

**NURTURING HOLISTIC HEALTH IN ADOLESCENTS:
THE ROLE OF MIND-BODY AWARENESS, EMOTIONAL DEVELOPMENT, AND
SLEEP EDUCATION**

by

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Nurturing Holistic Health in Adolescents

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Dedication

In dedication to my beautiful supports who encouraged me to pursue my master's degree and take the first steps in my long sought after goal of entering the counselling profession. After adapting to the many changes that came from my early teaching career, the paradigm shift of parenthood, and a global pandemic, I rightfully had lingering doubts and reasons to let go of this goal. I also had many reasons to go after it full steam ahead: I love to learn and yearned to be back in school, I am fascinated by psychology, I understand it to be a great privilege to know someone else's story and inner world, and I needed an opportunity to grow more into myself. I am ever so grateful for my friends and family who reflected those insights back with their encouragement to go for it. This group continued to show their support all the way through my two-year program by helping with childcare, checking in on my progress and wellness, listening to my ramblings and reflections, and celebrating the little wins along the way. How powerful it was to ask for help and receive it, especially when, in my absence, the help I needed was caring for and loving my children.

A sweet thank you to my mom who instilled me an insatiable desire to learn and grow, giving me a model of pursuing further education while parenting young kids. Your example, which is also now mine, is being passed on to my girls so they can carry with them the important understanding that we are all always learning. To the best husband that has ever existed, you could write the book on how to keep a family thriving while supporting someone in their endeavors. Every single time there was a hurdle or stretch, you responded with love and compassion and took many extra steps to see us through. Often you told me that who I am as a person is the right fit for the job of counselling, and as the person who knows me best, that encouragement means everything. Lastly, I dedicate this work to my girls. There were some hard

moments where we all felt like we were missing out over the past few years. I hope the memories that stick are the welcomes you planned each day when I returned from class- running to greet me with hugs and kisses, butler service at the front door, a cozy resting spot and pajamas laid out, and time set aside for connection and chips. Soon enough you will be adolescents, and I am prepped and ready to ensure your wellness during your own big changes- connection, chips, and all.

Abstract

This research project explores health promotion objectives for adolescents. Given the scientific evidence of health outcomes in adulthood that are connected to poor mental health in adolescence, combined with the current mental health crisis affecting North American youth today, wide scale efforts and supports must be implemented. The focus of this paper is psychoeducational in nature and is intended to educate teens and adult stakeholders, including school staff, about holistic wellness and health promotion aims. It investigates the connection between mental and physical health- mind and body- as well as emotional development during adolescent years, and sleep as an essential health habit. Each of these topics look at the values, norms, and present-day conditions that are contributing to health concerns affecting youth. The combined effort of this capstone is to teach young people how they can protect their health and inspire better self-awareness, self-efficacy, and capacity for decision-making that can better prepare them for a lifetime of health and wellness. Included is my recommendation of an educational bulletin board, useful in counselling centers or school hubs, that highlights each topic and offers health promotion tips, and is relevant and approachable for both teens and the adults caring for them.

Keywords: mind-body awareness, emotional development, sleep, health promotion, adolescence, mental health

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Nurturing Holistic Health in Adolescents

Chapter 1: Introduction

Introduction

North America has some troubling health trends, especially the rising and alarming prevalence of mental health concerns for adolescents (Government of Canada, 2017). Annual reports also show that physical health concerns like disease and chronic illness are also common in adult populations (World Health Organization, 2021). Groundbreaking work by physicians and scientists has given reason to link these two trends and point us in the direction of incorporating both mind and body in a more holistic view of health and sickness. While scientific study is not able to show causation between emotional health and physical disease, there is evidence showing that our minds and bodies are not separate entities, but each affecting the other. Medical doctor and best-selling author Gabor Maté is one of the outspoken experts in this field who argues that we must “hold up a mirror to our stress-driven society so that we may recognize how, in a myriad of unconscious ways, we help generate the illnesses that plague us” (2019, p. *xi*). Maté, along with other experts and authors included in this paper, have been able to conclude that many physical illnesses apparent in adult populations have predictable histories and that many adults who are currently facing disease could similarly describe emotional issues in their past (Maté, 2019). Emotional difficulties in their youth over time led to chronic and severe manifestations in their bodies. This paper will look at the connection between emotional and physical health, as well as the disconnection present in our society, and argue that we must inform younger generations of these findings as an opportunity for them to choose differently and seek health with a more holistic vision.

Sharing this knowledge is even more pertinent considering the current strains on our medical system here in Canada, where wait times are long, and there is a desperate need for more healthcare professionals. If we want a better shot at living healthy, full, happy lives, we must pay attention to our whole selves. Even more, it is imperative we give today's youth a better health outlook by attending to their wellness, getting them engaged with their mental health and reconnecting to their bodies. This capstone will look specifically at the ways and reasons our minds and bodies are disconnected and the repercussions on individual and collective health and offer strategies for mindful reconnection and attunement. It will investigate the neuroscientific explanations for emotional development in adolescence and argue for the importance of educating teens about emotional wellness, for its own sake and as a preventative medical initiative. This paper will also explore sleep- a health habit that has a profound impact on teen's emotional and physical well-being and health outcomes later in life. In all, this capstone will argue that we are behind in our health education here in North America and given the advances in scientific understanding of the interconnected nature of mental and physical health, we must better educate adolescents on holistic health as a way to prepare them for their future.

Background Information

Health is a hot topic and area of great interest around the world. While the wellness side of health continues to monetize, expand, and dominate social media, physical illness and concerns are also pressing, especially so in North America. Physical health problems like disease and chronic illness continue to be the leading cause of death in adults globally, and one in five Canadian adults live with a major chronic disease: cardiovascular disease, cancer, chronic respiratory diseases, and diabetes (Government of Canada, 2017). Alongside this backdrop of jeopardized physical health, there has been a decline in reported mental health across the world

and in various age groups. According to Statistics Canada's 2022 data, "over 5 million Canadians (18%) aged 15 and older met the diagnostic criteria for a mood, anxiety, or substance use disorder in the previous 12 months" (Statistics Canada, 2023, para. 1). Even more, over 1 in 3 Canadians with these disorders reported not having their health care needs met (Statistics Canada, 2023). The systems designed to support and care for individuals in their health concerns also appear to be suffering. In fact, experts recognize that healthcare sectors in Canada are in crisis as "one in six Canadians lack a regular family physician and less than half of Canadians are able to see a primary care provider on the same or next day" (Flood et al., 2023). This is cause for concern. Not only are Canadians sick physically and mentally, but the attention and care for our health is inadequate.

What is especially interesting about these statistics, is that scientific study now acknowledges the link between the two elements of health- mental and physical. Mental and physical health are not separable, just as our minds and bodies are not. Rather, physical manifestations and our inner emotional experiences are bidirectional, and both need to be factored when considering holistic human health. There is a connection between the statistical findings of mental health and physical disease in our country, and for all humankind.

This umbrella concept is currently being explored in many fields like behavioural medicine, health psychology, psychosomatic medicine, psychoneuroimmunology, and more. What these domains have in common is the connection of body and mind, physical and mental, and their holistic approach to health. This belief has shifted greatly over recent decades. In the late 19th and early 20th centuries, the public health sector saw some big changes that changed the trajectory for health and psychology. One change was the large decline in mortality rates due to better hygiene practices, understandings of nutrition, and vaccinations. Another was a famous

longitudinal study, the Framingham Study, which showed that lifestyle factors (smoking, high caloric food, sedentary lifestyle) were risk factors for disease (Friedman & Cohen Silver, 2007). Out of this came a belief in the importance of health habits and “by the 1970s, it began to seem both sensible and feasible to try to *prevent* (rather than merely *treat*) the development of cardiovascular disease and other slow-developing conditions” (Friedman & Cohen Silver, 2007, p. 10). Prevention and health promotion is now a “critical component of global health” (Friedman & Cohen Silver, 2007, p. 10), although arguably more so for physical concerns than mental or emotional. Then in 1978, the American Psychological Association (APA) first married the idea of clinical health and psychology as a discipline with the creation of a whole new division, *Health Psychology* (Friedman & Cohen Silver, 2007). Health psychology understands many factors that influence individual and collective health and promotes prevention and education in its approach.

Yet, even with the many advances in understanding human health better, health is still on the decline in many ways in Canada and within the larger context of North America. There appears to be a divide in what the most pressing and common health concerns are for different generations. Older generations are reported to be more challenged with physical aspects of health like chronic disease and illnesses diabetes and cardiovascular disease (Centers for Disease Control and Prevention, 2024). Young generations, adolescence specifically, are challenged with their mental health. The Centers for Disease Control (CDC) and Prevention (2020) highlight that overall youth are experiencing poor mental health and increases in suicidal thinking and behaviours.

How did so many adults get sick? Why are so many teens unhappy? There is much research on these topics and ultimately there is not completely conclusive answers, but we do

have substantial evidence of the interconnected nature of our physical health and mental health, and reason to be concerned about the potential negative outcomes for today's youth. If we know that poor emotional states are associated with disease and illness later in life, what is going to happen when this generation of stressed, unhappy, anxious teens become adults? And do our teens know?

Consider the story of Teja and her emotional and physical disconnection, which represents some common themes affecting the youth I have encountered. This story includes pieces from several students as well as parts of my own. Teja is not the real name of any of my former students; rather, it was created so no identifiers are used and privacy ensured.

To most people Teja appeared to be a happy and thriving 17-year-old who was involved in school and extra-curricular activities. She consistently achieved top grades in her classes, had a flourishing social group, and volunteered with family and friends at church. For a long time, there were no markers that Teja was experiencing mental health concerns. In fact, she appeared to be the example for others in her grade, receiving the all-around student award in grade 11, and earning early scholarships to university. Teachers were quick to recommend Teja for school activities and projects and despite having a full schedule, she always agreed and put in the extra effort she was known for. An early warning sign that all was not well for Teja was when she developed a rare case of early-age shingles in grade 12. Shingles is typically a dormant virus that erupts under extreme stress and with a compromised immune system. Unfortunately, the adults and health care providers surrounding Teja failed to acknowledge this red flag and some influential adults and friends even championed her excessive stress level as a virtue of her hard work. Teja managed to overcome shingles and excel in all her activities without taking time off for recovery. The high expectations of her family, faith, and school leaders encouraged Teja to

succeed and become resilient in the face of this challenge, while at the same time subconsciously fostered in her a profound self-denial. Teja's body was loud and clear in its needs, but Teja had learned to ignore that message and, instead, she strived to meet the expectations of herself, her family and wider community. As the stresses amassed over time, Teja continued to suppress her needs and emotions, grew more secretive from friends and family, and ultimately developed an eating disorder and began self-harming- a reflection of the deep disconnect between her mind and body. This story highlights the inseparable nature of physical and mental health and brings to light the importance of education in holistic wellness. Without an intervention for reintegrating her mental and physical health, what does her future hold?

Statement of the Problem

Given the rising prevalence of mental health issues among adolescents and the potential for negative health outcomes in adulthood, there is a lack of education that leaves adolescents unprepared to manage their health effectively. As previously mentioned, teens are steadily declining in their mental health. Reports by the World Health Organization (WHO) state that one in seven 10–19-year-olds globally have a mental disorder and that suicide is now the fourth leading cause of death among 15-29-year-olds (World Health Organization, 2021). Reports from the CDC in 2020 identified that up to 20% of American adolescents were experiencing a mental health disorder (Centers for Disease Control and Prevention, 2020). WHO (2021) reports have also shown that adolescents with poor mental health are also more likely to have negative outcomes and that “the consequences of failing to address adolescent mental health conditions extend to adulthood, impairing both physical and mental health and limiting opportunities to lead fulfilling lives as adults” (para. 1).

Not only does this impact individuals with health problems but is a community and societal issue as our health care system may not be sufficient to handle the demands (Flood et al., 2023). If the teens who are unwell become adults who are unwell, the healthcare system will become increasingly burdened. Attending to the gaps in the Canadian healthcare system is prudent for our future and is certainly an aim for our governing bodies and without these macrosystem level changes and improvements in health education our adolescents may continue to face significant challenges.

Rather than adopting a helpless view of the hardships our adolescents may face in their adult lives, we can better prepare them to live healthier, happier, and fulfilling lives by teaching them about preventative measures and promoting health aims. Today's adolescents need to be better educated about their holistic health, which includes both mental and physical aspects and the link between the two. They need to learn to develop self-awareness and advocacy regarding their health and understand their health trajectory. To both improve mental functioning and protect their physical bodies, adolescents need more education about their health.

Purpose of the Paper

The purpose of this paper is to educate by highlighting three areas that contribute to adolescent wellness and future health trajectories: mind-body awareness, emotional development, and sleep habits. By looking at these domains, I hope to bring understanding to the interconnection of our minds and bodies and our mental and physical health and emphasize the necessity to provide health promotion education to youth. First, looking at mind-body awareness will explain how and why we are often so disconnected from our bodies and how understanding their inherently connected nature can benefit adolescent health and well-being. Second, I will investigate the importance of appreciating emotional development in adolescence and how

educating teens and others in this process is beneficial to their future outcomes. Third, I will explore the impact of health habits, specifically sleep habits, on youth and how educating teens as a form of health promotion would benefit their overall wellness. The information explored in this paper is intended to better understand adolescents and offer comprehensive suggestions for lifelong health. It is geared towards adults who closely care for teens- educators, parents, counsellors, administrators, coaches, etc. During this developmental phase when teens naturally distance themselves from the adults around them, it is imperative that these stakeholders understand them and know how to best support them. To that end, this paper is also intended for adolescents, so they better know themselves. While it is unrealistic to think a teen would dive into this paper on their own accord, it is intended to be used by adults for educational health promotion with teens either in or outside of schools. The more adult stakeholders understand teens, the better able they are to connect with them and teach them how to care for their health.

Research Question

This paper is meant to bring more understanding to the current realities and issues facing today's youth and better prepare them for a future of holistic health and wellness. How does mind-body awareness, emotional development, and sleep habits influence the holistic health of teens, and what strategies in health promotion and education can best support their development in these areas?

Positionality Statement

In my investigation into mind-body connections and health promotion for adolescents, I am aware of the influence of my background, worldviews, biases, and perspectives. My awareness of these influences is critical in knowing how they shape my understanding and presentation of my research in this capstone paper. I am a white cis-gendered 39-year-old

woman, born and raised in western Canada, with a lifetime history of free healthcare and quality education. As well, large parts of my childhood experience included financial strain, parental conflict and divorce, and strict authoritarian religious and parental expectations. From a young age, these experiences impacted how I viewed myself, others, and the world around me. I understood my need to adhere to explicit and implicit rules, value appearances, and become a high achiever. These experiences created in me a disconnect between my mind and body which later became a strong focus in adulthood. I struggled with body dysmorphia and an eating disorder in young adulthood, which I put in considerable effort to heal from and still continue to better understand. Despite my 'quality education' and multiple post-secondary degrees, and the other many privileges in my life, I was baffled by the misunderstanding of my own health. After being in education as a teacher for over a decade, I am conscious that these gaps in health education still exist and I see my own experiences played out in many of my students. All these facets shape the way I view this research and present it here. I believe that health education needs to be prioritized in our ministry-designed curricular learning, including holistic and comprehensive education that promotes health, includes preventative goals, and considers the inseparable nature of minds and bodies within the entire system. In my opinion, this is crucial learning in 2024, given the current reality of health across the lifespan here in Canada. As I wish I had learned in my youth, today's youth need to know themselves better and be prepared to navigate their health for years to come.

