being substantially heritable (Lahey, 2009). However, the nurture component demonstrates being more influential as far as socio-emotional development. This paper will outline and analyze academic literature of attachment theory, the ACE’s (adverse childhood experiences) and its correlation with neuroticism, the psychological effects and relational impact and lastly, support for mental health practitioners in finding ways to facilitate learning and healing and practitioner self-care. This paper will propose multiple approaches for responding to those that have

experienced a lack of safe early caregiving experiences where individuals can foster human agency, navigate interpersonal challenges, and establish healthy relationships. The proposed resource intends to delineate and recommend how clinicians could approach working with young adults struggling with mental health issues, internalizing disorders, negative self-concept, inability to trust others, emotional regulation struggles and promote a sense of confidence.

What is Neuroticism?

Many psychologists have developed the theory that there are five basic dimensions of personality traits. These include agreeableness, extraversion, openness, conscientiousness, and neuroticism (Holman & Hughes, 2021). One trait that we will be focusing on in this capstone is neuroticism to which it is characterized as a person's response of negative emotions to threat, frustration, or loss, often ranging from frequent and intense emotional reactions to minor challenges (Lahey, 2009). How does neuroticism impact our lives? At the core of neuroticism, it seems to be a high presence of anxiety. As many mental health practitioners are aware, anxiety presents as something stressful and debilitating for some people, however, at its core function, it serves the purpose of our nervous system simply sending messages to scan for safety. In simple terms, anxiety can be a positive thing in that it keeps us aware of our environment, helps us adapt and or be mindful of danger or unfamiliar situations. With the nervous system unable to regulate itself back to baseline and getting stuck in a fear-instilled state, this is where anxiety perpetuates into an overload of nerves which may then evolve into internalizing disorders and overwhelming thought cycles of worst-case scenarios.

What also has an impact on neuroticism? Trauma or adverse early childhood experiences also known as the "ACE's," can be described as highly stressful events that can be relational, environmental, or economical. With trauma being widely researched, evidence has proven that these significant adverse experiences impact individuals in a variety of ways. Particularly, how has early attachment experiences shaped someone's level of neuroticism and how that shows up in their early adulthood? How do we as practitioners facilitate and teach

restoring connection with others for those that have experienced maltreatment in their early years. Experiencing chronic and or pervasive trauma whether that be through physical abuse, sexual abuse or significant amounts of neglect, the interpersonal connections one makes in their adulthood are sometimes hindered by these experiences.

From my experience thus far, it seems communities are seeing more of a correlation between physical illnesses and the prevalence of mental health. It is imperative that practitioners are considering the context of individuals and that there are multiple areas that male up a person.

Personal Statement

Neuroticism has shown up in a variety of places throughout my work experience with young adults. Working across the lifespan with children as early as three years old all the way to adults in their fifties, has given me perspective on how external environmental situations can impact someone's ability to emotionally regulate in the face of frustration. These uncomfortable feelings of anxiety, irritability, self-doubt, chronic worrying among many other characteristics have both impacted people's psychological functioning along with their physical health. Throughout my work with children and youth, noticing how neglect has created insecurity and worry within kids has consequently resulted in maladaptive ways of thinking and responding to situations in order to meet their needs. In regards to my work with adults, not reassuring or attending to these parts or feelings of themselves have emerged into internalized feelings, thus creating an intense sense of anxiety leading into elevated levels of neuroticism. I am saddened to see individuals suffer as a result of a single thought amplifying into a flood of worries and irrational concerns.

I have noticed this trait has been exhibited predominantly in young adolescent to early adult females in which I have always wondered how these individuals have come to a level of chronic worrying. I later will explore the gender differences and why it is more prevalent in females, however, as a young female therapist who has worked with many female clients, I

recognize a stigma towards women being looked at negatively and being dismissed due to the idea of females over exaggeratedly worrying, sometimes being called “crazy.” Although neuroticism can develop as a result of many factors, the aspects I would like to dive into include its impact on physical health, psychological health and the relational impact.

It is with hopes this capstone will aim to accomplish helping practitioners use cognitive-behavioural and acceptance and commitment therapy approaches to ease the anxieties of those with high neuroticism. The questions that will guide this literature review include how does neuroticism impact a person’s physiological health? How does this aspect of mental health integrate with medical illnesses? What are the risks that come with this level of anxiety, stress, overthinking and emotional instability? What are the psychological repercussions of having high neuroticism and how does it develop? What is its etiology and what can it develop into? How does high neuroticism burden relationships? How can those with high neuroticism feel safe in their platonic and romantic relationships? Between heritable traits and environmental experiences, how can we as mental health professionals approach clients with this severity of distress?

Contribution to the Field

Research has presented significant information on how stress, anxiety, and depression in general, impacts cognitive functioning, decision making and overall mental health. However, there is little research on how neurotic behaviour impacts individuals on a deeper biopsychosocial level. Although many clinicians possess an understanding on how theories of attachment impacts individuals, I strongly believe many are unaware of the unique challenges and needs one might have in accessing multi-faceted or multidisciplinary resources. The value in this research desires to take a holistic approach to treatment and understand the complexities and layers of this issue. While neuroticism has elements of hereditary etiology, this capstone will focus on the relational impact and psychological effects of neuroticism developing throughout a person’s life. It is with hopes that this paper will help practitioners consider individuals with high

levels of neuroticism through a multifaceted lens and perform treatment accordingly as well.

Reflectivity and Positionality Statement

My personal position on this topic has pulled from experiences with peers and clients experiencing a significant amount of emotional dysregulation, catastrophic thinking, self-consciousness and irritability when faced with conflict. As I personally view myself as a person that has a notable amount of distress tolerance, I have always been curious as to what drives people to reach such a place of anxiety. Some questions that have crossed my mind in regards to this topic include why does this occur more often in women than men? Does this personality trait differ across peoples social locations? What messages have been sent and what core beliefs have been internalized for those with a higher level of neuroticism? Given the negative stigma that comes with personality disorders such as borderline personality disorder, which contains a high level of neuroticism as a core trait, I am curious to explore how often this is diagnosed as personality disorders are often looked at as untreatable. I have been actively trying to change my perspective in my work as many are quick to pathologize individuals based on a few presenting behaviours. Despite these diagnostic criteria giving clinicians a basis on how to support clients, my places of work have often noticed an exaggeration on referral packages in hopes to receive treatment. Other issues that have made those feel out of control are the systemic factors in place that have contributed to those suffering to feel helpless as a result of a lack of resources.

Definition of Terms

Adulthood

Legally being 18 years old and up; however, may vary developmentally and cognitively among individuals (Soubelet & Salthouse, 2011).

Adverse childhood experiences (ACE's)

Potentially traumatic events that occur from 0-17. Examples include but are not limited to child maltreatment containing physical, sexual, emotional abuse, neglect, witnessing violence or having someone close attempt or die by suicide (CDC, 2022).

Anxiety

Excessive worry or concern, often future-oriented; may encompass somatic symptoms such as sweating, trembling, a rapid heartbeat. Often used interchangeably with fear, however, anxiety is more future-oriented, long-acting response broadly focused on a diffuse threat (APA, 2023).

Attachment Trauma

Stressful and traumatic events that occur during development repeatedly and cumulatively within specific relationships over a period of time (Farina et al., 2019).

Biopsychosocial Model

Systematically considers biological, psychological, and social factors and their complex interactions in understanding health, illness, and health care delivery (Borrell-Carrio, Suchman & Epstein, 2004)

Cognitive-Behavioural Therapy

Psychosocial intervention that supports in reducing symptoms of various mental health conditions, most often depression and anxiety disorders (APA, 2017)

Depression

Significant mood disorder that involves persistent feelings of sadness, hopelessness and a loss of interest in activities (APA, 2020).