I understand that these beliefs are inspired by my personal experience and that differing cultural beliefs, values, and norms may shape other attitudes towards health, adolescence, and even mind-body connection. Perhaps this research is well known and accepted for some, or not yet approachable for others, or misaligned in value in other ways. For example, I am aware that

mindfulness practices are viewed differently in many religions and could be accepted or approached in a variety of ways. My hope is that through this research, I can offer useful information and bring greater understanding to adolescent health that is approachable, insightful, and scientifically based. I hope that this offering can support both teens and the adult stakeholders working with them, providing them with greater self-awareness, knowledge, and empathetic understanding. Most importantly, I hope that it can lead to better health outcomes for teens.

In summary, I am aware that my personal life story has influenced both my desire to pursue these topics, my research itself, and my presentation of it here in this capstone. My bias toward the importance of this topic may be relevant throughout, yet I will aim to provide a critical and transparent review of the relevant data. I truly hope to present a reflexive exploration of adolescent health topics.

Significance of the Study

I believe this research topic to be relevant based on my own life experience and what I believe was a major missed opportunity for important education in my youth. Had I known that my body was connected to my mind and provided me with a wealth of information, I could have been better guided in many ways. This learning did not happen in my home nor in my schools, so I had no exposure to these health concepts. I believe that this experience is quite common in the educational settings I am in and in our society at large. I also believe that our scientific understanding of health has grown significantly in recent decades, especially our understanding of the interconnection of mental and physical health, and this needs to become part of our core education for youth. Adolescent mental health in North America is a great concern, as is their potential for physical health issues in later years and the demand it could place on our fragile

healthcare system. The future of our youth is on the line. Research has provided us with valuable information that can change this trajectory for youth. By considering mind-body awareness, the emotional developmental process for teens, and their core health habits like sleep, teens can be better off.

I believe many stakeholders could benefit from the ideas presented here. Parents of adolescents and their teachers could approach teens with more understanding and be able to teach and guide them in their health goals. For example, adult caretakers could better offer opportunities for connection, emotional exploration, and reminders to slow down, tune in, and listen to messages within their bodies. If adults adopt the suggestions of mindfulness, emotional regulation, and adequate sleep, they will likely experience many health advantages themselves, especially less perceived stress, and teens will take notice. If adults can also directly teach teens these concepts, they will further directly benefit. Educational systems, like schools and districts, could also gain insight into the necessity of acknowledging the bodies connected to the wonderful brains within their walls. School personnel can better integrate awareness of the whole personhood of their students, and curriculum could include much more explicit health concepts throughout secondary courses. Counsellors could also benefit by more thoroughly understanding teen development and including all these topics into their student intakes and proposed interventions. For example, discussing sleep habits with teens and their parents is greatly relevant to their overall health and success and managing stress effectively. Perhaps this could be a wakeup call for all stakeholders in teens' lives- and our wider society- to increase our understanding of the mental health crisis here in North America, especially the great stress our youth are under, and provide actionable steps to protect their wellness now and to promote it for their futures.

Outline of the Remainder of the Paper

The remainder of this paper includes a chapter on my literature review and a chapter for my recommendations pertaining to this research. In chapter two, my literature review, I will discuss each of my three topics in turn, often using a neuroscientific lens with research data and suggest strategies and practices to better support adolescents for each. Starting with mind-body awareness, I present a historical look at this idea, including the great disconnect of minds and bodies, and offer mindfulness practices and the benefits of reconnecting. Next, I delve into the emotional development of adolescents, followed by sleep habits, including a look at stress in adolescence and presenting recommendations for supporting teens in these health aims. Chapter three then summarizes and concludes my research and proposes a recommendation for educating teens and adult stakeholders about adolescent health promotion.

Chapter 2: Literature Review

Introduction

Mental health concerns like anxiety and depression and chronic conditions like autoimmune and heart disease have gained consistent attention for decades and has resulted in a greater emphasis on research and public health initiatives. In recent decades, focus on the overlap of mental and physical health has helped shift to more holistic approaches to well-being. Research has brought greater understanding to the connection between the two, revealing how disruptions in emotions, mood, and patterns of behaviour can manifest within the body as dysfunction and disease. Findings from this research has meant a more comprehensive approach to health, an increase in treatment options, and greater emphasis on preventative health efforts. This is especially relevant now amidst the mental health crisis affecting younger populations in North America. Findings from the 2024 World Happiness Report highlights the dire need to address the well-being of youth in North America because their self-reports have shown continual decline in recent years and previous research has shown that the best predictor of life satisfaction and income level in adulthood is childhood and adolescent emotional health and well-being (Marquez et al., 2024). Stakeholders in North America- from government policy makers to teachers and parents- can see the need for investing in young people during critical developmental years.

In adolescence specifically, this critical and transformational period is considered a great renovation marked by physical, cognitive, and emotional changes, and formation of an individual identity. Teenagers are tasked with adopting these changes, which includes major brain restructuring, while also navigating pressures in peer relationships and coping with complex stressors. The trends in declining mental health statuses of adolescents in North America have put pressure on addressing these topics. Experts agree that interventions to support wellness at

these younger ages is imperative. A crucial part of these efforts is health education. Promoting a holistic view of health through education, whether in school classrooms, medical institutions, community programs, or within families, is necessary if wellness can be protected through learned preventative measures. These holistic education aims must include aspects of mental and physical health and take into consideration the realities of life for youth in 2024. In this capstone literature review, I will explore three topics that pertain to holistic health in adolescence: mind-body awareness, emotional development, and sleep. These themes offer insights into the interconnected nature of mind and body and the bidirectionality of emotional and physical health. The neuroscientific explanations for emotional growth and sleep and factors that influence stress and self-awareness that are presented in this review considers the challenges facing adolescence today and emphasizes the necessity for interventions and supports. The interconnected nature of cognitive, emotional, and physical well-being is evident in each topic, pressing the significance of this capstone and adolescent wellness. By looking at centuries' old practices and the latest research, I will suggest ways to protect and optimize health during the significant adolescent years, preparing youth to thrive in adulthood and for a life of health and happiness.

Mind-body awareness

Introduction

As the name suggests, mind-body awareness is the awareness and understanding of the connected link between our physical bodies and our cognitive minds. While a concise definition may still need to be accepted by the scientific community, mind-body awareness is understood as larger than its separate parts. To explain, mind awareness may imply metacognition or consciousness of thoughts, mental processes, and memory, while body awareness involves

focusing on sensations within the physical body (Mehling et al., 2009). But mind-body awareness goes even further than suggesting a mere connection between two distinct entities, mind and body; as Dr. Gabor Maté (2019) argues, “There is no body that is not mind, no mind that is not body” (p. 9) and offers the term ‘mindbody’ to press its integrated nature in humans. The complexity and nuances of mindbody is aided by the understanding of closely related terms, and while they are not synonymous, they are used interchangeably in many contexts. These terms are mindfulness, embodiment, and interoception.

Coming from rich historical Buddhist roots, ‘mindfulness’ is now a buzzword in 2024, a highly studied and researched concept, and a widely promoted practice in North America and beyond. Generally, it means being intentionally present with thoughts, feelings, and sensations in the moment, with acceptance and without judgment (Bishop et al., 2004). Much of the research in this field centers on mindfulness, and many strategies employed to encourage awareness of bodily sensations are mindfulness techniques, as is the predominant concept in mind-body awareness. Embodiment, according to the Trauma Research Foundation, is considered a verb, an action, or the “felt experience of the body, such as sensory, sensational, emotional and physical” (Kimble, 2022, para. 2). Full engagement with body sensations connects to the larger topic of mind-body awareness by integrating “one’s overall conception and conduct of themselves, their identity, beliefs, behaviors, and ways of being” (Kimble, 2022, para. 2). Similarly, scientists consider interoception- awareness of internal bodily sensations- as a critical part in understanding ourselves as whole people, and the start of our agency in controlling our lives (van der Kolk, 2014). This leads to the overall intent of studying and promoting mind-body awareness in the modern-day Western world because the practice of “becoming aware of our thoughts, feelings and bodily sensations with a sense of self-nurture, without analyzing, judging or being

self-critical” (Broad, 2024, para. 1), can help us better understand ourselves and lead to better health outcomes. These three terms- mindfulness, embodiment, and interoception- will be the lens I use to approach mind-body awareness.

History

Part of the reason that clear definitions of these terms are not widely held is the rich history of their roots in ancient philosophy and Eastern world religion and the evolution of scientific inquiry and mind-body dualism. The following is a brief history of mind-body awareness, which is helpful in our understanding of where we are today.

Foundations of mind-body awareness, specifically mindfulness, come from over 2000 years ago in fourth to second century BCE Buddhist theology. In the comprehensive *Handbook of Mindfulness: Theory, Research, and Practice*, Brown et al. (2015) lay out the many detailed and nuanced contributions to this Buddhist tradition that came from Buddhist India, China, Tibet, and Burma. All have contributed to the overall understanding of mindfulness, which means (in English) attentive awareness and a “clear-eyed attention to the workings of mind, body, and behaviour” (Brown et al., 2015, p. 10). Brown et al. (2015) conclude that mindfulness is “seeing things as they are” (p. 34) and paying attention with “wholesome qualities of mind” (p. 34) and is one of the five virtues on the path to the ultimate goal of enlightenment (Brown et al., 2015).

In the 17th century, in stark contrast, René Descartes was credited with the advent of mind-body dualism, or separation of mind and body, intending to release the growing interest in scientific inquiry and medicine from religious doctrine (Mehta, 2011). This was a tremendous step forward for scientific methodology and the origin of our current medical model. Still, it also left us with a pervasive and troubling stance on knowledge and health, as “it took our focus away from the dynamic nature of human beings, their relationship with the environment and their real

health concerns, and to that extent blocked the development of effective interventions” (Mehta, 2011, p. 207). This proved to be a paradigm shift of seismic proportion and changed the trajectory of history. Now, by and large, the mind prevails over the body, and both are detached from behaviour.

As so much of Western 21st-century thinking is built on scientific reasoning, reconnecting the mind and body has taken calculated effort and has developed over time. Significant shifts happened in the 1970s when the American medical doctor Jon Kabat-Zinn studied mindfulness and meditation under the famous Buddhist teacher, Thich Nhat Hanh (Hsu, 2023). Jon Kabat-Zinn subsequently developed the mindfulness-based stress reduction (MBSR) program, which shifted the Buddhist tradition to a more palpably secularized mindfulness practice in America (Hsu, 2023). For this reason, Jon Kabat-Zinn is known for being a scientific leader in mindfulness and is credited with bringing mindfulness thought and belief into mainstream science and medicine. Since then, many scientific and psychological fields have inquired about the benefits and effects of mindfulness and have implored a deeper understanding of the connection between our minds and bodies. For example, best-selling books from researchers Bessel van der Kolk, *The Body Keeps the Score* (2014), and Gabor Maté, *When the Body Says No* (2019), helped to shift medical thinking in non-clinical populations by highlighting the link between physical body states and mental and physical health outcomes, especially about trauma, chronic stress, and disease. Even the titles of their books suggest that our bodies have important things to say, and our cognitive minds need to reattune to that wisdom. Another pivotal influence on mindfulness is Dr. Dan Siegel, who has helped marry neuroscience, development, and psychology with conscious awareness and mindfulness. He has authored many books and pioneered the mindfulness approaches used in research and brought deeper understanding of how

it can change the brain. Now, circling back to those ancient Buddhist beliefs of a holistic mind and body, scientists like Siegel are attempting to use objectivist methodologies to find reasoning and quantifiable data to support mind-body awareness practices. Recent studies are numerous and far-reaching and include a variety of domains like neurological and physiological connections, psychological theory, specific mindfulness interventions, benefits for clinical and healthy populations, and more. Whether it be medical doctors, therapists, schools, or other institutions, there has become widespread interest in the mind-body connection and investigations into the possibilities of how our minds affect our bodies and bodies affect our minds. In this way, studied research is still in its infancy. For years to come, we can likely expect to continually develop our understanding of mind-body awareness and our repertoire of mindful practices and draw on the scientific conclusions of their connected benefits.

Disembodiment

To better understand mind-body awareness, it is useful to look at the absence of it or the state where people are mentally disconnected from their bodily sensations. Our body's "sensing system provides crucial feedback on our moment to moment condition" (van der Kolk, 2014, p. 96), and our brains work to constantly "monitor and evaluate what is going on within and around us" (van der Kolk, 2014, p. 96). When disconnection happens, people become *disembodied* and may be ignoring, suppressing, or oblivious to their body signals and signs (van der Kolk, 2014). Here, I will briefly delve into this problem of disembodiment by looking at the physiology of 'emotions' and how social systems perpetuate the denial of body experiences and contribute to the cause of the disconnect.

Physiology

First, it is important to recognize that common language uses the terms *emotions* and *feelings* interchangeably, but they are defined differently. According to the definitions by the American Psychological Association (2018), “feelings differ from emotions in being purely mental, whereas emotions are designed to engage with the world” (para. 1). Not just a linguistic label or mental process to deliberate with a therapist, our emotions can be tangibly felt (Damasio, 1994). Emotional and physiological changes in the body are often automatic and work to prepare the body for a response or action (Damasio, 1994). This is a direct body-mind connection and not distinctly separate as Descartes proposed. Centuries after Descartes separated the mind and body with his theory of dualism, neuroscientist Antonio Damasio (1994) made a rebuttal with his aptly named book, *Descartes’ Error: Emotion, Reason, and the Human Brain*, in which he introduced the term ‘somatic markers,’ or body sensations that accompany emotional experiences, as a pivotal feature that guides human behaviour. Many scientists have added to this by identifying the exact somatic markers or physiological changes in the body that are explained by emotional states (Maté, 2019 & van der Kolk, 2014). For example, sweating, rapid heart rate, tightness in the chest and upset stomach are often indicators of fear, unease, or anxiety. Smiling, soft gaze, and relaxed shoulder and facial muscles may indicate happiness or ease. Even more, science has identified the specific communication systems within the body, like hormones and the nervous system, that connect bodily sensing with thought processes in the brain. One of the most important and well-studied hormones is cortisol, the stress chemical responsible for illness and disease when overactive (Maté, 2019). Stress and all the physiological sensations are interpreted by the brain for action and decision-making and are tremendously important in human behaviour (Damasio, 1994). In this way, it is evident that our bodies hold a lot of information about our lived experiences, which directly link to the mind and impact on our whole selves.

The reverse direction of this is also true- our mental states can manifest in our bodies. Maté (2019) and van der Kolk (2014) pioneered this idea by investigating the consequences of not heeding the signals of stress and trauma on the body. Their findings showed that these adverse psychological states- in the *mind*- are responsible for disrupting brain functions and stress responses and can cause autoimmune disorders, chronic pain, and other diseases and conditions- in the *body* (Maté, 2019; van der Kolk, 2014). Maté's (2019) stance on the inseparable nature of mindbody is backed by his clinical experience, where he saw that prolonged experiences of stress change the experience of stress itself and weaken human defences because the "immune system does not exist in isolation from daily experience" (p. 32). Many more research studies support this idea that our bodies and minds are not separate from our daily experiences. For example, an American study from 2017 showed that individuals with higher perceptions of loneliness reported more severe cold symptoms than those who did not feel lonely (Leroy et al., 2017). The 2014 Technical Report from the American Academy of Pediatrics made clear that teens worldwide are not getting enough sleep, which is contributing to the risk of car accidents, maladaptive behaviours, obesity, depression, and more (Owens et al., 2014). It seems clear in these research studies that there are bidirectional effects on the mind and body, and the signals of loneliness and fatigue are largely not considered in people's daily experiences. Van der Kolk (2014) explains that "even though the mind may learn to ignore the messages from the emotional brain, the alarm signals don't stop....the physical effects on the organs go on unabated until they demand notice when they are expressed as illness" (p. 46). This is an important point- even if we do not accept in our minds the present reality of our bodies, our body systems do not turn off. Hearts still race, muscles still tense, hormones get released. But we unconsciously learn to turn off our sensing perceptions. This severing of body signals can be

long-term and detrimental, as in the case of fatigue in teens and loneliness in elders. What a tremendously costly denial of self. Our bodies seem to hold so much pertinent information, so why is it then turned off, ignored, suppressed or outside our consciousness?

The disconnect

Answering those questions in full is far beyond the scope of this paper, as the literature shows that losing the connection between mind and body, or the process of disembodiment, can result from many factors. Here, I will briefly highlight some significant psychological and social factors that can contribute to individuals disconnecting from their body signals.

As previously mentioned, our bodies and brains work together to keep us attuned to possible threats and rewards; this evolutionary process is credited for keeping humans alive (Maté, 2019). Triggers of threat and reward have changed drastically throughout human history, yet when threatened, our body systems still use the same responses, like the fight or flight stress response, to keep us safe (van der Kolk, 2014). Instead of spotting ferocious animals and needing the immediate release of cortisol and adrenaline to help us run, this physiological cascade happens in seemingly innocuous times, like when we accidentally make a mess when rushing out the door, paying exorbitant grocery prices, watching sports or shows we are invested in, or comparing ourselves to others on social media. Neuroscientist Stan Rodski (2019) explains, “A long time ago if you failed, you could die. Today, this is unlikely, but it still *feels* as if it could happen. The same could apply to a whole range of emotional perceptions. We now fear *emotional hurt* in exactly the same way as we once feared *actual hurt*” (p. 13). Our stress may or may not feel warranted but persists and can potentially overwhelm our ability to cope. When this happens, we essentially turn off sensing from our awareness. In this way, we can lose our mind-body awareness for survival.

In some cases, we have learned to tune out and ignore signals that we can reason are not imminent threats, especially when warning signals become constant. This may be true for youth, for example, who live with food insecurity, family conflict, or marginalization. Among other modern realities, technological distractions like social media keep us preoccupied and disconnected from our body signals. The most common conditions, however, that are attributed to loss of interoceptive awareness are stress, trauma, and psychological disorders.

When stressed, Maté (2019) explains that “we have lost touch with the gut feelings designed to be our warning system... we keep ourselves in physiologically stressful situations, with only a dim awareness of distress or no awareness at all” (p. 36). Stress is common and, in many ways, normalized. Our modern life is hyper-focused on achievement and production and abundant in internal stress triggers, including “fears and anxieties around failure and rejection” (Rodski 2019, p.12). Many, if not most, of these triggers are long-term, not a one-time bear fight, so their effects are also long-term and chronic. When people become habituated to stress, it’s as if their body signals become muffled or muted under heavy blankets, eventually silencing the need to respond. And as previously mentioned, the stress response, when overactive, can change the response itself and become less reliable (Maté, 2019). Chronic stress can lead to overactive nervous and neuroendocrine systems, meaning overactive stress chemicals in the body like cortisol. Rodski (2019) explains that scientists have discovered that “we live in a world in which, for many of us, the cortisol stays in our system constantly” (p. 16) and can be detrimental, especially to our immune systems, because “cortisol effectively slows down cell activity” (p. 158) and makes us susceptible to illness. Rodski (2019) also points out common symptoms of overstress: increases in physical problems and illness, relationship problems, more negative thoughts and feelings, increase in bad habits, and exhaustion (p. 18). Again and again, stress cues

are missed, or they seem too much, too inconvenient, or too far away from awareness to consider, and without intervention, may only resurface in the form of serious illness (van der Kolk, 2014, p. 36). Reinforcing this even further are the bad habits that may seem like ‘feel-good’ strategies- mindless scrolling, drugs, and alcohol- that we employ to help us avoid and numb out these sensations and ultimately work against our well-being (Taitz, 2024, p. 41). In fact, “the more people try to push away and ignore internal warning signs, the more likely they are to take over and leave them bewildered, confused, and ashamed” (van der Kolk, 2014, p. 99). When we become numb and unaware, we do not lessen the stress response or retrain our brains to respond differently; we only reinforce the necessity to keep those feelings away from us at all costs and end up having more problems.

In the case of trauma, people often become dissociated, where they deny, wholly cut off, or shut down frightening or negative thoughts and feelings to continue existing in a body that has been overwhelmed (Kolk, 2014). Resulting from world-leading trauma studies, van der Kolk (2014) discovered the severe extent of emotional dissociation in traumatized people when “in an effort to shut off terrifying sensations they also deadened their capacity to feel fully alive” (p. 94). This dissociation is a fragmented reality and a disconnection between thoughts, bodily sensations, and actions. It is a common symptom of trauma, often described as going blank or having a lack of feeling and memory. It shows how severing the mind-body connection may work to protect, but it also prevents people from healing and fully living. The importance of mind-body awareness to daily experiences is then emphasized by looking at its absence in traumatized individuals and asking how they could “make decisions, or put any plan into action, if they couldn’t define what they wanted or, to be more precise, what the sensations in their bodies, the basis of all emotions, were trying to tell them?” (van der Kolk, 2014, p. 94).

Traumatized people survive horrific events and the aftermath because they have found ways to turn off their feelings, which is an incredibly adaptive response. Unfortunately, this response is not without its implications, as we know that people with PTSD and trauma histories are more likely to have symptoms of depression and increased suicide risk (Fox et al., 2021). In a 2021 study from Sweden, for example, 3.1 million people were assessed for suicide risk and found that individuals with PTSD were twice as likely as those without to die by suicide (Fox et al., 2021).

The lack of awareness of mind, body, sensations, and emotions defines other psychological conditions. Somewhere in the body and mind systems and within an individual's history, sensing is shut off. Not only is dissociation a common symptom of trauma and PTSD, but it is also seen in depression, anxiety, and other disorders and even more severe forms (van der Kolk, 2014). Depersonalization is one of the more extreme experiences in which people describe being separated from their body, often feeling like they are floating outside and observing their physical body and living a "phantom existence on its own" (Kolk, 2014, p. 102). Next, alexithymia is not a diagnosable condition according to the DSM-V but is considered a personality trait defined by a lack of emotional awareness and is commonly comorbid with autism spectrum disorder (ASD) (Hogeveen & Grafman, 2021). People with alexithymia are often described as unable to sense, identify, and verbalize feelings and understand the emotional worlds around them (Hogeveen & Grafman, 2021). This lack of sensory perception, or knowing what is going on in their bodies, often causes challenges in identifying needs and following through with self-care, even basic body needs like eating and sleeping (Kolk, 2014). These conditions give us a look at the repercussions when emotional sensing is shut down.

After briefly looking at the absence of mind-body awareness in stress, trauma, and psychological conditions, it is clear to see its importance and necessity: the awareness of

sensations between mind and body is imperative to making choices that mark a healthy and full life.

Cultural and social factors

Moving on from psychological components, there is much to be said and understood about the cultural and social ways in which people learn to deny their bodies. The same tenet stands- we learn over time that doing so is imperative for survival. While each of us grows up, we learn that certain feelings are unacceptable or unwelcome and that it is often best to push away and ignore those that could be problematic with others, which evolutionarily ensures our survival (McBride, 2024). For instance, a child may learn not to cry or express feelings of hurt or sadness because parents may not have the capacity to accept and nurture it. Cultural norms, societal expectations, and social messaging influence what feelings are welcomed or not and promote detachment from physical sensations.

Embodiment expert Dr. Hillary McBride (2024) says, “We are born embodied, but the thing we have the most practice learning is disembodiment. Cultural stories make it seem like our bodies are dangerous, a problem to be managed, vile and untrustworthy, and something to be controlled” (p. 33). These messages in Western culture include ideas like: “some bodies are better than others,... appearance is all that matters about your body,...bodies must present within the rigid binaries of gender,...you should change your body” (McBride, 2024, p. 34). And culture and pop culture alike explicitly celebrate the denial of bodies and body wisdom. This is perhaps most obvious in the perpetuation of the very narrow view of an ‘ideal body’ and the widespread acceptance and use of photo editing tools that replace actual bodies with artificially created ones. A 2023 study on social media found that editing photos was negatively associated with self-esteem. One anonymous participant succinctly summarized: “Sometimes I forget that I

am human with a body, not a playdough that can be pressed and squeezed until it fits the predetermined mould this society has deemed ‘beautiful’” (Ozimek et al., 2023, p. 2). This also points to the way Western culture objectifies people, primarily women, detaching their minds and bodies and sending the message that the outward “meat puppets” (McBride, 2024, p. 19) are the only basis of worth. The diet industry feeds this system, too, and grossed over \$142 billion USD in 2022 while insisting that bodies must be smaller (Grand View Research, 2024). These ideas are also exchanged colloquially. Look at t-shirt and souvenir companies that flaunt quotes like, ‘I’ll sleep when I’m dead,’ ‘no pain, no gain,’ ‘sweat is just fat crying,’ and ‘rise and grind.’ This epitomizes North American hustle culture and shows how it demonizes body needs like sleeping and eating in favour of productivity. Sports are also known to disregard the body experience of athletes by ignoring their injuries and warnings from health professionals. Every year, the Stanley Cup playoffs see NHL players with broken bones, lacerations, and imminent surgeries to fix torn ligaments and damaged organs, and the public applauds them (Allen, 2018). Parents even overtly teach these messages to their young. I know that ‘be seen and not heard’ was a common directive from previous generations, and even now, many still press the necessity for children to stop crying, essentially demanding them to instantly deny their bodily experience. From parenting to work ethics and common refrains, our environment is pervasive with the messaging of rejecting our body experiences, but how did it become so?

Colonization

Colonization is the overarching cultural system that created these mentalities and did so on purpose. Intertwined with colonization, white supremacy, patriarchy, capitalism, and transphobia also contribute to the domination over bodies, particularly black and brown bodies (Blackwell, 2023). I think it is important to touch on this subject, at least briefly understand how

these systems have forced mass disembodiment, and to press upon the importance of embodiment as the path to a healthy and full life.

In considering the effect of colonization, Maté (2019) observes that “the higher the level of economic development it seems, the more anesthetized we have become to our emotional realities” (p. 36). Author Kelsey Blackwell (2023) identifies the ways “colonization requires a disconnection from the body” (p. 4) by explaining the internalization of the fundamental beliefs of colonization. In reflecting on the experiences of her black ancestors, she writes:

Colonized people learned to hold their rage quietly, to not draw attention to themselves, to comply, to attend to the needs of the oppressor, to ‘keep their heads down’. Internally, we learned to push our anger far down, to disconnect from feeling and sensation ‘to get through,’ to feel shame for ourselves and our bodies ... A colonized body does not know how to rest; has difficulty saying no; may feel guilty for taking up space; may feel more comfortable putting others first and itself last; suspects that it can't rely on anyone; finds it difficult to ask for and receive support; believes it is meant to always be of service, useful, and working; and prioritizes getting ahead over self-connection. (Blackwell, 2023, p. XIV)

Suppression of all this emotion and pain has taken its toll. Yet, the systems of oppression continue by having people fight for resources, question their innate worthiness, continually work without achieving, and “operate from the neck up” (Blackwell, 2023, p. 7). Ultimately, this is what has conditioned colonized and economically developed nations like Canada and the United States to fundamentally adopt beliefs about the disposable nature of bodies, especially coloured bodies (Blackwell, 2023). This is also why re-orienting to mind-body awareness through embodiment and somatic practices is so vitally important. Not only does it attune thought to

sensation and direct our actions, but it also has the power to throw off “the colonial overcoats we’ve been buried in” (Blackwell, 2023, p. 9) and let us commune and “embody the truth: we are fundamentally whole and worthy as we are” (Blackwell, 2023, p. 8).

Strategies and Benefits

Knowing how and why people disconnect from their internal body wisdom helps understand the route back. If we can identify and move away from oppressive mental states and cultural stories and want to move back to our “core self, the wise, creative, steady, compassionate, and connected present-day self, we need to learn to be with our feelings as they happen and to trust that our bodies know what to do with them” (McBride, 2024, p. 81). Sensing is key. Van der Kolk (2014) argues that “you have to know where you are and be aware of what is going on with you. If the self-sensing systems breaks down, we need to find ways to reactivate it” (p. 94). This reactivation comes through interoception and embodied and somatic strategies like mindfulness practices, including mindful movement, breathing exercises, meditation, and body scanning. My goal is to highlight how these strategies promote mind-body awareness and their many benefits for holistic well-being.

Interoception

Interoception is the “process by which the nervous system senses, interprets, and integrates signals originating from within the body, [provides] a moment-by-moment mapping of the body’s internal landscape across conscious and unconscious levels” (Khalsa et al., 2018, p. 501). This is the skill required for looking inward. Adding to the multitude of studies on mindfulness, Gibson (2019) asserts the need to appropriately credit interoception, as opposed to ‘mindfulness,’ as the skill required for mind-body awareness because studies repeatedly show neural growth in brain regions, like the *insula*, that are associated with interoceptive body

awareness. More than a matter of semantics, it is essential to be specific in these areas of study to guide best practices. In *The Body Keeps the Score*, Bessel van der Kolk (2014) argues for cultivating interoception specifically because “we do not truly know ourselves unless we can feel and interpret our physical sensations” (p. 274), and his clinical studies have shown that “actions that involve noticing and befriending the sensations in our bodies can produce profound changes in both mind and brain” (p. 277). He promotes strengthening our interoceptional awareness through mindful practices like yoga and meditation as a way to better ourselves: “Knowing *what* we feel is the first step to knowing *why* we feel that way. If we are aware of the constant changes in our inner and outer environment, we can mobilize to manage them” (van der Kolk, p. 97). All the following mindful and embodied practices include interoception as the route individuals employ to foster their mind-body connection. The main strategies discussed here that are the suggested route to holistic self-connection are mindfulness, mindful breathing, meditation, and body scanning.