Emotional Regulation

Ability to effectively manage and respond to emotional experiences

Neuroticism

Tendencies to respond with negative emotions to threat, frustration, or loss; frequent and intense emotional reactions to minor challenges to little emotional reaction even in the face of significant difficulties (Lahey, 2009)

Schema Therapy

An integrative approach compiling together elements from cognitive behavioral therapy, attachment and object relations theories, and Gestalt and experiential therapies (Jacob & Arntz, 2013).

Adverse Childhood Experiences (ACE's)

It is almost inevitable that poor outcomes later in life stem from early childhood adversity. Adverse childhood experiences, also known as the ACE's, can encompass a variety of events. Some include relational, natural disasters, financial burdens, food insecurity, car accidents and more. From a relational perspective, physical, mental, emotional, sexual abuse, or neglect, these often create an environment of significant dysfunction. Although there are many individuals that live happy lives coming from dysfunctional homes, many still suffer psychological consequences. The excessive activation of stress, conscious and unconscious, can lead to long term negative effects. (Hughes et al., 2017, as cited in Mosley-Johnson et al., 2019) have found that the prevalence of child adversity is present in over 50% of the United States population with each person reporting at least one ACE. Those in minority groups such as BIPOC, immigrants, low-income families and more, the prevalence is much higher. Many studies have concluded correlations of severe childhood stress and trauma with morbidity and mortality in early adulthood from diseases of aging, heart disease, cancer and more (Miller et al., 2011, as cited in Mosley-Johnson et al., 2019).

As I will discuss later in this capstone, there are many protective factors to consider, however, being mindful of the population that the ACE's affect, is important in noticing areas individuals may struggle in for early intervention. It is highly emphasized for educators, health care professionals and even parents to be mindful and proactive about children's welfare in order to minimize maladaptive behaviours or outcomes. Some of these may include emotional dysregulation, socio-emotional development, quality of care and physical development. Authors of Queens University published an article about the ACE's and mentioned that the CDC (1998) concluded 61% of adults had at least one ACE while 16% had four or more types of ACEs. Given that it is over 20 years later and all forms of discrimination, domestic violence and child protection concerns in Canada are more prevalent than ever, I would assume that this number has significantly increased. This equaled to one in six adults experiencing at least 4 ACE's.

Statistics Canada released a report in 2016 stating that just over a third of the population had experienced maltreatment throughout childhood, whether it was physical, sexual, or emotional.

Mosley-Johnson et al. (2019) conducted a longitudinal study from 1994 to 2014 in three segments. The same psychological measures were used repeatedly to test the correlation between ACEs and all three psychosocial scales. Life satisfaction was measured through five items from the self-administered questionnaire. Participants rated their life overall, work satisfaction, health, quality of relationship with their partner and relationship with their children. It was concluded that in this sample of adults, ACEs were significantly associated with lower life satisfaction, lower psychological well-being, and lower social well-being, especially for those who report abuse and household dysfunction during childhood. From a relational perspective, having unsafe and unstable caregiver relationships lacks the opportunity to develop boundaries. This can cause stress, rumination, uncertainty in self and others and in chronic and pervasive environments, may eventually lead to having the trait disposition for negative affect.

Although the ACE's are not always preventable, they are good indications of risk factors that are prevalent among the majority of the population. Literature has demonstrated strong evidence that from birth to age 7 is a crucial time for development and one may argue that core beliefs are already established at this age. Although the ACE's are impactful towards development, it is not completely detrimental. The nature versus nurture debate may also argue that the nurture aspect is helpful in mitigating any predisposing concerns (Torgersen, 2009).

A new model of the ACE's has recently been released in which it brings a broader scope to the concept. Despite the field's conceptualization, this model demonstrates 4 layers to the multi layered experience. At the root, presents 'Atrocious Cultural Experiences,' these things may include colonization, slavery, genocide, segregation, separation, and more. These things are pervasive events that continued to happen for thousands of years and from a trauma informed approach, neurologically, these events impact individuals on a molecular level that translates into intergenerational trauma. Developing from these cultural experiences are the

‘Adverse Community Experiences.’ One may face discrimination, lack of opportunity or economical mobility, poverty, violence and much more. Many of these encompass external factors that create barriers for families to create any social capital due to the lack of quality resources. These community experiences also perpetuate these challenges as they are often out of peoples control and may leave those feeling helpless.

Stemming from these community experiences are Adverse Childhood Experiences, as the field is aware of, can consist of domestic violence, mental illness, emotional and sexual abuse, neglect, substance abuse, homelessness and more. These may highlight the direct trauma someone has experienced on an individual level. There is an abundance of literature on the emotional, psychological and intellectual effects that influence development as a result of these ACE’s. On a macro level, ‘Adverse Climate Experiences’ include natural disasters in which these may comprise of floods, pandemics, pollution, wildfires, draughts, hurricanes and climate change. Considering Maslow’s hierarchy of needs, these tragic events impact living situations, resources and essentially the sustainability of basic needs, on top of the psychological repercussions.

Attachment Theory

Exploring attachment theory and the significance of early attachment experiences, this capstone will dive into examining the correlation between insecure attachment and how that impacts neuroticism into adulthood. Attachment theory, developed by John Bowlby, was cultivated to help understand how emotional distress and personality disturbance arises from an early evolutionary process with caregivers. Attachment styles have been divided into four different categories: secure, anxious, avoidant, and disorganized. Of course, this theory is not finite and there may be more development beyond these attachment styles, however, as of right now, Bowlby and Ainsworth have laid the foundation of these working models. “Insufficient caregiving, maltreatment, abuse, and neglect in childhood are risk factors for the development of attachment insecurity” (Schröder, Lüdtke, Fux et al., 2019). As a result of infants and children

not having the opportunity to form safe and caring relationships, the behaviours, motivations, and cognitive processing alter as it is likely these brains have lived more in a state of survival than safety. Caregivers that demonstrate love, affection, safety, predictability and more are more likely to have children that grow up believing they are worthy of love, capable of problem solving knowing mistakes are acceptable, and often have a stronger self concept (Boldt et al., 2017).

Close, meaningful and safe relationships, also known as secure attachments, are one of the biggest protective factors one can have. Despite all the adverse childhood experiences one may go through, for a child to know they have a safe, trusting adult that cares about them, ultimately provides a sense of safety that allows children to be empowered to explore themselves and their surroundings. The ways in which someone perceives and interprets information demonstrated by another are generally correlated to mental internalizations of prior experiences in close relationships. This is also known as the social information processing theory.

What does attachment theory say on the impact of early adulthood?

As previously discussed, literature has demonstrated a strong presence of the attachment theory when it comes to the development of mental health. As many issues that present today are relational whether that be with others or oneself, the world is incredibly skewed by the experience that our early caregivers provide. While some caregivers are intentional about how they support a child, some situations deem families to simply survive with the resources and support they have access to. While Bowlby's theory uses the classic Western middle-class family as the standard, there are many variations to consider as far as culture, location, socioeconomic status, access to resources and support. Emotion regulation, neurobiology, stability and change across age, disorganized attachment and relevance to risk and developmental psychopathology are some of the few topics discussed in *Patterns of Attachment* (1978–2013).