Mindfulness

Despite being a noun and umbrella categorization within mind-body awareness, mindfulness is also a practice in and of itself. Approaching mindfulness as a verb helps us understand it as a practice, a journey, and a path that cultivates an observational attitude of acceptance toward any experience. “Mindfulness practices rely on cognitive awareness of the present reality of mind and body” (Hölzel et al., 2010) and can be applied in almost infinite contexts. The most popular, well-known, and studied practices are mindful movements like yoga, tai chi, and qi gong. Yet mindful practices also include activities like mindful eating, breathing, and walking. Their commonality and purpose is to bring intentional focus to mind and body in the present moment of any experience. To many it may seem laughable that deliberate teaching

or guidance is needed for bringing mindfulness to the mundane life happenings like eating, walking, and breathing, yet how often do we each notice our present selves while doing them? This is precisely the point. Mindfulness practice takes us out of our busy minds and lives and attaches the actual sensations of here and now in all we do.

Embodiment practitioner and author Susan Bauer has a description of ‘body-listening’ that is helpful in understanding interoceptive processes in mindfulness. She defines body-listening as “actively turning our focus inward to the sensations of our body- to first become aware of what we are sensing” (Bauer, 2018, p. 104) by observing physical body postures like muscles and bones and tension, as well in internal ones like thoughts and attitudes and gradually allowing the self to quietly “arrive in the present moment” (Bauer, 2018, p. 104). When considering mindful movement, Bauer cautions that the bendy yoga postures, for example, are not the goal because it is “not so much about teaching a specific movement, but on facilitating a process in which students’ own movement will be teaching them about themselves. They gain access to their own body’s innate intelligence to integrate body and mind, to gain ease of movement, and develop greater health and vitality” (Bauer, 2018, p. 104). This description of body listening brings home the overall goal of mindfulness- a developed integration of mind and body that leads to greater health and fuller life.

Specific mindful movements and activities have been studied and found to elicit many benefits. For instance, considered the most restorative and relaxing for most able bodies is a *Constructive Rest posture*, where you lay on your back, with knees bent and pressing inward on each other. Bauer suggests regularly incorporating this resting pose in embodiment practices, as it “initiates relaxation and triggers a parasympathetic nervous system (PNS) response that releases serotonin into the bloodstream; this chemical works as a neurotransmitter to help

maintain emotional balance” (Bauer, 2018, p. 107). This was also supported by a 2020 systematic review of various yoga studies that showed around 70% of teens who participated in mindful yoga practice showed improvements in their symptoms of depression and anxiety (James-Palmer et al., 2020). In another study, girls aged 9-13 who suffered from chronic health conditions reported increased confidence, less pain and dependence on pharmaceuticals, feelings of empowerment, more activity and better well-being after participating in an 8-month embodiment dance and yoga intervention (Högström et al., 2023). Connecting to the body through dance has also been shown to benefit those healing from trauma, as it allows people to reconnect to their body and, often, their larger cultural community, ushering in a profound healing sense of safety (Gray, 2017). Neuroimaging has shown changes in brain regions as a result of mindful practice, and brain scientist Stan Rodski (2019) states that the repeated practice of bringing awareness to ourselves in the present moment can increase “the brain’s ability to regulate itself. Being able to regulate our attention will improve our concentration, memory, and overall mental clarity. Neuronal pathways are created and strengthened by the repeated practice of calming the mind and paying attention to something on purpose” (p. 77). He adds that many other neural networks can change as a result of mindful practice and show “improvements in ability to control thoughts and emotions, mood, wellbeing, self-esteem, concentration, sleep, health, memory and much more” (Rodski, 2019, p. 66). To encourage people “who don’t think they have enough time” (Rodski, 2019, p. 4) to experience these benefits for themselves Rodski compiled lists and descriptions of everyday hobbies that can be done mindfully like brushing your hair, colouring, knitting, walking, and driving. These activities have elements of pattern, repetition, and control, which he advises as a helpful strategy “to turn off the busy, distracted chatter going on in our brains so that we can focus on being in the present” (Rodski, 2019, p.78).

As you can see, there are as many ways for people to explore mindfulness as there are associated benefits.

When people continually practice mindfulness in movement in their daily lives, they develop a better non-judgmental awareness and sense of their anatomy, physiology, and inner self, or a sense of how they are at any given time. This is what Bauer (2018) calls the sensing of “being while doing” (p. 104). All of this supports people in recognizing areas of tension, patterns, and attitudes that may be self-defeating and offer new ones that are fulfilling, life-giving, and more aligned with an individual’s goals and values (Bauer, 2018). In daily lives, this may encourage people to spend more time observing the beauty of nature on their commute, make choices that align with body needs, like choosing water for thirst and rest for fatigue, or trusting a ‘gut feeling.’

Mindful breathing

Mindful breathing- full awareness and focus on breath- is similar to the interoceptive processes as the other mindfulness practices and has its own specific strategies and benefits. However, mindful breathing differs from other practices because of its direct control over other body systems. Studies have shown that “different emotions are associated with different forms of breathing, and so changing how we breathe can change how we feel” (Seppälä et al., 2020). We know that “when people are stressed, they breathe rapidly and shallowly up in their chest. Their shoulders rise slightly, and their stomach does not move in and out... Conversely, when people are relaxed, they tend to breathe from their diaphragm, a muscle that separates the chest from the abdomen. Relaxed breathing is deep and slow” (Sheen, 2022, p. 31). It is not just that we know that stressed states cause short, shallow breathing; we know a direct, instant, doable antidote: expanding the diaphragm with slow, deep breaths moves us out of stress and into a calm,

regulated state. Susan Bauer (2018) reminds us of the power of breath and that “taking a deep breath, sighing, and laughing create fuller breathing and a sense of ease that helps to restore our physical and emotional health. Breathing can teach us to slow down and to learn to not put the body “on hold” while we push ahead through our lives” (p. 260). Unlike our heart rate or cortisol level, our breath is within our control, and even brief intentional focus on it has benefits. With this understanding, it is clear why mindful breathing is encouraged to bring a change from a stressed and panicked state to a relaxed, calm one and why breathing exercises are often associated with stress reduction.

Why breathing is so effective at this can be explained with the basic premise of polyvagal theory. Polyvagal theory focuses on the nervous system and the connection between body states and behaviour. Breathing can be used as a hack, so to speak, to exert control over these systems (Dana, 2020). Polyvagal expert Deb Dana (2020) explains that “breath is an autonomic action that can be intentionally manipulated” (p. 131) for regulation or shifting emotional states (Dana, 2020). For instance, when we are stressed and experience quick, short breaths, our fight or flight response is activated in the sympathetic nervous system (SNS) through the vagus nerve (Dana, 2020). In this state, our brain is essentially impaired and cannot reason or use logic, but through slow, deep belly breathing exercises we can signal the parasympathetic nervous system (PNS), incite relaxation, and reconnect to our pre-frontal cortex (PFC), or logical higher thinking brain (Dana, 2020). Again, unlike our other body systems, we can bring conscious control and calm over our bodies with mindful breathing, which signals our nervous system to follow suit.

A myriad of breathing practices exist for this aim, each with varying mechanics of time counts for inhalation, exhalation, and pauses between. One typical example, famously employed by the U.S. Navy SEALs, is called *Box Breathing*, in which a square shape can be traced or

imagined in equal part breath and pause counts (inhale, pause, exhale, pause, each for four seconds) (Sheen, 2022). Bauer (2018) explains that deep breaths that move the diaphragm and balloon out the belly are what's important because "in unrestricted breathing, the ability of the lungs to completely fill and empty brings more oxygen into the circulatory system and enhances functioning of all the cells in the body" (p. 267). Another beneficial breathing exercise is the *Psychological Sigh*, described as a full in-breath, plus another short burst of forced inhalation, followed by a long, slow exhalation (PsychSolutions, 2023). Research findings by Stanford University's neuroscientist, Dr. Andrew Huberman, found that psychological sighs reset our breathing and nervous systems, increase oxygen in the body, and can lessen the intensity of negative emotions and improve our moods (PsychSolutions, 2023). What a valuable tool. This practice is a worthwhile pursuit in wellness repertoires because of how frequently we are oblivious to our breath and how much control it has over our physical and emotional states.

Meditation

Meditation involves training the mind to focus attention and cultivate awareness, leading to mental clarity, emotional calmness, and enhanced well-being. Mechanically speaking, meditation can be done anywhere yet often assumes a comfortable sitting position, eyes downcast or closed, and an interoceptive awareness of body, breath, thought, and inner sensation. Many meditation practices involve focusing on a singular aim, like breathing or a repeated mantra (a meaningful word or phrase), which may or may not have a spiritual element and can be self-exploratory or guided by a teacher or practitioner.

Thanks to the initiative of the Dalai Lama in the 1980s, meditation began scientific investigation through the University of Wisconsin-Madison and other institutions (Ricard et al., 2014). This scientific look aided the drastic secularization of mindfulness practices in North

America, and meditation became more than a Buddhist practice (Ricard et al., 2014). Meditation spread to wider and wider populations as findings from clinical studies touted its benefits. Many sites and apps now offer guided meditations and prompts for use in various settings like home, group classes, workplaces, schools, etc. In my experience, I have seen elementary schools often incorporate meditation and yoga videos as part of curricular learning and aid in collective re-centring and focusing after the lunch break. Studies have shown that students, including those with attention deficit hyperactivity disorder (ADHD), show improved focus, better sleep quality, and enhanced well-being when they practice meditation (Crescentini et al., 2016; Zaccari et al., 2022), proving to be a helpful tool in schools and classrooms.

Neuroscientific study has added to the understanding of meditation and the associated benefits. Alpha and theta brain waves have been identified as the *deep state* of meditation that, when achieved, is linked to reports of individuals experiencing less self-criticism, feelings of shame and negativity, and an increase in positive emotions, motivation, creativity, coping and healthy relationships (Rodski, 2019, p. 52). Rodski (2019) presses the importance of this deep state to help when “some people are so out of touch with their own bodies that it’s difficult for them to be aware of subtle physical differences” (p. 57). He also suggests meditation for people who want to become more emotionally competent, heal inner wounds and gain more perspective or empathy for themselves and others (Rodski, 2019, p. 58). Van der Kolk (2014) explains that when the brain is in an alpha-theta wave state, it helps the mind to “loosen conditioned connections between particular stimuli and responses” (p. 328) and allows people to adopt a broader perspective and new neural pathways.

Interestingly, a technology called *Neurofeedback* can be used to induce the same brain state as meditation. Studies have consistently shown benefits in executive functioning- attention,

focus, and concentration- in people with ADHD, PTSD, and addiction, as well as those wanting to enhance their performance in sports and music (van der Kolk, 2014, p. 330). Unlike the organic and individualized meditation experience, clinical neurofeedback can offer immediate data on the brain and has quickly shown promise in the benefits of the alpha-theta brain state. Van der Kolk (2014) predicts an increase in this technology for treating many psychological conditions as “no other treatment has achieved such marked improvement in executive functioning, which predicts how well a person will function in relationships, in school performance, and at work” (p. 330). In this way, this meditation shortcut highlights the benefits of alpha-theta brain state and supports the case for meditation practice.

It is important to note that most studies in this field are clear to avoid overgeneralizing their claims, and it suggests that further research still needs to be definitive and conclusive. Many studies fall short in their experimental design and methodologies, and so continually report the need for more research under strictly defined parameters. Even so, a host of research studies show that meditation improves focus and attention, invites relaxation and calmness, and benefits well-being, with more extensive practice yielding more prominent benefits.

A 2014 meta-analysis of 47 clinical trials on meditation found that benefits included a moderate reduction in symptoms of anxiety, depression, and pain (Goyal et al., 2014). In another review, Matthieu et al. (2014) summarized from studies using neuroimaging scans that there is activation and growth in specific brain areas during and after repeated meditation, specifically in the regions that control focus and reject distraction, produce empathetic understanding, and reduce ‘alarms’ or symptoms of stress and anxiety (Ricard et al., 2014). To add, a recent study found that not only did meditation practitioners enjoy the emotional, mental, and physical benefits of meditation, but these effects were also discernable in social groups in two to three

degrees of separation (Engert et al., 2023). Engert et al. (2023) found that “prosocial actions, improved cognitive functioning, and increased positive affect” (para. 1) benefitted the original practitioner and other non-meditators around them. Not only did meditation improve the holistic wellness of the person practicing, but these well-being effects spread like a positive contagion to others around them. This finding is hoped to be considered for future interventions in social institutions like schools, hospitals, and conflict zones (Engert et al., 2023).

Body scan

Body scanning is another tool, under both mindfulness and meditation, that focuses on body sensations explicitly and methodically. Body scanning works like a photocopy scanner, starting the process at one end, the head or feet, and slowly, with intention, working its way to the other end while noticing sensations in each part. This can be done as a complete meditation and is often tied to yoga practice, but it can also be used in various settings and ways. Aligned with results from generalized mindfulness studies, findings have shown that “body scan practice, in combination with focusing on the breath, improves interoceptive sensitivity and accuracy and also trains attentional control” (Kok & Singer, 2016, p. 219). One way that adults can easily incorporate this into their daily lives is through the body scan doorway trick: before entering a new space, like at a business meeting or a child’s birthday party, take a few deep breaths and scan the body, noticing sensations like tension, breath, and posture. This momentary body scan helps to anticipate what is coming and be prepared for a new environment. While the effectiveness of body scanning as meditation is likely affected when done standing and with eyes open, like with the doorway trick, it also makes it accessible in busy seasons and for beginners in mindfulness practice. Another benefit of body scanning is attuning to the messages our bodies send. By taking time for this methodical inventory of our whole body and all its systems, we may

be presented with the signs and signals that something is not right. Maté (2019) encourages this act of interoception because “we can learn to read symptoms not only as problems to be overcome but as messages to be heeded” (p. 268) and is ultimately the source of our agency.

Summary

As you can see, there are many similarities in the mechanics of mindfulness practices, and the categories often overlap. To bring it all together, Rodski (2019) points us back to interoception with his directive: “Listen to your body- it has no reason to lie to you” (p. 204). As we saw, our minds can lie to us, so to speak, by adhering to and creating different messages that convince us to tune out body signs and signals. Returning to the body in the present moment is the overarching goal of mindfulness and the essence of mind-body awareness. It allows us to take stock of what we are truly experiencing and provides valuable information that can shape our futures. The combination and repetition of these strategies have been shown to produce the best benefits (Rodski, 2019). Consistent practice teaches the body to regulate and pay attention, sense safety in the self, and be attuned to the present without judgment (Rodski, 2019). The benefits are clear, and cultivating mind-body awareness through embodied practice is a proactive health aim that is accessible to all people. It does not necessitate an app, a membership, or even specific training but a commitment to self-discovery, stillness, and an interoceptive look. Van der Kolk (2014) encourages, “If you have a comfortable connection with your inner sensations- if you can trust them to give you accurate information- you will feel in charge of your body, your feelings, and yourself” (p. 98).

Emotional development in adolescence

Introduction

Adolescence is a unique period of human life, marked by an adoption of selfhood, growth, and discovery. This transformational stage has been extensively researched, highlighted in books, movies, TV shows and all creative arts, and is culturally celebrated worldwide. Body systems rearrange drastically in the teenage years, bringing with it profound neural, physical, social, and emotional developments. In this self-innovating revolutionary time, “for teenagers, powerful emotions are a feature” (Damour, 2024, p. xvi). Emotional development is a key shift that characterizes adolescence, as it influences how people of this age understand and interact with the world around them. Given the present mental health trends affecting teens, it is vital that teens and anyone supporting or caring for their futures and well-being have a current and clear understanding of their emotional development. After pressing upon its importance, I will delve into adolescent emotional development in terms of the factors that influence it, its challenges, and strategies and supports for promoting healthy emotional development.

The importance

Adult patterns of emotional behaviour, including regulating emotions, navigating relationships, and maintaining mental health, stem from adolescent development. Adolescence, then, could be viewed as the messy first tries in these emotional skills. I am reminded of small children trying on their parent’s way-too-big-for-them shoes, clunking, and tripping down the hallway. And indeed, adolescence is a lot of clunky first tries. To clarify, *adolescence* is based on brain maturation, which occurs for much longer than only the teenage years, approximately ages 10 to 24 (Damour, 2024), but both terms are used here. This period sees the adoption of new bodies through puberty, selves as separate from family, sexualities, specialized interests and

abilities, and freedoms. In her most recent publication, *The Emotional Lives of Teenagers* (2024), renowned teen psychologist Lisa Damour explains that teens both experience emotions differently and start having different experiences that elicit new emotions. Some themes common to this era of self-exploration often include conflict with parents, emphasis on peer relationships, self-doubt, risk-taking, and specialized interests. Quite frequently, adolescence is described as a roller coaster, with high highs and low lows. Psychoanalyst Anna Freud (1958) assures that “such fluctuations between extreme opposites would be deemed highly abnormal at any other time of life. At this time, they signify no more than that an adult structure of personality takes a long time to emerge” (as cited in Damour, 2024, para. 1). In getting to that adult state, it is important how teens navigate the ups and downs along the way because the patterns they begin to take on will profoundly impact their emerging identity, relationships, academics, and overall wellness. The values and beliefs, including the big ones like self-worth and belonging, really begin to take shape during this time and, in doing so, set the stage for adulthood. That is not to say that adults do not continue to change and mature in later years; they most definitely do. But as the neuroscientific adage says, *neurons that fire together wire together*; the thoughts, behaviours, and experiences of adolescence are the inheritance of adulthood. This includes patterns of self-care or sabotage, stress management and conflict skills, goal setting, and the answers to questions like ‘Am I enough?’ and ‘Do I belong?’. In this sense, the emotional neural pathways that are shaped and persevere throughout this time can impact whole futures and all realms of life and are due our respect, attention, and understanding.

Influential biological factors

There are countless influences and lenses to consider when examining the factors at play in the emotional development of adolescents. Common largescale influences include biological

changes, family environment, peer relationships, cultural and societal factors including social determinants of health, social media and technology, coping skills, and personal experiences like trauma, grief, or life transitions. As we saw in mind-body awareness, social and cultural influences contribute to the learned denial of body sensing. While we will later look at this pattern repeated as a challenge to emotional development, these social forces are at the same time a support and aid in healthy emotional growth. They are the influences that both help and can hinder; so are families, peers, and technology. Much can be said on both sides of that argument, and it is important to understand adolescents as individuals, like in counselling. Here, I will focus on biological changes that influence emotional development. Biology is a common factor in adolescents and helpful in bringing large-scale, big-picture understanding to the forces at work within teenagers. More specifically, I will outline the brain transformation and hormone surge that directly impact emotions in adolescent bodies.

Brain transformation

The brain changes drastically in adolescence, more than at any other point in human life, both in terms of structure and function (Damour, 2024). Starting with puberty, around age 10 or 11, the brain undergoes what Damour (2024) calls “a major physiological renovation” (p. 76) and a “massive rewiring project” (p. 75), understood in neuroscientific terms as *neuroplasticity*. This wiring, or neural network, in the brain is responsible for encoding information, memory, and communication in and outside the body and all the systems that make us human. This significant network changes and grows throughout all life stages, but the ‘major renovation’ and neuron growth happens most rapidly in adolescence, by as much as four to five times as that of adults (Damour, 2024). Equally as important is the merciless and rapid deletion, or *pruning*, of underused neurons and the *myelination* of neurons where a fatty substance insulates neurons,

“speeding the transmission of the electrical impulses that they use to communicate with one another” (Damour, 2024, p. 77). These are significant structural changes in brain matter, and all work to “make the teenage brain faster, more powerful, and more efficient than it has ever been before” (Damour, 2024, p. 77). Neurons that get used during this time get to stick around and even become fast-tracked with myelination, and unused ones get deleted to save space, so to speak. While the general brain changes in adolescence are the same for all humans, each person’s brain can develop differently with more neural networks in certain areas based on their unique life experiences.

Another structural and functional change to note is that the areas that undergo these upgrades happen systematically but not equally and simultaneously. Science has shown that growth starts from the bottom up in utero and mirrors this in adolescence, beginning with the oldest and most primitive parts of our brain and moving towards the more cognitively complex (Damour, 2024). What does this mean for teens and emotions? Everything. To start, one of the first brain systems to transform is the limbic system, which Van der Kolk (2014) calls the *emotional brain*, and is “the seat of emotions, the monitor of danger, the judge of what is pleasurable or scary, the arbiter of what is or is not important for survival purposes. It is also a central command post for coping with the challenges of living within our complex social networks” (p. 56). Siegel (2013) illustrates the sensitivity of the emotional lower brain of adolescents with results from brain scans that revealed that when teens were shown a photo of a neutral face, their amygdala in the emotional limbic region was activated, whereas the reasoning area of the prefrontal cortex was activated in adults. This highlights how teens are more likely to interpret experiences and events negatively and emotionally, even seemingly neutral and innocent ones. Siegel (2013) continues to explain that there are two routes to send information to

the amygdala in the emotional brain: the slow route first sends data to be sifted with reasoning and rationality through the cortex before calmly passing it on to the amygdala, and the fast route bypasses this filtration and sends raw data straight there. Not surprisingly, studies revealed that “even under calm conditions, the fast route to amygdala activation often occurs more readily in teens than adults; the slow route is used more in adults” (Siegel, 2013, p. 107). Siegel (2013) concludes that teens “simply have a more immediate emotional response that is not filtered by cortical reasoning” (p. 107) and that “adolescence is a period of more emotional intensity, more emotional spark. The fast route to the amygdala is more readily activated during this period than it ever was, or ever will be” (p. 107). Managing this emotional reactivity is the big learning curve for adolescents as brain regions develop.

Van der Kolk (2014) notes that the limbic system and emotional brain follow the ‘wire together’ rule, and its emotion generation is shaped in response to experience. This brings us back to the importance of understanding unique and shared experiences, like family, culture, and peers, that contribute to overall emotional development. Children and teens who experience emotional chaos or even emotional shutdown do not get to develop these parts in the brain the same way as individuals with emotional safety and practice.

Second, the higher-level cognitive restructuring of prefrontal brain areas happens closer to 24 and includes refinement in “planning, decision-making, and maintaining a sense of perspective” (Damour, 2024, p. 78). When the frontal lobes in this area mature, it is responsible for abstract thinking, integrating, and giving meaning to vast amounts of information, allowing us to plan, reflect, imagine, predict, and make informed decisions (van der Kolk, 2014). Damour (2024) adds, “The ability to stand mentally in someone else’s shoes blossoms as a result of the major renovation project underway in the adolescent brain” (p. 89). As such, expectations of

these skills in full are not developmentally appropriate for teenagers and need to be a significant consideration for caretakers and educators. As you can see, the disparity in the timing of brain growth leaves many years of adolescence in emotional upheaval and clunky practice before the more sophisticated and regulating brain areas can contribute to more planned and rational thought. The wait for development in the frontal lobes is worth it.

As Siegel (2013) explains, this region “connects all the parts of the brain in the skull to one another, and links those functions to what is going on in the body (signals from the heart, intestines, muscles). Then those connected signals are woven together with input from other people” (p. 105), creating a massive integration undertaking worthy of respect and care. This allows us to be both self and socially aware and connected to others. Like van der Kolk’s reminder about the necessity of experiences for development in the lower emotional brain area, Siegel (2013) points out that “what we focus our attention on and what we spend time doing directly stimulate the growth of those parts of the brain” (p. 91). This emphasizes the powerful tool that mindful practices can offer to developing adolescents. Also, the major remodelling of the frontal cortex, as Siegel (2013) says, is “responsible for the findings that as teens, we begin to become aware of ourselves and to think about life in conceptual and abstract ways. Our emerging adolescent minds begin to consciously and creatively explore deeper meanings of life, of friendships, of parents, of school, of everything” (p. 90). It is the experiences that adolescents encounter that do this shaping; “what we think about, what we discuss with friends, how we spend our time- will help expand on this new way of thinking about the world” (p. 90) and not having these rich experiences would result in less developed brain regions and self-awareness. This emphasizes the importance of supporting teens emotionally and more holistically and offering a variety of experiences to benefit from practice and neural growth.

Lastly, another significant part of fundamental brain change is the ability for impulse control, a skill required and generally expected in adulthood, and conversely also a common complaint about teenage behaviour. Impulse control is an executive functioning skill of the prefrontal cortex that works to resist immediate urges and prioritizes long-term goals or socially appropriate behaviour. We see this skill lacking in teenagers when they procrastinate, have emotional outbursts, succumb to peer pressure and behave in ways they reasonably wouldn't otherwise. As we will next see with hormones, impulse control is intricately linked to the emotional brain in the limbic system and the more intense the input of "the emotional brain, the less capacity the rational brain has to put a damper on it" (van der Kolk, 2014, p. 60).

Hormone surge

In adolescence, the fluctuations in hormones create sizable impacts on emotions. Puberty sees the increase of sex hormones like estrogen and testosterone, and bodies experience stress and pleasure chemicals in new ways. Merely having emotions can shift hormones in the body, too. Both "positive and negative emotions cause different physiological reactions within our bodies and brains, releasing powerful chemicals that, in turn, affect our physical and mental well-being" (Brackett, 2019, p. 27). In many ways, teens are often at the mercy of these chemicals, and their emotions are vulnerable to their effects.

Starting with the sex hormones, estrogen and testosterone have long been blamed for moody and aggressive behaviour and to some extent, studies can back it up. For example, a recently published experimental study showed that emotions related to suicidality, like depression, hopelessness, perceived burdensomeness, and anhedonia (lack of interest and pleasure from life), correlated with menstrual hormone shifts in adolescent and adult psychiatric patients (Ross et al., 2024). These patients who were diagnosed with mental health disorders had

increased suicidal ideation during peak hormonal shifts, linking mood with menstrual hormones (Ross et al., 2024). In addition, a pivotal study on risk-taking and testosterone showed that adolescent boys with high levels of testosterone were more prone to risk-taking and being friends with others who also risk-take, although it did not correlate with aggression (Vermeersch et al., 2008). This study helped debunk the myth of testosterone inciting violence and aggression but did support the idea of people with higher testosterone, typically teenage males, seeking out riskier activities.

As for stress and pleasure hormones, Van der Kolk (2014) points out that the older emotional brain regions like the limbic system are at the “heart of the nervous system” (p. 57) and where emotional stimuli initiates the fight or flight response and cascade of stress hormones like cortisol. Of much importance to adolescents is that this is the same limbic system that learns from experience, and repeated exposures and accompanying responses will predict more of the same reactions in the future (van der Kolk, 2014). When the stress hormones wash over the body and brain, help from the more sophisticated brain, still under development in teens, becomes inaccessible. Dr. Daniel Siegel (2013) coined the term ‘flip our lid’ to describe this and demonstrates the disconnect of the upper thoughtful brain from the lower emotional brain by use of a hand model; lifting the fingers from a closed fist position symbolically shows the disconnect and disintegration of the different brain regions. Interestingly, in calm settings away from peers, adolescent brains can function similarly to adults, but “under settings with increased emotion or in the presence of peers, reasoning can become skewed” (Siegel, 2013, p. 102), and consequently, flipping the lid becomes more likely for teens. Siegel (2013) cautions not to accept this as an overly emotional or peer-pressured reaction and reason to attempt to control teens, but rather “a necessary step in human development. We need to listen to our peers to become part of

that vital survival group” (p. 102). As teens learn to integrate into the social group while separating from their parents, and as the prefrontal cortex develops with time and experience, stress hormones may be less triggered and emotions less reactive. Instead of frequently having their lids flip and thinking brains disengaged, they learn to regulate themselves.

To add to the discussion on hormones, Damour (2024) also points out that “adolescence involves a rise in the availability of dopamine, a natural chemical associated with positive feelings, that makes novel and highly charged experiences especially enjoyable and alluring for teens” (p. 91). Again, this is complicated because impulse control and other critical thinking capacities lag behind. Adolescents have the double whammy of increased dopamine, making risks more desirable while having a less developed sense of consequence and impulse control. Damour (2024) puts this bluntly: “neurologically speaking, teenagers can be all gas and no brakes” (p. 91).

Brain and body systems drastically change during adolescence. In the brain, both the physical structure and mental functioning are renovated and cause changes to how humans develop emotionally. Hormones also play a significant role in our experiences and emotions and can cause changes in our states, both physiologically and mentally. Life experiences are critical because brain development depends on using or losing neural networks. During the growth and pruning of adolescent brains, experiences make a lot of difference, both good and bad. In these ways, we can see how brain development and hormone fluctuations shape the emotional lives of teens and future adults.

Challenges in adolescent emotional development

Like influential factors contributing to emotional development, teens face many challenges and struggles that hinder progress. Many are the same: family, peers, culture,

technology, and social media. To narrow the focus, I will look at the impact of an external force, societal messaging, and an internal one, stress, to demonstrate some of the insidious consequences on emotional growth in teens.

Societal messaging

Pervasive messaging from society has been found to pose a serious challenge to healthy emotional lives for all people, adolescents included. As described previously with mind-body awareness, cultural and societal messages encourage self-denial sensing and expressing feelings. Unfortunately, understanding and engaging with emotions has been neglected and overlooked in recent history, as the Director of Yale's Center for Emotional Intelligence, Dr Marc Brackett, explains:

Our inner lives are uncharted territory even to us, a risky place to explore. Our lives are saturated with emotions- sadness, disappointment, anxiety, irritation, enthusiasm, and even tranquility. Sometimes- often- those feelings are inconvenient. They get in the way of our busy lives, or at least that's what we tell ourselves. So we do our best to ignore them” (2019, p. 13).