Looking into the beginning of the development of attachment theory and infancy, Ainsworth et al. (2015) explains that most mammals often seek proximity and contact. A commonly known experiment known as the Strange Situation experiment was a study conducted in hopes to observe a child's willingness to explore, separation anxiety, stranger anxiety, and reunion behavior. The experiment observed the infant's behavior throughout a set of eight pre-determined episodes or situations and as a result, this demonstrated a significant curiosity in their environments. Some of these episodes included a number of scenarios where there was alone time of the child and mother, having a stranger join, having the mother leave, having both adults in the room or none at all and more. Using both proximity-seeking and exploratory locomotion supports information gathering to familiarize with surroundings and a sense of protection knowing a caregiver is there to return to or reference responses when exploring their environment. "Rather than thinking of such behaviors as more (or less) attachment--related, it is useful to think of attachment as a system which, for extended intervals, takes control of proximity and exploratory systems and coordinates them in ways that promote both safety and the experience necessary to build a human nervous system" (Waters, 2008) as cited Ainsworth et al., (2015). Having caregivers support with solutions and problem-solving skills are far more helpful as opposed to an infant having to navigate this cognitive and emotional skill on their own. To summarize, this foundational concept of attachment theory allows individuals to understand that this early childhood experience is crucial in the development of learning about safety and exploration, trusting oneself and having the opportunity to exert autonomy knowing there is guidance.

These mental processes progress throughout life and appear to show up in relationships into early adulthood. As infancy is a time of nervous system development, patterns of attachment insecurity, a lack of a safe caregiver or unpredictability in proximity and contact, fuel nervous system responses into these mental processes of how one may safely view their extended world. Although individuals have autonomy in developing their cognitive processes

and may have repairs in any attachment insecurity they may experience, nervous system responses appear to show a high correlation of how attachment theory impacts early adulthood.

What is the Influence of Neuroticism through an Attachment Theory Perspective?

Bowlby had outlined that the attachment between an infant and primary caregiver is not dependent on the quality of the relationship. This means that an infant will form an attachment with their primary caregiver regardless of whether that caregiver meets the infant's emotional and physical needs (Harris & Winokeur, 2015). Neuroticism, as we know, was considered among the big five personality traits. Anglin et al. (2020) discusses how research has demonstrated how personality traits have played an integral role in how we experience, approach, and evaluate our lives. Through an attachment lens, it appears that humans exhibit their thoughts, feelings, behaviors, and interpersonal exchanges they have learned either to minimize and avoid or to overemphasize as a result of early attachment experiences.

Freud's research at Priory Gate School, an institution for "difficult children," gathered that the psychological problems children were experiencing were attributed to adverse emotional experiences as a result of parental inadequacy (van Rosmalen et al., 2016). Bowlby had then summarized an explanatory model for the maladaptive behaviour as the deprivation of love throughout childhood (van Rosmalen et al., 2016). As previously mentioned with the presence of the ACE's and analyzing through an attachment perspective, the theme of emotional dysregulation, self-consciousness, depression, and anger are often present.

Literature has shown neuroticism has become a public health issue as it impacts a person psychologically, physically, emotionally and encompasses the interconnection through a biopsychosocial model. Griffith et al. (2010) have found that neuroticism has been a common factor within all of the internalizing disorders in the *Diagnostic and Statistical Manual*, notably with anxiety and depression. Areas I'd like to explore are the stress response that comes with these ruminating thoughts and feelings and how this can lead to physical illnesses, psychological functioning and increased maladaptive behaviours. Also, taking a look at the

relational aspect and how this impacts adults with friends, romantic partners, family members and more. Widiger and Oltmanns (2017) have discussed from their study that the relationship of neuroticism and physical problems is both direct and indirect, in that neuroticism creates a vulnerability for the development of these conditions, as well as being in a position to exaggerate the importance of symptoms but also failing to navigate effective treatment.

Chapter 2: Literature Review

Attachment theory has been based on the assumption that an infant's early caregiving experiences establish the foundation for their cognitive representations of themselves and others. The way these individuals give and receive love, the way they connect with others and feel a sense of belonging, are all basic human needs and behaviours that encompass building attachment. These internal models pave a child's interpersonal relationships and exhibit a reflection of their security to others (Bowlby, 1979). On the contrary, the social-cognitive perspective through Bandura's (1977) learning theory states that adolescents' relationship history with parents during childhood forms their future personal relationships as a result of modeling and imitation. Both perspectives hence propose continuity of parent-adolescent relationships with later interpersonal relationships (Hadiwijaya et al., 2020). One learns as infants about how someone attends to one's emotional and physical needs in which these are significant to adulthood relationships. In the absence of healthy attachments, individuals are likely to develop a negative sense of self and potentially have feelings of being unlovable, unworthy, and view others as unavailable or untrustworthy (Langinrichsen-Rohling, Thompson, Selwyn et al., 2017).

Historically, when Bowlby formulated this theory, cultural factors were something that was not included in the literature. As many cultures practice norms and traditions that the Western world may not see as typical, perhaps this is something to ponder as far as seeing if neuroticism is more prevalent in certain cultures. In regards to attachment theory, this may impact the ways in which Bowlby sees as secure or insecure attachment as there will be variabilities in parenting strategies and expectations for child development.

Keller (2018) discusses how Bowlby's framework defines the qualities, development, and outcomes of attachment are considered universal. Universality claims that attachment theory has the presence of normativity, sensitivity, and competence (Keller, 2018). Normativity is viewed as what is universally typical as per the "standard distribution in the Baltimore study of

Ainsworth et al., (1978): 66% secure, 22% insecure avoidant, and 12% ambivalent attachment" (Keller, 2018). The conclusion of this study implies that secure attachment is found to have been the most common attachment style, therefore, being the most common outcome as a result of evolution. While it is challenging to claim this as universal, given that these tenets have not changed since the 1960's and with cultural variability in consideration; secure, insecure avoidant, and insecure ambivalent attachment styles remain the standard. Exploratory behaviours, crying, seeking proximity and contact, distance interaction, vocalizing, resistant and avoidant behaviour are all just a few examples of what was analyzed as far as normative behaviour. The *Strange Situation* is a highly well known experiment curated by Mary Ainsworth in the 1970's to observe attachment security within caregiver relationships. Again, cultural variability may all differentiate what is normative and vary. In regards to how this relates to neuroticism, these foundational behaviours are paramount to feelings of safety, security and reassurance as an infant as they are our first experiences of how we perceive the world.

Sensitivity has been defined as the responsivity of the child to which they are universally, in the most optimal condition for development and pioneering a secure attachment relationship. For example, this may look like a child having a stronger sense of their self-concept and cognitive representations. Also, caregivers being able to notice infant signals, interpreting them correctly and responding to them appropriately and promptly (Keller, 2018). A child that may show a more anxious or ambivalent insecure attachment style, can present more hypersensitive responses to caregivers. The lack of reassurance in these early years evolves into the distress adults experience as a result of this insecure attachment development. These reactions or perceptions of the world being unsafe present a greater correlation of individuals growing up to display higher levels of neuroticism. This study has also added that the assumption of competence is defined by the child's development in "diverse developmental domains as contingent on the development of attachment security." Colleagues of Keller (2018) had already argued in 1984 that psychological well-being or happiness associated with secure attachment is

not compatible with the biological concept of adaptation, therefore demonstrating a weak argument.

Physical Health and Medical Considerations

In the 2017 Global Burden of Diseases study, headache disorders were one the main causes of years lived with disability (Meng et al., 2017). Increasing the understanding of genetic contributions to pain, may support those in etiology and prevention. Considering holistic approaches to treatment, literature has demonstrated strong evidence of the mind and body connection and how stress, disease and mental health have a high correlation. Depression was classified as the third most serious cause of disability internationally along with neuroticism demonstrating significant global health impacts in the 2017 Global Burden of Diseases study (Meng et al., 2017). As depression and pain often present themselves in neuroticism, it is important to understand the physical impacts and correlations of neuroticism and medical illnesses. Stress has shown up in numerous internalizing disorders and has become a complex symptom to understand over the years. The cycle of having triggering exposures, feeling symptoms of anxiety, sadness and emotional dysregulation appear to reciprocally prompt each other. Although these things may show up differently in every individual, essentially, the stress response presents itself being constantly activated, which creates a higher baseline that impacts a person's parasympathetic nervous system. It is no surprise that mental health has been starting to coexist with many medical ailments and the demand for multidisciplinary services are on the rise. Whether folks wish to approach their health through pharmaceuticals, using natural alternatives or a combination of both, it is evident that communities are facing more challenges with life, the economy and other external circumstances showing up in a variety of ways.

Widiger and Oltmann (2017) have discussed how neuroticism is comparably associated with a wide array of physical illnesses, such as cardiac problems, disrupted immune functioning, asthma, atopic eczema, irritable bowel syndrome, and even an increased risk for mortality.

Looking at neuroticism through a biopsychosocial lens, the amount of stress that impacts our genes and our bodies at a molecular level, creates significant amounts of cortisol spreading throughout the body. In some ways, individuals look at mental health disorders involving stress as an invisible disease because it does not always necessarily look like a physical condition, such as a broken leg, cancer, cerebral palsy and so on and so forth. It is unfortunate for those that seek help as they are often turned away because it does not appear that they are sick. Although it does not appear to be on the exterior, these invisible impairments affect how a person interacts, hears, or speaks with others. This may be demonstrated in the form of anxiety, depression, being obsessively compulsive, having attention deficits, hyperactivity, feeling burnt out and more. Those with high levels of neuroticism often have these invisible hindrances. What makes people feel less than is that the difference is people see a debilitation that hinders the way they interact with others, however, often do not receive the same amount of empathy.

I am curious on how stress, rumination and overthinking play a role with neuroticism and its impact on a person's physiological health. Nolen-Hoeksema et al. (2008, as cited in Do Bú et al., 2022) overviewed studies that found rumination was highly associated with several psychiatric disorders that include depression, anxiety, and self-harmful behavior. As rumination is predicted by the personality trait neuroticism, it appears to be appropriate that the strong focus and maintenance of attention on one's feelings, self-image, and criticism generally lead to these psychiatric disorders. Increased cortisol levels are a significant factor in the etiology of mental illness and has been proven to impact the autonomic nervous system (Corr et al., 2021). Nearly a third of adolescents have developed an anxiety disorder, and the percentage that these adolescents are likely to present psychiatric conditions later in life are much more substantial (Doering et al., 2019, as cited in Corr et al., 2021). With the economy evolving and mental health being more prominent than ever, the percentage of adolescents experiencing mental health issues is continuing to increase.

Torgersen et al. (2021) completed a genome-wide association study to review the shared genetic architecture between neuroticism, coronary artery disease and cardiovascular risk factors. 432 109 participants were gathered from the UK Biobank and 59,206 participants from 23andMe. 502,655 people aged between 37 and 73 years living in the United Kingdom were recruited and consented for their information to be used in research. All underwent cognitive, physical, mood and personality assessments while also providing saliva, blood, and urine samples for future and further analysis. The results demonstrated extensive overlapping in polygenic architecture between neuroticism, cardiovascular risk factors and coronary artery disease beyond genetic correlation. This study had also discovered that there were underlying metabolic mechanisms for both neuroticism and cardiovascular disease development. The strengths of this study include its large sample size, however, strictly taking place in Europe where there was a majority of European ancestry, limits the cultural diversity in this study. This research has shown powerful evidence on the mind and body connection. It is with hopes that those in the healthcare field take into consideration this information as it brings forth the need for having better systems of multi-disciplinary care given the complexities. The cycle of deteriorating organs combined with poor mental stability appears to be a recipe for perpetuating illness.

Neuroticism has been independently linked with greater pain. Meng et al. (2020) found genetic correlation results were consistent with findings from epidemiological studies of head-to-toe body pain. This study identified strong and conclusive genetic correlations between several pain phenotypes and depression and neuroticism, suggesting that the recognized associations between these traits are a result of shared genetic architecture (Meng et al., 2020). As a result, several studies have shown genetic correlation with neuroticism and the prevalence of symptoms of depression and anxiety that often show up in medical illnesses. Neuroticism aside, there has been more evidence, whether that comes from scientific studies or from natural

practitioners acknowledging that pervasive and chronic stress is detrimental to our health, overall wellbeing, and life satisfaction.

It is evident that the physical and medical impact is prevalent with those that struggle with high amounts of neuroticism, constantly worrying, being in distress and having persistent emotional irritability. Research has demonstrated evidence of the biological effects on how genetic architecture can influence pain, provoke cardiac issues and immune functioning, however, this often showing up as an invisible illness. Spreading awareness that this can flourish at a biological level may allow for practitioners to practice more compassion knowing there are biological considerations.

Risk Factors

In epidemiology, a risk factor is known to be a variable corresponding with an increased risk of disease. For example, eating high amounts of fatty foods leading to cholesterol problems, smoking and cancer, childhood trauma with addiction and so on. Risk factors are great indications of potential issues later in life, therefore, considering more than just how a client or patient may show up. Generally, there are five areas of risk factors, this includes behavioural, physiological, demographic, environmental, and genetic (Eupati, 2022).

The behavioural aspect of neuroticism includes constant worrying and irritability. Individuals may demonstrate actions or noticeable habits that repeatedly intervene with their daily functioning. Some argue that this is one of the most frustrating things about those with high levels of neuroticism as it can come off as significantly reactive and show up in ways of uncalled for aggression. Although irritability is common and a normal response to many things, those with high levels of neuroticism demonstrate this behavioural aspect to an extreme. The lack of ability to regulate one's emotions can very well be a precursor to a strong sense of irritability. Environmental risk factors of neuroticism include stressful life events, prolonged pervasive trauma, or exposure to traumatic events. As a clinician, this knowledge is important for case conceptualization as it provides notable information about the nurture aspect of an individual’s

life. Current literature has shown copious amounts of evidence about how upbringing and the lack of stability, safety and control can contribute to poor mental health into adulthood. This may also include pieces of attachment in that neglectful or abusive early caregivers also play a factor into how infants and children suffer attachment trauma as a result of an unsafe childhood (Walsh et al., 2019). Generally these are external circumstances that are out of a person's control, however, it is a great indicator to interpersonal and self-esteem issues later in life.

Examples of genetic risk factors include a familial history of depression, anxiety, or personality disorders. These encompass DNA that are passed down through heritable genes and are predispositions to a person's development. Do Bú et al. (2022) concluded that Neuroticism is highly correlated with heritability as studies showed more activation in the amygdala, the neural structure for emotional activation, motivation while also processing for potential threat or stimuli (Baxter & Croxson, 2012). Other risk factors may include familial history of anger outbursts, depression, bipolar, which literature has established these traits having potential for showing up in a family's history (Walsh et al., 2019). Of course, some of these points are strong in being a learnt behaviour, but it is important to include that these are also genetic risk factors to take into consideration. Physiological risk factors can include personal or family history of high blood pressure, cardiovascular disease, etc., while the demographic risk factors specific to high levels of neuroticism include being a female between the ages of eighteen to forty. Although neuroticism can show up prior or after this age range, generally a female that is in their late teens to young adulthood is where this trait disposition may be more prevailing.