The messages about how we feel and relate to our emotions are pervasive, and teens are picking up on them. Damour (2024) reflects that “the past decade especially has been marked by a dramatic shift in how we talk and think about feelings in general and, in particular, about the intense emotions that characterize adolescence” (p. xvii). She adds that being unhappy is top of the list of emotions to avoid and details three reasons why this has come to be: “proliferation of effective psychiatric medications, the rise of the wellness industry, and the climbing numbers of young people who suffer from mental health disorders” (Damour, 2024). First, the abundance of prescribed medications for emotional and mental health concerns has “altered our cultural stance

toward emotional discomfort” (Damour, 2024, p. xix). Because taking medications is now quick and convenient for many, it has made the symptoms of discomfort more uncomfortable. Second, the multi-billion dollar wellness industry pumps out advertising and products that equate psychological health with feeling good (Damour, 2024, p. xxi). Damour (2024) comments that teens are starting to “take to heart the dangerous message, often promoted through social media marketing, that committing to self-care- and the goods and services that come with it- will keep them from feeling stressed or anxious”(p. xxi), so when inevitable discomfort arises teens think they have failed and the “already stressed teenagers now feel bad about feeling bad” (p. xxi). Third, adolescents actually feel worse than previously seen in history, as current findings and statistics support. For example, the World Health Organization (WHO) states that one in seven 10–19-year-olds globally have a mental disorder, that suicide is now the fourth leading cause of death among 15-29 year-olds, and cautions that “the consequences of failing to address adolescent mental health conditions extend to adulthood, impairing both physical and mental health and limiting opportunities to lead fulfilling lives as adults” (World Health Organization, 2021, para. 1). Similarly, the *2024 World happiness report* showed a general worldwide trend of adolescents faring better in life satisfaction than their adult counterparts, except in a handful of countries like Canada and the United States, where trends are continuing in the opposite direction and adolescents, especially girls, report being substantially less satisfied and happy year after year (Marquez et al., 2024). This emotional temperature of adolescents in North America is cause for concern.

What we know to be true is that healthy emotional development must include the full spectrum of emotions and adolescents must make their way through the hard parts to learn how to cope and remain resilient. By fearing unhappiness and discomfort and by only medicating or

avoiding it, adolescents may not have the chance to overcome hardship and consequently miss out on fundamental parts of their emotional growth. As mentioned in the discussion on interoception, paying attention to feelings, even the hardest ones, is essential. Feelings give us information “like news reports from inside our psyches, sending messages about what’s going on inside the unique person that is each of us in response to whatever internal or external events we’re experiencing” (Brackett, 2019, p. 17). For teens, it is imperative that they can get past limiting societal messaging in order to be receptive to all the emotional reports available to them.

Stress

The discovery of the link between stress and mental and physical health conditions has rapidly increased its popularity in research studies and the general population. Dr. Gabor Maté (2019) has been an influential leader in the study of stress effects and has offered profound insight into its brain and body mechanics and concerning connections to autoimmune and cardiovascular diseases and digestive disorders like Crohn’s disease, mental health disorders like anxiety, and chronic pain. The significant upswing in teen mental health concerns- specifically depression, anxiety, and suicidality- makes a look at stress in adolescence an appropriate and welcome response. In relation to this discussion on emotional development in teens, I will discuss the broad effects of stress, the acute and chronic effects of stress in teens, and the current and most significant sources that affect teens today.

Effects of stress on teens

Stress is a systemic, or whole-body, response to a perceived threat. Unable to accurately assess threats like the smarter prefrontal cortex area of the brain, the limbic system is the first to respond in a stress response and needs skills and training to know which threats are actually

dangerous and require immediate action. Whether the perceived threat is real or not, an activated stress response in the brain initiates the central nervous system to release a series of hormones, like cortisol, which in turn increases heart rate, blood pressure, and breathing rate and shuts down access to higher thinking in the prefrontal cortex (PFC). The body gets primed for action in this fight or flight state and pauses the momentarily unhelpful body functions like digestion. Maté (2019) points out that “these responses are not under conscious control, and they could not be directly observed from the outside. They just happen. They may occur in the absence of subjective awareness or of emotional expression” (p. 37), making them all the trickier to manage. Stress can throw us off track in many ways. In her book *Stress Resets: How to Soothe Your Body and Mind in Minutes (2024)*, stress expert Jennifer Taitz explains that “when we’re riled up, it’s tough to access wisdom. Instead, we react in ways that keep us stuck. Whether we painfully obsess, shoot off aggressive texts, procrastinate, or misuse substances, our instincts can turn against us and exacerbate our suffering” (Taitz, 2024, p. ix). Many of our responses to stress can be self-defeating in this way, and it only keeps us from discovering our initial triggers and effectively reorganizing our response to them. Taitz (2024) highlights that “there is a smorgasbord of distractions readily available to us, including spending hours on social media, smoking weed, or mindlessly drinking or snacking” (p. xii) and that all “these ‘escapes’ take a toll on our self-efficacy, or our perceived ability to cope” (Taitz, 2024, p. xi), which is paramount to handling stress and our overall wellness. With a brain still transforming, adolescents have a lot stacked against them in the case of stress.

In addition to this broader understanding, stress can be differentiated into two general groups: acute and chronic. Yale Medicine (2022) explains that acute stress is a short-term “dramatic physiological and psychological reaction to a specific event” (para. 1), while chronic

stress is “a consistent sense of feeling pressured and overwhelmed over a long period of time” (para. 1). We will now examine the effects of both.

In the short term, acute stress affects our brains, bodies, and behaviour. Stress limits our experiences because “when we anticipate an unfavorable outcome under any circumstances, we're inhibited from thinking about much else. Perhaps our attention should be elsewhere, but we're helpless to redirect our minds at that moment” (Brackett, 2019, p. 28). Regarding the brain, the PFC and its wisdom is harder, sometimes impossible to access. This dramatically impacts education because stressed teens are neurologically prevented from learning. With the PFC offline, students in school would struggle with all higher cognitive skills and executive functioning like problem-solving, concentration, focus, and memory. This idea has been heavily researched. A 2017 study showed that students who self-reported as stressed, depressed, or anxious had poorer performance in planning, memory, inhibition, and flexibility, while students in the stress group showed the poorest performance in decision-making compared to the others and healthy populations (Ajilchi & Nejati, 2017). Furthermore, being prepared to fight or flee impedes teens' ability to make decisions that align with their values, including how they connect and relate to people around them. With their brains already lagging in capacities for rational thought, impulsiveness is more probable for stressed teens, which can inevitably lead them into troubled waters.

When stressed teenage brains readily use the quick route to the amygdala in the emotional brain, they may become emotionally vulnerable and have more obvious mood swings, irritability, and overall distress. These can impact school performance and seep into other vital parts of adolescent life, like relationships and health habits. Stress may be exacerbated if good health habits and self-care are affected, like disrupted sleep patterns and lack of nutrition and

movement. The American Psychological Association's (2013) latest report on stress and sleep showed that 35% of teens in America lay awake at night because of stress. Those who sleep less than eight hours say their stress level has increased over the past year and are more likely to feel sluggish, lazy, irritable, nervous, and sad. Conversely, teens who self-reported having lower stress were more likely to report getting enough sleep (American Psychological Association, 2013). These findings show the interconnected nature of stress and well-being in teens.

Chronic stress has even more effects and consequences. Many physiological and psychological symptoms are associated with long-term chronic stress: aches and pains, insomnia, low energy, changes in appetite, disorganized thinking, increased substance use, and changes in social interactions like withdrawal (Yale Medicine, 2022). Maté (2019) points out that “stress responses are harmful when they are triggered chronically without the individuals being able to act in any way to defeat the perceived threat or to avoid it” (p. 38). This can lead to feeling helpless, a common factor in people who feel stuck in abusive relationships or stressful jobs (Maté, 2019). Over time, the perpetual activation of the nervous system affects brain structure and function, specifically in the areas responsible for memory, learning, and emotional regulation (Maté, 2019). Chronic stress also suppresses the immune system, changes the stress response itself and alters chemicals in the brain, like glutamate, which can affect mood and contribute to troubling states like anxiety and depression (Maté, 2019). In fact, prolonged stress has been identified as the precursor to anxiety and depression (Taitz, 2024). Yale Medicine (2022) highlights the link between chronic stress and other conditions like hypertension and addiction, and states that mood disorders like anxiety and depression are “common secondary diagnoses for people with chronic stress” (para. 7). Given the repercussions of stress and the

prevalence of anxiety and depression diagnoses in adolescence, it is crucial to then understand their sources of stress.

Current and common sources of stress in teens

Sources of stress for adolescence in North America, generally speaking at this time in history, are pervasive and relentless. They reside internally and externally of each individual, in the pressures and expectations from self, family, schools, and even strangers from across the globe. It is important to note that stress is experienced differently by each person, and can be interpreted as mild to severe, and can even stem from negative and positive triggers (Sheen, 2022). Normally, stressful events can come and go, and it is possible to ride the wave of physiological effects of stress and then relax (Sheen, 2022). But it is also normal to have stress responses to positive or innocuous triggers, and to multiple or long-term stressors, making it a challenge to get the chance to rest and relax. Sheen (2022) warns that “remaining in a heightened state of alert causes stress hormones to build up and puts the body out of balance” (p. 13). This is when illnesses and disorders can show up.

A major evolutionary goal for adolescents is to adapt to living with a social group for survival purposes and in this way some of their stress could be understood as the guiding force to ensure that. However, much of teen stress can be attributed to other internal and external factors. Internal stressors come from the thoughts and beliefs inside each person and often revolve around “the ability to accept uncertainty or lack of control, and various fears” (Sheen, 2022, p. 14), and around the need to be perfect, accepted, and included. Teens stress about their identities, body image, future uncertainties, fitting in, relationships, and much more. External stressors originate outside of our thoughts and feelings in our emotional world. These include events like tests, presentations, competitions, finding a place to eat lunch in a busy high-school, and family

conflict. These stressors can be much larger like political divides, climate change, and global pandemics. This is incredibly taxing, as “many of us continue to face circumstances that would deplete anyone’s emotional resources, such as financial adversity, structural racism, and sexism” (Taitz, 2024, p. xi) and our bodies are taking the toll. Exacerbating this, social media magnifies and insists on us having almost constant contact with these stressors. Adding to this even more, social media is often the exact place most teens go to rest and replenish from other stressors, but it insidiously adds to the problem: “scrolling on social media for an average of two and a half hours a day (as studies show most people do) leaves us saturated with messaging that we need to be physically stunning, on trend, successful, always having fun, which creates pressure to not miss out and to be perfect, which is... stressful!” (Taitz, 2024, p. 4). It appears that adolescent stressors are relentless.

Even though these perceived stressors can begin outside of us, they can become internal dialogues that chronically trouble us. For example, in the 2023 instant best-selling book, *Never enough*, author Jennifer Wallace takes a deep look in the toxic achievement culture plaguing teens today and cautions that they are being pressured more than ever to succeed and achieve in school, sports, arts, appearances and more. Wallace (2023) drives home that this pressure is causing teens an internalized and heartbreaking belief that they are indeed never enough, thus contributing to the skyrocketing rates of mental health concerns. In my own experience as a teacher and counselling intern, I have seen this evident in a group of south-Asian students, primarily girls, in an IB secondary school. Not only did the girls in this group accept the ‘never enough’ mentality in their quest to perfection, but they also became very good at denying the effects of it in their lives. Going back to the explanation of unconscious stress responses and the

discussion of societal factors that normalize self-denial, it is unsurprising that these adolescents quietly struggle with eating disorders, self-harming, and dissociation.

Another factor that cannot be ignored in the consideration of stressors on children and adolescents is the adults present in their lives. The American Psychological Association report on stress in 2022 showed that 76% of adults have experienced health issues like headache, fatigue, anxiety, and depression due to stress in the previous month (Bethune, 2022). Even more, 72% of American adults reported other impacts due to stress like changes in sleep, feelings of overwhelm, and increased worry and substance use (Bethune, 2022). Modern life is stressful for adults and kids are picking up on it and taking it on themselves. Author Michele Kambolis, shares in her book, *Generation stressed (2014)*, that the reality for children of stressed adults is that our “culture of disconnection, self-importance and greed constantly challenges our instinctive efforts to cultivate in them a sense of safety and well-being” (p. 3). Like the external stressors for teens, adults are also facing incredibly challenging stressors in our everyday living and the world at large, from financial insecurities and parenting in a digital age, to wars, political divides, and racial injustices. The burden of these stresses appears to be spreading to the children in our care, like a contagious virus. Researchers have been very interested in studying this concept of stress contagion and many experiments support it. In one study, stress levels were tested through cortisol detecting saliva samples of children in primary school and results showed that the teacher’s occupational stress levels significantly predicted the stress level of students in their classroom (Oberle & Schonert-Reichl, 2016). In another interesting study, stress was found to pass from adult owners to their pet dogs. This 2019 study examined cortisol levels in dog-owner dyads and accounted for many variables like physical activity levels, personality traits, training, and seasons. They found that long-term stress in the owner was synchronized with

stress in their pet (Sundman et al., 2019). These examples support the idea of stress spreading from one to another and brings up the very serious concern of adult stress on children's well-being. Most of us have personal experiences that can further support the notion of stress contagion, and children and adolescents are not immune to what is happening in their homes, schools, and elsewhere.

Stress is overwhelming today's adolescents and coping strategies and responses are not up to par. Both acute and chronic stress have harmful effects on brain and behaviour, which severely disadvantages teens who are undergoing brain changes and dependent on enriching experiences. Today's teens are faced with relentless stressors, and it is impacting them. Kambolis (2014) expresses a heartbreaking truth: "our hurried, harrowed culture demands that kids compete, perform and excel, even as it places bleeping, blinking distractions in front of them at every turn. We see the pressure children are under and we wonder how they can possibly cope, let alone thrive. The answer, too often, is that they can't" (p. 2). With their emotional futures hinging on healthy and sound practice in overcoming and getting through these struggles, how can the adults better support teen emotional growth?

Promoting healthy emotional development in adolescents

Knowing the present reality of adolescent health is eye opening and understanding the general biological processes of adolescent emotional growth and specific challenges they face, including stress, provides an opportunity and hope for change. Teens need to be educated and nurtured, and adults can intervene in support of their emotional growth, and I'd argue that we must. Given the pressures coming from all angles and the overwhelming decline in mental health, we have to, as Taitz (2024) advocates, "stop prioritizing comfort and distraction at the expense of truly enhancing our lives" (p. xii). This can happen by teaching teens about their

brain and body developments that factor into their emotions, coping with stress, and the importance of enriching experiences in shaping their future selves. Teens also need validation and understanding, and supportive connection to adults, especially when they can see adults modeling adaptable behaviours. Very importantly, adults can help teens by acknowledging the importance that emotions play in our lives. Damour (2024) emphasizes her message for parents, educators, counsellors, and all adults caring for adolescents: “above all, we want to look for opportunities to drive home the key point that emotions help us navigate our lives. Ignoring our feelings means flying blind” (p. 10). As such, I will focus on ways adolescents can learn about their brains and emotions, how adults can support them and promote healthy emotional development by directing them to their feelings and the innate wisdom of their bodies, and how stress coping strategies can benefit the wellness of both teens and adults.