In terms of a gender perspective, females are at a higher risk of developing high levels of neuroticism, however, it is apparent that this seems to decrease with age (Weisberg, 2011). It is noted that one feature of neuroticism that women do not typically score higher in comparison to men is with anger, or angry hostility (Costa et al., 2001, as cited in Weisberg et al., 2011). Despite the demographic that tends to demonstrate higher levels of neuroticism, adolescence is

already overall known to be a stormy time. With the physical, chemical and environmental changes that occur, emotions are significantly heightened in response to real or perceived threats (Bailen et al., 2019, as cited in Magson et al., 2021). As this is also a stage where regulation is not as developed, the difficulty in managing conflict is much more troublesome in achieving. Adolescence is also a time where individuals are more sensitive to social situations, they strive for more independence, seek acceptance, experience rejection in which this all comprises influencing interpersonal connections and how one may feel about their self-esteem. Those that do not possess these positive social and intrapersonal experiences are unfortunately at risk for having more symptoms of psychopathology.

There are many factors that can influence a person's mental health. Reducing a number of these factors are paramount in preventing problems from escalating later in life. Although many of these areas are not direct causations of declining or poor mental health, there is a strong correlation, particularly if there are several to consider. In regards to preventative measures, it is important to strengthen the protective factors in hopes to reduce the impact of all risk factors. Some risk and protective factors are fixed in which they do not change over time. Other risk and protective factors can be recognized as variables in which these may vary over time. Some examples of variable risk factors include employment, circle of friends, adverse childhood experiences (ACEs), and more. Risk and protective factors can have a cumulative effect as well (SAMHSA, 2019). Young people are more at risk as developmentally, they are at a higher risk of health issues, whether that be mental or physical. The reason for this may stem from the lack of developing a certain level of resiliency or having enough life experience or access to resources to support them. However, again, those that have multiple protective factors are at a reduced risk for later developing mental health issues.

Why are these risk factors a concern? Females amount for half the world's population and the age range in which extreme neuroticism shows up, is a significant portion of someone's life. This crucial time for socioemotional development is important in paving the foundation of

being a responsible and self-aware adult that is capable of managing adversity. From a practitioner perspective, although some of these risk factors are established before birth and families are limited with knowledge or resources, having one safe role model that can plant seeds is invaluable. From a social justice perspective, women are already viewed as inferior, incapable, and less valuable than their male counterparts. There are many structural barriers that women face whether that is in the labor force, health care systems or socially as a culture. It is with hopes that professionals are mindful of the demographics that they service and what intersectional barriers might be present in their lives. Use of language and intention are important as this vulnerable state these adolescent females are in can cause harm if not mindful of information being delivered.

Protective Factors

Social-ecological theory explores how individuals exist within and are carved by their individual traits, families, relationships, communities, and society. Aytur et al. (2022) discuss how “social ecological resilience” essentially describes how systems absorb change without completely shifting to a new set of structures or processes. It is without a doubt that humans and our societal systems have demonstrated a level of resilience by adapting to external disruptions. For example, the Covid-19 pandemic, war, climate change, racism, etc. Although there can always be better ways of approaching these global issues, overall, humans have the adaptive capacity to both human and natural disturbances. Despite the learning, social organization, flexibility and socio-cognitive constructs one may go through, protective factors support those when faced with life's challenges. Protective factors are described as attributes of families or communities that support individuals in effectively managing stressful events and mitigate or eliminate risk of future problems. Some of these things can include deep social connections, a strong support network, positive attitudes, good holistic health, positive self-concept and regard, along with effective conflict resolution and self-regulation skills. Protective

factors are essential in drawing from the strengths of a client and being mindful of aspects that can provide stability and security.

Persich (2021) conducted a study by having a web-based training program that aimed at key emotional skills such as “perceiving emotions in oneself and others, understanding emotions, using emotions in adaptive ways, and regulating one's own and other's emotions.” This program took 9-11 hours to finish over a few days, approximately engaging in the material for about 1-1.5 hours a day. The results of this study found significant differences as the emotional intelligence training program had notably lower levels of depression, suicidal ideation, and state anxiety relative to individuals given a matched nonemotional placebo awareness program. Although not all people are equal, this study gives the public informed information about the importance of emotional intelligence and how self-awareness can minimize feelings of anxiety, dysregulation and prevent other continuing mental health issues.

Early intervention has been key in the prevention of significant mental health disorders. For example, those diagnosed with autism spectrum disorder are often encouraged to engage in applied behavioural analysis preferably by the age of five to seven to cement developmental skills appropriate to the chronological age. I would personally like to see educators implement more socio-emotional learning as it is evident that the more self-awareness and sdelf-regulation skills one has, the higher functioning of a person they can become. Despite the previously mentioned risk factors of familial circumstances and caregiving styles, education in early childhood may present an important protective factor in terms of the development of high levels of neuroticism.

In regards to interpersonal and intrapersonal factors, drawing from client strengths can highlight the positives in their lives in which this allows them to resource things they are already aware of. Having peers, relationships or relatives that can support those in co-regulation and minimizing any anxiety is also helpful in terms of giving individuals a sense of community and a support network. In chapter three, I will later discuss interventions in regards to these

interpersonal connections and my hopes for future professionals to consider when working with a population that demonstrates these neurotic traits.

Psychological Functioning

In terms of psychological health, as previously mentioned, these intense feelings of anxiety that stem from neurotic behaviour are often internalized and can consequently develop into disorders. The way the brain is wired appears to adjust in response to these worries or concerns and impacts our level of threat. It has become a general consensus that anxiety and depression are the root of all, if not most, significant mental health issues. As anxiety is an indicator of our awareness for safety, this directly correlates with our nervous system regulation and how one is able to manage sympathetic nervous system activation.

Psychological and subjective wellbeing is a great indication of life satisfaction. This provides information on distress tolerance, social harmony, a person's compassion and respectfulness, quality of relational interactions and more. A lack of emotional regulation skills presents a huge symptom in those that have high levels of neuroticism. Being in a constant state of distress, having a poor quality of life and high levels of cortisol are all risk factors of neurotic behaviour. Some limitations to these findings include cultural differences, external circumstances such as socioeconomic status and an individual's geographic location.

One well known example of the development of highly neurotic behaviour is borderline personality disorder (BPD). Diagnostic criteria include chronic feelings of emptiness, emotional instability, distressed efforts to avoid real or imagined abandonment, identity disturbance, impulsive behavior in at least two areas that are potentially self-damaging, inappropriate or intense anger, unstable and intense interpersonal relationships, reoccurring suicidal behavior and more (American Psychiatric Association, 2013). As relatively normal adolescent behaviours show parallel symptomology in BPD, there is reluctance in diagnosing this condition in this age group. The DSM-5 has stated that diagnosing this in youth should be when "the individual's particular maladaptive personality traits appear to be pervasive, persistent, and unlikely to be

limited to a particular developmental stage or another mental disorder" (American Psychiatric Association, 2013, p. 647). The chronic pervasiveness of the suicidality and internalizing symptoms are much more distinguishable than a typical adolescent experience. The comorbidity with the severity of internalizing and externalizing disorders demonstrates the high risk that is commonly involved and how emotionally distressing this condition is for individuals.

As previously mentioned, stress is another factor that sustains illnesses. One way of exhibiting stress symptoms may be through rumination. Ruminating can be defined by "repetitive thinking or dwelling on negative feelings and distress and their causes and consequences" (American Psychiatric Association, 2020). Again, this level of distress often progresses into depression, anxiety and other internalizing disorders, impacting psychological functioning. Individuals tend to lack self-confidence, worry about pleasing others, become unsure of how to navigate their responsibilities, relationships, and direction. This inner fragility creates hyper awareness in those that are in this vulnerable state. Again, as the healthcare field is starting to take into consideration, psychological functioning is incredibly important to ones well-being. It often influences physiological health and a person's social life, in which will be discussed in the next section.

Relational Impact

The relational impact for a person with high levels of neuroticism is argued to be one of the most challenging parts to navigate. The fluctuations in emotional stability, irritability and self-consciousness often cause discomfort for partners, relatives, and peers. As humans are wired for connection, the negative rumination one may engage in can bring unhealthy amounts of tension to a relationship. Regardless of predisposing factors, the lack of connection and capacity to have safe intimate close relationships often lead to feelings of loneliness, hopelessness, and no outlets to confide in or share positive experiences. As suspected, this comes with an incredible high likelihood of experiencing depression and anxiety.

The impact of neuroticism in peer relationships as previously mentioned, brings a great

amount of uncertainty and stress. Masillo et al. (2018) describe interpersonal sensitivity as “feelings of inner-fragility in the presence of others due to the expectation of criticism or rejection.” Evaluating and managing inner-self fragilities would be important in terms of early detection in hopes to avoid the persistence of subtle but deeply distressing pervasive symptoms. Masillo et al. (2018) contributed their research into studying the outcome and risk factors of individuals with subtle psychotic symptoms that don’t necessarily develop psychosis but still need clinical attention. The purpose of this study was to explore the relationship between standard psychopathological characteristics and the continual longitudinal psychopathological features, like attenuated positive psychotic symptoms and general symptoms, such as depression and low tolerance to hardship. In terms of the ability to create and maintain friendships, the pervasive worry about the interactions with another person creates distance in having feelings of trust and safety. The lack of groundedness may deter folks from being able to maintain a bond if irritability, self-consciousness, and anxiety continue to show up in the relationship.

In terms of the impact on romantic relationships, this may even put more of a strain on the relationship. Repetitively thinking attentively and or frequently about the quality of the relationship or partner will likely turn into unhealthy rumination. Watkins (2008, as cited in Segerstrom et al., 2020) describes valence to be whether thoughts typically have positive content or negative content. However, purpose attributes to whether thoughts are searching and questioning such as self-analysis, or solving and clarifying, like rehearsal or worry. With regards to distress, the valence element has a great influence, with increased negative repetitive thinking to correlate with higher distress. As with even platonic relationships, the strains impact having consistent support and spaces to be vulnerable and comforted in.

In regard to other interpersonal relationships, not only do familial or peer relationships find great challenges in maintaining relationships with those that suffer from high levels of neuroticism, but those that serve in the healthcare field as well. For example, and from personal

experience, those diagnosed with BPD often face stigma in the medical system as many health care practitioners have labeled these individuals as ‘hopeless.’ The high level of need for attention and care that is demonstrated through maladaptive behaviours often exceed the emotional and resourced capacity that health care providers are able to provide. This has led to burnout in the helping professions and negative connotations with those that live with BPD.

Onset of BPD generally happens around the age of 18 with a standard deviation of 5-6 years (Zanarini et al., 2001, as cited in Sharp & Fonagy, 2015). Given this developmental stage, despite the early years being a time for experiencing deep unconditional love, affection, attention and care, the cumulative years of inconsistent care eventually show up in these adolescent years where interpersonal relationships are more prevalent and weigh more importance. Oxytocin is a critical regulator of social cognition and having the ability to interpret and understand one’s behaviour. Stanley and Siever (2010, as cited in Sharp & Fonagy, 2015) have made inferences from a neuropeptide perspective that oxytocin may be a significant factor of the anomalous attachment and associated characteristics of BPD as a result of lack of bonding.

Biopsychosocial Impact

The biopsychosocial model was conceptualized by George Engel in 1977 as he viewed someone's medical condition not solely deriving from biological factors, however, noting there are psychological and social factors to consider. The biological aspect consists of genetic vulnerabilities, physical and physiological health. The psychological portion includes self-esteem, how one copes, socio-emotional intelligence while social factors encompass peers, family circumstances and other individuals involved. In regard to social context, this may be influenced by one's direct connections such as family, friends and colleagues. However, this may be looked at on a macro level, considering an individual's relation to a general culture such as their social status, the law, attitudes, or resources they have access to. Historically, professionals only used to take into consideration a person’s biological familial history, however,

would fail to note the subparts of psychological functioning and social impact (Wade & Halligan, 2017).

New research appears to be acknowledging a holistic perspective by pointing out the many layers to someone's health and the interconnectedness in reference to their overall health and quality of life. Cognitive behavioural therapy or also known as (CBT) focuses on challenging thought processes (psychological), implementing changes in behaviour and lifestyle (social) which all impact a person's physiological state (biological). As a result, this information is imperative in considering different contexts to a person's well-being as these facets very well influence each other. Sharp and Fonagy (2015) agreed that consistent with developmental psychopathology, genetic vulnerabilities are indeed significant in the caregiver and child relationship, however, described BPD symptoms in adolescent and young adulthood attributing to factors beyond parental influence. As a practitioner, this may be a time to consider other external components in terms of treatment.

In regard to taking a step back and gaining perspective from a bigger picture, culture was mentioned as a part of the social context in the biopsychosocial approach. One would describe culture as a group that shares the same values, norms, practices and or beliefs. This can range from regions to ethnic groups to western and eastern parts of the world or even institutions. Hofstede's classified cultures into 6 dimensions, however, two particularly appear to be more relevant to this paper's topic. One includes individualism versus collectivism while the other being uncertainty avoidance. Someone's relational impact can depend on their geographic location, their own personal ethnicity and whether or not those things are parallel to each other or are blended together. Why is culture relevant? Despite the biological influences that arise from neuroticism, as it is a personality trait, the environmental impact throughout childhood is a strong correlation in how this trait manifests into adulthood and how individuals are able to cope (Trnka et al., 2016). In terms of uncertainty avoidance, a high uncertainty avoidance index demonstrates a low tolerance for uncertainty and ambiguity. People within these cultures may

tend to be more emotional. As this relates to someone that has a high level of neuroticism, this gives treatment providers information on the pervasive surroundings one might have grown in.

Looking at a person's overall well-being and considering the different aspects of one's life, a biopsychosocial framework impacts all areas of a person's world. Individually, their mental health, biologically, the functioning of their body as well as socially, through whatever connections they may have to family, friends, and other communities they may be a part of. This introduces an aspect of holism and how these interconnected parts are referencing the whole.

Chapter 3: Discussion and Application

Healing through an attachment lens embodies the concept that healing happens through relationship. With attachment trauma, it is implied that the nervous system is learning how to connect with people and navigating whether it is safe to do so. Given folks' early experiences with caregivers, these primary years are critical in where we learn about safety, companionship, communication, regulation, expression, protection and more (Andriopoulou, 2021). Those experiencing a significant amount of attachment trauma, are likely to develop a high level of neuroticism. The instability in creating and maintaining relationships often manifests into feeling unsafe in the body, having little to no boundaries, an inability to trust intuition and reacting instead of objectively responding to situations. Although healing this type of trauma is not a linear path, it is a rewarding one in that it may relieve a significant amount of relational distress in someone's life. Proximity seeking, having a safe haven and providing a securely attached relationship are all characterized as attachment bonds (Mikulincer & Shaver, 2016 as cited in Andriopoulou, 2021). Establishing these and meeting children’s attachment needs, begin to implement core beliefs such as having feelings that one is worthy of love and care.