What adults can do

Teens can help themselves in their own emotional development when they are educated in these matters. Following Maya Angelou’s famous idea that when you know better, you can do better, people can only work to their advantage when they are taught how, and adolescents are at a critical time in their development that necessitates knowledge in emotional wellness. If their brains do not have exposure and experience in this domain, their brains can prune away those centres and make future learning and habits more challenging in adulthood. To set teens up for success, they need to be made aware of their emotional development. All invested stakeholders in an adolescent’s life have this responsibility and can have an incredibly valuable impact. I believe that the education system has a profound responsibility to address this, and hope that mandated curriculum progresses more and more in this direction, and quickly. I also hope that parents can take on their fair share, despite their already high stress levels. Some strategies for

adults wanting to help are detailed by Damour (2024): making opportunities to talk about feelings and listening empathetically, repairing relationships when needed, giving perspective when appropriate, managing their own emotions, and recognizing unhealthy expressions and enlisting professional help. And importantly, all research findings and review of the literature emphasizes the need to express feelings and cope with stress. Adults working collectively to support teens in these ways is imperative, as is helping teens know their feelings and manage their stress.

Adolescence can be understood as the practice period of emotionality, and caretakers can play a specific role during this time. Damour (2024) urges all adult stakeholders and caretakers to be cognizant of the explanations for the emotional lives of teens and to take a more accepting stance on it. She warns that “while adolescents benefit from learning how to swim through choppy emotional waters they should never be allowed to feel as though they're drowning” (Damour, 2024, p. 24). To that point, adults responsible for teens can create an environment that allows practice and validation of feelings and emotions, as well as guidance and an emotional safety net when necessary. Of course, it is hard to see anyone suffer, and assisting is important when coping is exhausted, but allowing teens to practice their way through stress, low mood, impulses, and anxious feelings will ultimately benefit them. These are the experiences that they need.

Caretakers can do a great service to teens by encouraging them to trust their gut and explore their feelings. This would require that adults have practiced this skillset themselves, and can prompt teens to notice their body sensations, their urges, and needs. Some helpful prompts could be, ‘what are you feeling?’, ‘what does that feel like in your body?’, ‘what do you feel compelled to do?’, and ‘what do you need right now?’. This may take time, patience, and

practice if noticing and expressing feelings is new or uncomfortable to start. But by having teens honour their own unique internal experiences through noticing and expressing, adults send the message that they are normal and that they can depend on the useful input from the sensations of their bodies. These are brief and incredibly valuable prompts when talking with teens about their feelings and could be even more valuable if they can become habituated in their own internal dialogue.

Research also shows that “being able to take an interest in your teens emotional turmoil and respond to it supportively provides immediate psychological comfort and can also protect adolescents against more significant psychological concerns down the line” (Damour, 2024, p. 178). Understanding and empathy towards adolescence is a crucial part of promoting healthy emotional development. When parents and others show interest and curiosity in the feelings of teens, “especially around topics they bring up, we invite them to treat their emotions as informative and trustworthy” (Damour, 2024, p. 9). This is especially important when teens feel that their internal signals conflict with the myriad signals from all around them.

Navigating this may be overwhelming to the adults so Damour (2024) inspires caretakers with this general rule of thumb: “we can be confident in their overall emotional health so long as three things are true: adolescents should have feelings that make sense in light of their circumstances; they should find adaptive ways to manage those emotions (such as having a good cry); and they should rely on a range of defences that offer relief without distorting reality” (p. 31). To prepare caretakers for this task, I also encourage a read through Damour’s 2024 book, *The emotional lives of teenagers*, and then consider a reappraisal of expectations. Adults may find that this book helps lessen the pressure on parenting and caring for adolescents while pressing the importance of staying connected: “we should do our best to make ourselves a secure

base that adolescents can count on when they need to psychologically regroup” (Damour, 2024, p. 177), and individually and societally we need to accept that “emotional upheaval is a central feature of adolescence” (Damour, 2024, p. 177).

Emotional regulation

It is important for adults to do their part in regulating their own emotions, especially coping with stress, to optimize their capacities in supporting teens. Children and teens “learn a lot about how to navigate challenging emotions simply by watching how we do so” (Damour, 2024, p. 176). As we saw with stress contagion, this is especially relevant for how adults handle and interact with their own stress. Damour (2024) reasons that “how parents manage their own distress strongly influences the psychological climate at home, which, surprisingly, shapes the emotional lives of teenagers” (p. 177). Those that tend to be highly reactive are more likely to have children who show symptoms of anxiety, and those who are often angry or upset may have teenagers that struggle with mood disorders or behavioural problems (Damour, 2024). Adults must be aware of their own internal body signals- like muscle tension and headache- and behavioural changes- like social withdrawal- that may indicate emotional dysregulation. Consequently, it is necessary for adult caretakers to appropriately manage their own emotions and consider professional help if this is a consistent concern. For this or with any negative habit that effects the emotional life at home- or I’d argue in the classroom, on a team, or in social groups- “the pattern sticks until we break the cycle” (Kambolis, 2014, p. 2). Learning new reactions, self-care strategies, and interaction patterns is crucial. For adults, learning to regulate is a powerful tool and “being able to stay calm when responding to unsettled teens goes a long way toward helping them regain emotional control” (Damour, 2024, p. 177). As the adults responsible for the overall development of our teens, our task here is to care for ourselves so we

can care for others; and if we can manage this well, what a gift it is to our teens that they can move into adulthood with brains wired for emotional stability and overall wellness.

Stress resets and buffers

When sensations seem to have overwhelmed a teen, adults can help them find coping strategies that avoids substance use. Taitz (2024) argues the importance of coping with overwhelm, or stress, in the two ways she calls *resets* and *buffers*. She explains that resets work for momentary acute stress, not to force the experience of stress to go away, but to “practice more self-compassion and flexibility in challenging situations” (Taitz, 2024, p. 57). An important point to pass on to teens in this regard is that “the most effective ways of coping with stress may feel like they take a lot of effort” (Taitz, 2024, p. 57), but will ultimately yield more self-efficacy, more empowering habits, and a chain reaction of good choices (Taitz, 2024). Adults can help teens develop their repertoire of resets, such as those listed in Jennifer Taitz’s book, *Stress resets (2024)*, by introducing and incorporating their practice into daily life. Ideas include naming emotions, self-validating, journaling, ice plunging, progressive muscle relaxation, resting legs up a wall, taking social media and screen breaks, and sticking to a bedtime (Taitz, 2024). The internet is full of easily accessible ideas for managing stress and a Google search can also direct teens and caretakers to a plethora of ideas. Lastly and importantly, Taitz (2024) encourages people when emotionally overwhelmed to pause and notice what they are thinking, sensing in their bodies, and feeling urged to do before taking action. Resets are a valuable tool to employ when addressing short-term stressors. In the best-case scenario, adults will benefit themselves by using them, while simultaneously modeling and teaching the skills to teens.

The pause is a key feature of stress resets and in mind-body awareness. As introduced in mind-body awareness techniques, pausing allows teens to regulate their nervous system and be

interoceptive. Van der Kolk (2014) reminds us that “being able to hover calmly and objectively over our thoughts, feelings, and emotions... and then take our time to respond, allows the executive brain to inhabit, organize, and modulate the hard-wired automatic reactions pre-programmed into the emotional brain” (p. 62). This inner look is the goal for teens with their higher emotionality and lower reasoning because it invites the prefrontal cortex into the present moment and brings reasoning or makes sense of what is happening. Sending input via the slow route to the amygdala is valuable practice for teens, and pausing can help make this practice more likely and habitual. This ultimately means that the brain can learn to take more time to critically consider inputs- thoughts, sensations, and urges. As Taitz (2024) argues, “when teenagers understand what they are feeling and why, they suddenly have choices that were not available to them before” (p. xvii). Taitz calls this a *strategic approach*, and looks like regulating emotions rather than reacting, choosing appropriate and safe risks, making choices that align with values, or employing self-care strategies. This is what we want for adolescents! In this way, teaching and modelling mind-body awareness strategies like mindful movement, meditation, and body scanning, is an incredibly appropriate route for teaching the power of pausing and supporting teens in their emotional growth.

Taitz (2024) also includes mind-body awareness practices into the suggestions of stress *buffers*, or the “preventative medicine” (p. 131), in our emotional lives. Taitz (2024) describes buffers as “ways to supercharge your resilience and help you reset in the long term” (p. 131), and as an “emotional cushion, making it easier to reset and persevere during trying times” (p. 131). Buffers help us long-term. They take a mindfulness approach and considers overall health, daily habits, and self-care considerations while having cumulative effects over time- all relevant during the ups and downs of teenage years. A specific buffer strategy that is useful for both the

adults supporting teens during the emotional ride of teenage years, as well as for teens themselves, is riding the wave of emotions by simply knowing and accepting that emotions come and go. We benefit when we can recognize that emotions will pass, and especially quickly, if we do not act in ways that make the water choppy (Taitz, 2024). Understanding, validation, and compassion are incredibly useful while riding out emotional waves. Other notable buffers include purposefully plotting joy and happiness into life by doing things like laughing more, being grateful, remembering good memories, and scheduling opportunities for pleasurable and positive experiences (Taitz, 2024). The benefits of pursuing happiness, joy, and laughter, according to Taitz (2024), include improved resilience and social connection, lower blood pressure, heart rate, and stress hormones, improved immunity, better earning potential, and stronger relationships. She impresses the significance of this buffer by stating there is no better “tactic to improve your relationship with yourself, others, and your stress than training yourself to notice and create opportunities to giggle” (Taitz, 2024, p. 169). In the age of stressful expectations for teens, this emotional buffer is a welcomed strategy to adopt and implement, and one that has potential to become a favourite for many.

What teens can do

With all this said, once teens have learned about the changing structures and functions of their brain in relation to their emotional lives, they can use a variety of strategies and tools to help themselves, too. Adolescents can use stress resets and buffers on their own, or even incorporate them into their social lives. Without even knowing it, many already probably do. For those involved with sports and activities, the physical movement and social supports of teams offer stress management. Creative endeavours like performing or fine arts offer opportunities for emotional expression. In my counselling internship, I have met several high school students who

depend on their activities like dance, skating, and judo for coping with stress and for non-verbal self-expression. I have also noticed many teens employing the tactic of distraction, although to varying levels of effectiveness. Screens and smartphones are so quickly and easily used for the purpose of what neurologist and phone expert, Faye Begeti, calls *digital emotional regulation*, or using digital tools to distract from uncomfortable feelings (Begeti, 2024). In her book, *The phone fix (2024)*, Begeti cautions that “over-dependence on this type of emotion regulation can lead us to creating phone habits that we later find problematic” (p. 219). Instead of turning to digital devices, which are often rife with emotional triggers, she encourages us all “to improve our own internal coping mechanisms” (Begeti, 2024, p. 219). Internal coping mechanisms could include the cognitive behavioural therapy technique of correcting thinking errors, and returning to mindfulness practices previously mentioned like breathing, yoga, and meditation. Other strategies teens can put into practice to help regulate their emotions is establishing health habits—specifically eating, sleeping, and exercising. Sleep will be explored in the next section but is useful to note here that while adults can teach and set teens up to develop these capacities, teens are able to make a concerted effort for themselves. Lastly, teens will likely be happy to use the strategy of enjoying life, purposefully pursuing pleasure and joy as a tool to buffer against stress and to strengthen emotional wellness.

Summary

Teens move closer to thriving when their feelings are validated and viewed as worthy of exploration. They also get a better idea of a healthy and competent emotional world by seeing self-regulation and stress resets and buffers enacted around them and are met with understanding and care in the face of their emotional upheaval. Implementing strategies that repair effects of painful emotional experiences and instilling habits that increases resilience and healthy coping is

likely not an easy sell for all teens but is most certainly worth the efforts. As Kambolis (2014) states, “through attachment and loving guidance we can win back our children from stress and anxiety as they learn to trust the world around them” (p. 40). Parents, educators, and all other caretakers of adolescents can take on this very important task and support teens as they make their way through the emotional terrain of adolescence, building strong foundations for life-long well-being.

Sleep in adolescence

Introduction

Adolescence is a life stage with significant emotional, physical, and cognitive changes and developments. While gaining more independence from parents, teens become heavily focused on peers and their social dynamics. Their bodies grow and adapt to hormones, while their brain regions shift form and function. The changes in the brain are drastic- pruning away under used brain areas, and myelinating others, making them faster and more efficient. As we looked at in the previous section, these changes press the importance of exposure, experience, and practice for teenagers, so they can develop healthy, resilient, and emotionally regulated brains, preparing them for life-long well-being. In this section, I will expand on the ways teens can do this. I will explore how teens can take good care of themselves by prioritizing sleep. Sleep is essential part of self-care and through education adolescents can be empowered to make good decisions about their sleep habits, benefiting the social, emotional, physical, and academic parts of their lives. Taitz (2024) encourages teaching teens about this because “realizing that you have the ability to take good care of yourself- and live better- will also make you more open to the effort required to initiate these changes” (p.58). By consciously focusing on adequate sleep teens can make these habits stick.

Sleep is a crucial part of health and wellness. It is a highly studied topic and with not just scientists, but all people greatly invested and interested in its workings. It is perhaps easy to imagine that most people have had personal experience with even short or minor sleep deprivation and know firsthand the debilitating effects on normal functioning. Adequate sleep, on the other hand, is essential for optimal brain function, cognition, emotion regulation, mood and more. Research has been able to discover ideal hours to reach adequate sleep for different age categories, and data consistently shows that teens fall short. According to the Public Health Agency of Canada (2018), children and adolescents between ages 5-17 need between 8 to 11 hours of sleep per night, and around 25% are not getting that much. One in three have trouble getting to sleep and staying asleep, and one in five have a hard time staying awake during the day (Public Health Agency of Canada, 2018). But in this period of profound brain restructuring, hormone surges, social pressures, and academic demands, and in this era of mental health crisis, meeting those hours of sleep for teenagers is essential. Understanding the importance of sleep and learning strategies that protect and promote it can help adolescents get the sleep they need and support their overall well-being. I will outline the importance of sleep for adolescents, including the benefits of getting adequate sleep and the detriments and dangers of falling short. I will explore how and why teens are perpetually missing optimal sleep and suggest ways that educators and caretakers can intervene, and sleep hygiene habits that teens themselves can use.

Importance of adequate sleep

Sleep has powerful effects on our functioning. Research has consistently showed that sleep supports physical health, cognitive function, and emotions, and for adolescents plays a specifically vital role in brain development, memory, and learning. Physical health requires adequate sleep for most body systems to rest and replenish (Begeti, 2024). Getting rest helps

manage stress and can “reduce anxiety, depression, and other mental health strains related to stress” (Summer & Singh, 2022). Healthy heart functioning, regulated blood sugar levels, and immune defenses require sleep for their organs to rest and regulate hormone secretions like cytokines, which are produced during sleep and are imperative for fighting infections (Summer & Singh, 2022). Similarly, maintaining a healthy weight is influenced by hormones released during sleep, and adequate sleep helps control appetite during waking hours (Summer & Singh, 2022). Body tissues also grow and repair during sleep, making it a requirement in recovery from athletic performance and during puberty (Summer & Singh, 2022). As for adolescent brains, they require much more sleep than adults because it is undergoing major remodeling- growing and changing, with neural networks being pruned away during sleep hours (Jensen, 2015).