The stress that comes from a person’s interpersonal relationships tends to be a reflection of themselves and their self-concept. This begins to project the assumptions and fears that come with insecurities, thus, creating friction in relationships. Given this information, the question presents how can one create change and support those in minimizing the concerns and emotional instability that arises with those suffering a significant amount of neuroticism? However, those that experienced caregivers not attending to their distress or proximity seeking, it seems that these individuals have demonstrated avoiding emotional connection or sought out partners that are emotionally unresponsive or unavailable as this is what is familiar to the nervous system. As mental health practitioners, therapists must be mindful in how one shows up to clients and the ways therapists hold space for vulnerable conversations. Recommendations for service providers include conducting schema therapy, implementing

attachment-based markers of communication while prioritizing strong relational safety through nervous system co-regulation. Connecting, co-regulating and being a source of predictability and trust allow the autonomic nervous system to obstruct the bottom-up processes and develop more attunement in somatic awareness. It is with hopes that folks are able to rewire the neural pathways where trauma was once stored in the body and reconfigure the ways in which they emotionally encode and process relational experiences. Although it is somewhat difficult to say when goals have been achieved, hopefully what treatment providers will observe is the decrease in volatile somatic and emotional responses, increased self-awareness and more control resolving conflicts.

Importance of Attachment-Informed Therapy

Given how this work is built on the therapeutic relationship, it is inevitable that a therapist will question the effectiveness and or quality of their service. Based on attachment classifications, the authors of PACS (Patient Attachment Coding System) created a scaling list of assessments to identify communication markers that help in distinguishing the established connection with or without ease (Talia et al., 2019). Proximity seeking, exploring, contact maintaining, avoidance and resistance are all ways in which attachment-related in session processes are evaluated (Talia et al., 2019). Client openness to vulnerability, the extent of demonstrating agency and exploration, client communication about the therapeutic relationship, reluctance to describe internal experiences and orderliness are all feature observations a therapist can be mindful of in terms of gauging the quality of attachment processes (Talia et al., 2019). Bowlby (1989) suggested that peoples intimate relationships provide meaningful functions such as alleviating distress. As an infant, his research shows that primary caregivers are heavily relied on for comfort and security. However, despite aging, these same needs still apply to adolescents and adults, and similarly, a therapist as this is another intimate relationship impactful to any human being.

It is with hopes that having more tools as an attachment-informed practitioner will give more depth to case conceptualization and treatment. For example, a client expressing “I feel betrayed,” can be marked as someone that may have secure attachments. However, a client expressing “I feel betrayed about the situation but it is what it is” can be a marker of a dismissing attachment. Lastly, a preoccupied attachment may present in the statement of “I feel betrayed but I already know they are a cheater.” As much as the clients participate and engage with the work they need to do, it is also just as important for therapists to cultivate more self-awareness and understand the impact of their work.

The client-therapist relationship very well mirrors caregiver attachments as although they are professionals, it is still a place individuals seek proximity, care, support, and comfort in, just as any infant or child would with a parent or caregiver. Bowlby (1989) discusses that a major component of attachment theory is the hypothesis that attachment behaviour is organized by means of a control system within the central nervous system, analogous to the physiological control systems that maintain physiological measures. As these are the bases of how a therapist can cultivate the environment of the room. Tasks later implemented as outlined by Bowlby (1989) include assisting in exploring the ways in which clients engage in relationships with significant figures, the expectations for their own feelings and behaviour for others, being curious about unconscious biases, looking at current perceptions, expectations, feelings, and actions in which they put energy towards may be the product of situations they might have previously encountered.

As much as attachment literature highlights the interpersonal relationships, client recognition of their own internal working models derived from past painful experiences or from misleading messages echoed by a parent allow more insight into the development of their world, how they developed as a result of their experiences and might they move forward with more intention and compassion.

Nervous System Co-regulation

Pulling back from a cognitive approach and taking into consideration the somatic aspect, this treatment ties in how attachment-informed work correlates with nervous system activation. Without getting into too much academia about the nervous system, what is specifically important in this paper is understanding how co-regulation occurs, how practitioners can implement this in practice and how it supports relational safety. Ultimately, co-regulation supports attunement, having somatic awareness and being able to model healthy ways of coping. Practitioners' ability to understand a client's underlying needs, emotions and nonverbal cues provide more depth in the therapeutic relationship as there is space for more empathy and validation. When therapists are able to model grounding exercises, implement a repertoire of cognitive intervention and exercises for mindfulness, this shows client's that there is hope in living a more peaceful life where they are in control of how they think, feel and behave. Given that there may have been a lack of healthy modeling in the early years, a sense of autonomy and guidance can help clients take more action and accountability for their well-being.

When clients build more awareness about their autonomic nervous system, responsible for involuntary bodily functions such as the fight or flight response and relaxation and recovery, clueing into their warning signs and symptoms support in taking preventative measures about when they might be faced with a crisis. It is inevitable that the world is faced with adversity in one or several ways, however, resilience, perspective taking, and cognitive and physiological development are part of who people are and how they might elevate their functioning. Somatic interventions are helpful in recalibrating the trauma once stored in a person's body and supporting their internal world reflect on the outside and building more safety in one's own nervous system. As the stress response highlight activates emotions, emotional stability and relational functioning are key goals considering individuals that present more emotional volatility such as those with high levels of neuroticism.

Schema Therapy

Attachment-based therapy acknowledges the interplay between early attachment experiences, the autonomic nervous system, and emotional regulation. Schema therapy is one more extensive and integrative way that has been used to treat complex emotional disorders when CBT or other talk therapies have not fulfilled treatment to its full potential. Young et al. (2003) as cited in Andriopoulou (2021) conducted a study about practicing schema therapy with older adults that had personality disorders and found that using evidence-based practices such as cognitive-behavioural therapy was more challenging to treat with such complex disorders. The fixed and maladaptive cognitive structures deeply rooted in a traumatic childhood were fairly difficult to engage in an effective therapeutic alliance as a result of constant unsafe or abandoned attachment figures (Young et al., 2003, as cited in Andriopoulou, 2021). Schema therapy integrates techniques from cognitive-behavioural approaches, attachment-based frameworks and experiential therapies into an integrative model (Groot et al., 2022). This model focuses on developmental trauma outcomes while reflecting on the psychological difficulties, the maladaptive patterns of attaching to other individuals and their associated coping styles, along with the influence of having an empathic and comforting therapeutic relationship. Some areas this treatment has been effective in treatment include those diagnosed with borderline personality disorder, those struggling with eating disorders, agoraphobia, personality disorders, post-traumatic stress disorder and depression.

Young et al. (2003) defined schemas as an ongoing theme or pattern, being composed of memories, emotions or sensory feelings, having been developed during childhood or adolescence, dysfunctional to a severe degree and more. These cognitive representations lead individuals to remember information according to the schema, drawing us to familiar situations, and therefore, continuing to remember these familiarities. As these maladaptive schemas progress into dysfunction, it cultivates particular ways of how we form attachments. The ways that schema therapy facilitates work is through limited reparenting, empathic confrontation,

guided imagery, reframing, role play or chair work, rehearsal of adaptive behavior in imagery or role-play, behavioral homework and rewarding adaptive behavior.

Limited reparenting has been a term used when using schema therapy (Tan et al., 2018). On top of the cognitive restructuring, experiential techniques and behavioural pattern breaking, limited reparenting is what one imagines it to be. Meeting the core emotional needs typically experienced throughout childhood are being taught, experienced, and fulfilled with the therapist. This is where individuals are able to have a therapeutic and corrective experience. Children seek secure and safe adults that offer a secure attachment, one who allows autonomy, demonstrates competence, the freedom to express and validate needs, engage in play and can set reasonable expectations and self-control (Kellogg & Young, 2006, as cited in Andriopoulou, 2021). Demonstrating and embodying some of these traits as the therapist can repair some of the attachment wounds, however, all the while still maintaining ethical boundaries as the professional and not fully diving into a parental role. Managing these boundaries may be difficult at times as clients may feel deeply about the attachment they have made. Again, it is the role of the therapist to validate, empathize and acknowledge the client's feelings but gently setting boundaries so that the professional relationship does not feel too personable. This may show up as what is described as empathic confrontation.

Empathic confrontation is where the therapist can identify and acknowledge the maladaptive behaviours while allowing the individual to process how these behaviours, tendencies or ways of thinking are harmful to them. Identifying conflict by observing discrepancies, naming the incongruity, and evaluating the client's response in the change process may feel challenging for the client, however, it is important for the client to feel challenged, conflict or tension in a safe environment. Being able to co-regulate, have a consistent empathic response and letting the client feel a sense of control for their behaviours is where they may feel a better sense of self. Taking into consideration multicultural and individual differences are also key in meeting the client where they are and within their threshold. Clients

generally enter the therapy space when they are feeling stuck. Facilitating points of reflecting and change for the client can occur when you confront this stuckness with intentionality. Despite reasons of having limited behavioural repertoire, being creative, little to no motivation and more, it is the therapists role to remain neutral but support the client in aligning with healthy ways of coping, self talk, conflict resolution skills and having a strong self of self.

Schaitz et al. (2020) conducted a study where evidence showed that imagery rescripting decreased extreme borderline personality disorder symptoms so that they may be adjusted into pleasant reparations and as a result, furthers positive and healthy coping strategies in undesirable situations. As those diagnosed with BPD are generally known for scaling high on neuroticism, schema therapy has seemed to be helpful within this population. For example, visualizing a childhood memory of being locked in a closet from a verbally abusive parent and reconstructing this situation by imagining another caregiver opening the closet and comforting them so that they feel safe, emotionally connected, and cared for by an adult. The process of healing is unlikely to be linear nor a smooth process given the volatility of the emotions present. Therefore, as previously mentioned, neutrality and patience is imperative in approaching treatment. When mental health practitioners can embrace a biopsychosocial approach, they reduce the stigma and discrimination towards these individuals, often women, to be viewed as hopeless, annoying or nearly impossible to support. Considering external factors help in viewing the client as being the outcome of multiple external events, and minimizing blame or shame for the perceived lack of accountability. Although individuals, particularly adults are more inclined to have autonomy as opposed to children and youth, and taking responsibility for one's own mental health is the first step, giving some compassion and grace is equally as important.

The pieces of reframing, chair work, rehearsing adaptive behavior, behavioral homework and reinforcing adaptive behavior all come within the session space and are up to the therapist to facilitate. To summarize, the use of language, presence, rapport building, and case conceptualization all matter in forming treatment for those with high neuroticism. As most

trauma is essentially relational, repairing the attachment trauma and managing the emotional instability can be strengthened through schema therapy, integrative and experiential cognitive-behavioural approaches. Holicism appears to be increasing with popularity as practitioners are understanding the complexities within people. The layers that individuals evolve from, whether that be on a genetic level, to internal experiences as well as the cultural, climatic, and external circumstances and all the relational experiences one may face, all are factors expanding the presented mental health issues. The comorbidity that this diagnosis has, involves crucial support from a variety of professionals.

As individuals integrate their traumatic experiences into their sense of self and identity, it is helpful to establish a coherent narrative of their life story, empowering those to reframe their experiences and find purpose beyond the trauma. Restoring resilience and self-compassion throughout treatment also emphasizes being able to foster self-acceptance, creating adaptive coping strategies and overall, giving a framework for understanding their trauma and healing their attachment-related wounds.

According to Bowlby (1989), the attachment system essentially "asks" the following fundamental question: Is the attachment figure nearby, accessible, and attentive? If the child perceives the answer to be "yes," he or she is likely to feel loved, secure, and confident. As a result, behaviorally, the child is likely to explore their environment, play with others, and be sociable. As an adult, the same principle applies in that people are more willing to be open to explore with those that they feel are safe, accessible, and attentive. In regards to a therapeutic setting, one is more vulnerable in this situation, in which the role of the therapist is crucial to attending to these needs and providing that space for learning, healing, growing, and exploration.

Limitations

Literature has shown that schema therapy has been effective with reported gains of enhanced self-confidence, more cognitive flexibility, reduced symptomology of BPD and positive

adjustments in maladaptive schemas (Tan et al., 2018). As this integrative model of treatment incorporates a number of intervention strategies, it is inevitable that some techniques may be more effective than others depending on the individual's buy-in to the exercises and process. Tan et al. (2018) described that the subtle, but less stigmatizing difference is that compared to psychoeducational interventions, the education portion of schema therapy emphasizes how schemas developed during a person's development and how it continued to influence life patterns. This treatment approach includes several exercises that combine both talk and somatic techniques in which this may appear more inclusive across cultures. Increasing studies with more sample sizes across cultures and age groups will allow for more information on strengthening the effectiveness of this treatment. Also, practicing individual, group, virtual and in person modes are aspects that can be taken into consideration as well.

Conclusion

In terms of an attachment-lens, highly neurotic behaviour is known to be survival adaptations of early relational trauma. While volatile attempts at expressing, communicating, and connecting may appear frustrating and challenging, it is important for practitioners to be informed on how this trauma response impacts socio-emotional development and functioning. With all professionals working in health care, ultimately, a strengths-based approach is paramount in fostering resilience. Understanding that neurotic symptoms are adaptations to cope for survival as opposed to pathology, this allows clients to minimize shame and positively develop their self-concept. Co-regulating through safety and connection is undeniable in the therapeutic relationship. This corrective emotional experience is at the core of healing and treatment, in which at the biological level, restores nervous system activation. It is argued that those with high levels of neuroticism, which often are those that have borderline personality disorder, is one of the most challenging demographics to support. The health issues combined with the psychological functioning and the irritability and volatility that comes with relationships are significant in its contributions to distress. As practitioners, it is imperative to consider burnout

prevention as this demographic sometimes takes more of an emotional toll. More in depth therapeutic practices are important in providing treatment. As with any mental health professional, having cultural agility, and trauma-informed perspectives and approaches are imperative especially managing those that come with such complex backgrounds. Treatment settings whether that be in community or in private practice settings may also support individuals so that treatment can come from a variety of professionals and peers, having multiple outlets for expression, processing, and connection.

It is with hopes that those that struggle with a high level of neuroticism to minimize the distress that takes place and be mindful of risk factors and maladaptive behaviours that show up throughout adolescence. Therapist patience, empathic responses and directive approaches are helpful in holding space for individuals that experience this volatility and benefit from gentle but assertive guidance. As discussed in this capstone, research is evident in that those that experience a high level of neuroticism are impacted on a biological, psychological, and social level. Whether this be through genetics, the ACE's, or pervasive circumstances, the variety of ways that this distress shows up is valid. Although almost every individual contains risk and protective factors, generally being proactive in early prevention is always more effective than treating the consequences. It is also argued that all issues are relational, whether that be with oneself or others. Treating through an attachment framework has proven to be powerful in the therapeutic space as these corrective experiences are influential in one's life. It is without a doubt that people are resilient given the way their upbringings and life experiences shape how they show up for themselves and others in the world. Mental health is part of the human experience and I believe people should not have to navigate it alone. Some argue healing to be one of the most painful but liberating experiences. To be suffocated in one's own thoughts and feelings are some of the most lonely and frightening places to be. It is a privilege to serve the community in this way and I hope that mental health will one day be an unashamed dialogue to

partake in and that individual's find the capacity in themselves to deeply love themselves and their lives.

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