Neuroscientist, Frances Jensen (2015), pushes the utter necessity of sleep for teens because she argues “it’s the glue that allows us not only to recollect our experiences but also to remember everything we’ve learned that day. Sleep isn’t a luxury. Memory and learning are thought to be consolidated during sleep, so it’s a requirement for adolescents and as vital to their health as the air they breathe and the food they eat” (pg. 89). Begeti (2024) adds that memory consolidation, where “memories move from our hippocampus, our brain’s memory inbox, to various other regions for permanent storage” (p.181), happens during sleep when no new information is coming in. If you consider the multitude of experiences in daily life for adolescents, including the magnitude of daily learning for adolescents- in school and outside of it- sleep is vital. The daily lives of teenagers are full of learning and new experiences, and all that input needs times for sorting and storing. Adolescents require good quality sleep to do this, and consequently to function and thrive.

Dangers of inadequate sleep

Conversely, sleep deprivation impacts physical health, mood, performance, and cognitive functioning. In an extensive literature review on sleep research, Chattu et al. (2018) articulate a list of twenty health concerns associated with sleep deprivation globally. Some physiological health concerns listed include hypertension, cardiovascular incidents, diabetes, obesity, cancer, injury, and early mortality risk (Chattu et al., 2018). In fact, Chattu et al. (2018), point out that “reduced sleep duration has been linked to 7 of the 15 leading causes of death in the U.S.” (p. 1). Cognitive concerns include impairments in cognitive performance- specifically executive functioning- and disturbances in mood, memory, moral judgement, and learning (Chattu et al., 2018). The studies that back up these claims are continuously growing and therefore work to strengthen the argument for the importance of sleep on wellness in all age groups. For adolescents specifically, studies on inadequate sleep repeatedly show concerns for cognition and mental wellbeing. For example, the Public Health Agency of Canada (2018) reports that hyperactivity is more likely with inadequate sleep, and 21.5% of children and teens who fall short of adequate sleep hours experience more stress compared to 10.3% of those who do. Stress, as we have seen, can have a dramatic effect on immunity and nervous systems, and has been linked to various disorders and diseases. Similarly, poor mental health is more than doubled in children- 11.2% vs. 4.5%- who have insufficient sleep (Public Health Agency of Canada, 2018). Chattu et al. (2018) comment that sleep deprivation increases the risk for developing depression, relapses of depression, and highly reported among adolescents who have symptoms of depression, anxiety, and withdrawal. As for cognitive functioning, Begeti (2024) helps explain the decline in executive functioning due to lack of sleep with a battery analogy- without fully recharging during sleep hours, our prefrontal cortex (PFC) runs in low power mode and “a downshift in performance occurs” (p. 41). Our brains resort to short-term thinking and depend

heavily on the auto-pilot centre, which often chooses the most practiced habit, or quickest and easiest options over logically desirable ones (Begeti, 2024). This is greatly problematic for teens when they are faced with opportunity and responsibility to learn new responses and routines that are expected in adulthood. For example, when a teen's brain fatigues throughout the day and enters low power mode by evening, it is harder to override the habitual brain's desire to numb out while scrolling and initiate an early bedtime. With poor sleep habits, the brain likely starts the day still tired and is not set up for success in building health habits or engaging with complex information and situations. To add, learning is affected by brain fatigue. Chattu et al. (2018) argue that "the energy that is required to analyze unfamiliar environmental challenges or to sustain an extended chain of logical thought is especially reduced in sleep-deprived subjects" (p. 6), which is often required by adolescents in school and early work experiences. When the PFC fatigues, and along with it our higher-level thinking, the emotional brain becomes more active, making emotional regulation and decision-making challenging. As you may recall from the previous look at emotional brain development in adolescence, a lag in the maturity of the PFC is already a predisposition for teens. In this way, sleep deprivation only exacerbates the reliance on emotional brain regions. This can be a disservice to the PFC, which strengthens through practice and is at risk of being pruned from the neural networks. Teens need access and practice in this executive brain area, and need sleep to recharge and ensure that happens. Adolescents who are growing their brains and starting to develop skills and habits to guide their adulthood have a lot at risk with inadequate sleep and is therefore a domain to be given serious consideration and attention.

Why teens experience inadequate sleep

So why are adolescents so short on sleep? Teens may be struggling to meet adequate sleep times for various reasons, both biological and environmental. To start, adolescence is a biological life stage that predictably sees a shift to later sleep and later wake circadian rhythms. This ‘night owl’ schedule is so predictable in adolescence that experts mark it as a *chronotype*- an age-specific group trait that is different from childhood and adulthood where sleeping and waking is earlier (Jensen, 2015). Neurodiversities like ADHD and ASD may also make sleep more difficult, which in turn may worsen symptoms of these conditions (Suni & Dimitriu, 2023). Likewise, there is a bidirectionality of sleep and mental health conditions like anxiety and depression- mental health conditions impact quality of sleep and poor quality of sleep can worsen emotional wellness (Suni & Dimitriu, 2023). Also, time is an important contributor to sleep quality in teens. Teenagers often have full daily schedules and forego sleep time to fit in school, homework, sports, work, and household and social life activities (Suni & Dimitriu, 2023). Begeti (2024) cautions that staying up late to favour productivity over sleep, especially with cognitive tasks like homework or studying, may actually be disadvantageous because our brains get less time for the important task of memory consolidation. Whether studying or scrolling, these behaviours in combination with the rhythm of their internal sleep signals often push bedtime later into the evening, yet wake times remain consistent with adult schedules, forcing teens to squeeze their sleep into a shorter window (Suni & Dimitriu, 2023). Adolescents may also struggle with sleep due to conditions like insomnia and sleep disorders like sleep apnea and restless legs syndrome and may necessitate medical intervention (Suni & Dimitriu, 2023).

To add to the biological predisposition to staying up late, bedtime procrastination is common with screen time and phone use late in the evening and may prevent adolescents from falling asleep (Begeti, 2024). Begeti (2024) warns that whether it be devastating global news

stories, pressing work or school reminders, or worrying text messages, “viewing anxiety-inducing content prior to bedtime will signify danger to our brain” (pg. 193), causing a stress response and cortisol release, ensuring our brain stays vigilant and contributing to bedtime delays. Pre-bedtime media use is very common, even in children and teens and is a serious concern for sleep. The National Sleep Foundation reported in 2014 that “75% of children ages 6–17 report having at least one media device in their bedroom” (National Sleep Foundation, 2014, as cited in Leonard & Khurana, 2022), and in 2019, estimations were that “70% of adolescents report using their device within 30 min of going to sleep and nearly one-third report sleeping with their device” (Rideout & Robb, 2019, as cited in Leonard & Khurana, 2022). Given these statistics of pre-bedtime media use, and the warning of its effects on our stress response and sleep quality, it is an extremely important consideration in adolescent wellness. There are many factors, both biological and environmental, that contribute to the statistic and effects of sleep deprivation during adolescent years and we need to pay attention to them.

How adults can support adolescent sleep

The effects of sleep are now understood and believed to be so important that experts and policy makers are taking action to support students in their sleep outcomes. Considering the growing mental health concerns in adolescents, there is support to accommodate youth sleep rhythms with the consideration of later school start times (American Psychological Association, 2023). The Sleep Foundation experts argue that “if allowed to sleep on their own schedule, many teens would get eight hours or more per night” (Suni & Dimitriu, 2023, para. 20). There have been many benefits observed from schools who have accommodated later start times, according to The American Psychological Association (2023), like increased attendance, GPA, test scores and college acceptance, and decreased student-involved car accidents, sleeping during

instruction, and school discipline. These results show promise for adolescent sleep time and overall wellness and needs to be a serious consideration in how systems can accommodate adolescents.

There is also efforts going on nationally to support all Canadians with issues related to sleep. In 2020, the Canadian Sleep and Circadian Network concluded that increasing education on sleep is a top priority for public health (Chaput et al., 2022). Similarly in the United States, the American Academy of Sleep Medicine argues specifically that “because of sleep’s significant and multifaceted connections to health and chronic disease, sleep education should have a prominent place in K-12 and college health education” (Ramar et al., 2021, p. 2116). Currently, in B.C., sleep is included in the curricular content of physical and health education to the extent that students should know the potential short- and long-term consequences of sleep routines (British Columbia Ministry of Education and Childcare, 2022). While this is a good start, there is an opportunity to expand by ensuring that students understand the necessity of sleep in all aspects of wellness, as well as strategies to ensure adequate, quality sleep. Adolescents must be explicitly educated on the benefits of quality sleep and the dangers of inadequate sleep and critically examine their sleep habits. Secondary schools must include this in curricular content and press its importance through repeated exposure to cross-curricular and yearlong learning at all levels.

Parents and guardians can also support adequate sleep for adolescents in their care by providing conditions for quality sleep, educating, and helping their teens create good sleep habits. To the best of their ability, adults can ensure that teens have a cool, quiet, comfortable, and safe place to sleep (Sunj & Dimitriu, 2023). They can model a good bedtime routine, sticking to predictable sleep and wake times, and through discussion, can help their teens plan

their own version. Parents and guardians must make clear boundaries around evening screen time and intervene when sleep is affected. While teens may protest and parents may feel uncomfortable, the health and wellness concerns- not to mention safety concerns- associated with inadequate sleep take precedence. Building on previous similar studies, results from a 2022 experimental study with middle schoolers showed that parents could promote better sleep duration in their teens by being involved in their media consumption, specifically by “actively limiting or regulating their adolescents’ bedtime media consumption or indirectly influencing their bedtime media use through clear communication of family rules and values” (Leonard & Khurana, 2022). Explicit conversations regarding media use are necessary if sleep is a concern, and adults can be comforted in knowing they are doing their job to provide optimal conditions that allow children to develop and grow and protect the health and wellness of their families.

Sleep hygiene suggestions for teens

Promoting and protecting sleep is a worthwhile pursuit for teens, and adopting sleep hygiene practices is to their benefit. This section includes a variety of suggestions to help teens prioritize their sleep, with a strong emphasis on their environment and habits. In looking at their environment, adolescents may be more successful in achieving adequate sleep on a mattress and with a pillow that suits their comfort and in a room that is reliably cool, dark, and quiet (Suni & Dimitriu, 2023). As for habits, adolescents need to prioritize eight hours minimum of sleep for both school days and weekends, preferably keeping sleep and wake times consistent (Suni & Dimitriu, 2023). Sleep physician Dr. Abhinav Singh states that “sleep is a rhythm. A good rhythm relies on repetition. Repeating a sleep friendly routine is critical to sleep success and reaping maximum rewards” (Summer & Singh, 2022, para. 20). To help with this, youth can budget and schedule sleep and wake times in advance and use a reliable and relaxing bed-time

routine (Sun & Dimitriu, 2023). This evening routine would require a definitive end time for screen use, at least 30 minutes before bedtime, following guidelines from The Sleep Foundation, and would see devices put on sleep mode or silent to prevent sleep disruptions (Sun & Dimitriu, 2023). Another important habit is to avoid caffeine and energy drinks, especially later in the day, as it can interfere with the internal biological clock that prepares us for sleep (Sun & Dimitriu, 2023). Lastly, seeing a doctor for sleep aids or a counsellor for therapy may be helpful in combination with these strategies and if mental health concerns are suspected. Teens can take the initiative to better their health and wellness by pursuing various strategies and ensuring and prioritizing quality sleep.

Summary

Sleep is an important consideration for adolescents in our current time. Not only are they undergoing a massive transformation in their brains and bodies, but they are also often facing overwhelming stressors and expectations, often daily. The adolescent mental health crisis we are seeing today is frightening and demands our attention on teenage wellness. As we have seen, sleep is a vital component of that. Not to be understood as an afterthought or put on the back burner while focusing on specific aspects of mental health, sleep needs to be a prominent position in discussions on well-being and addressed as a prioritized goal for all adolescents. Schools are responsible for educating people about sleep, and parents and guardians have a role to play in their homes. To be certain, adolescents need to know the importance of sleep to their brain development and the effects of sleep on their overall wellness. They should also be encouraged to make good, informed decisions. The dangers of inadequate sleep are shown to contribute to poor health outcomes, yet the many benefits of adequate sleep can promote lifelong

well-being. By understanding this during formative years, youth can be empowered to take good care of themselves now and always.

Literature review conclusion

In conclusion, this capstone literature review looks at the critical importance of addressing holistic health in adolescence, particularly amidst the current health crisis affecting youth in North America. Taking a holistic approach requires appreciating and respecting the bidirectional mental and physical health relationship. The three topics of this review- mind-body awareness, emotional development, and sleep- highlight this interconnection and demonstrate the inseparable nature of our cognitive, physical, and emotional selves. It also examines their importance in adolescent development, a time of great transformation and change. Given the results of declining wellness in North American youth, our attention on adolescents and all their realities and complexities is imperative. Comprehensive interventions, health education, and self-implemented supports are suggested. Investing in these health initiatives will empower youth with skills and tools to thrive in adulthood and lead lives of health and happiness.

Chapter 3: Summary, Recommendations and Conclusions

Summary

In North America, today's adolescents are facing many challenges, especially about their mental health, and given our understanding of the link between psychological and physical wellness, there is a great need to address these concerns and prepare youth for a healthy future. This capstone examined three topics that offered insight into the realities and suggestions to support teens. Looking at mind-body awareness, emotional development, and sleep habits for adolescents, this review presented a psychoeducational approach for youth and adult stakeholders about the effects of the mind on the body and the body on the mind, and the potential consequences of ignoring signs and signals from our bodies. Our society often perpetuates the separation of mind and body, and we are suffering from it and scrambling to correct it. Researchers and health experts present scientific findings with this aim, yet wide-scale education and societal understanding are lagging. The information in this review was also intended to bring more knowledge to the developmental process of adolescence and the necessity of quality sleep for our overall health. Teens will have more opportunities to succeed in self-regulation and their health trajectories if they better understand themselves by knowing the adolescent neurological and emotional development process and the impact of their health habits, like adequate sleep. The combined effort of these three sections was to highlight the need to support teens in knowing themselves better so they can make genuine and informed decisions as they move into adulthood. If they can learn to listen to the needs of their bodies and protect their health holistically when they are young, they will give themselves an advantage in their future health outcomes.

Our educational and health systems need to prioritize and promote this objective. As our healthcare system in Canada is stressed and largely insufficient for our nation's needs, health promotion and preventative measures must be adopted on a large scale. Education is the answer to that. Not only do teens need this information explicitly taught to them, but adults also need to fill the gaps in their understandings and support the younger generations with this learning in mind. Parents, teachers, counsellors, coaches, and other adult stakeholders can use this knowledge to share and care for the teens in their lives.

This literature review has limitations in its scope and presentation and is important to acknowledge for future investigation. To begin with, the scope of this review is narrowed in some areas; the most evident was the exploration of these concepts pertaining to adolescence. Much information on mind-body awareness, sleep habits, and stress sections can also be extrapolated to children and adults. In addition, this paper looked at only the main categories of mindful practices and omitted many options that may be better suited for individuals. There are rapidly growing options for mindful techniques and many branches of meditation, movement, and somatic practices, and discovering the ones that work for each person takes exposure and opportunity. This is likely wildly impractical for educational settings like schools, so the leading practices suggested in this paper are more general and merely a starting place for students.

To add, the look at emotional development for adolescents used a neurotypical lens and did not include neurodiversities. Brain maturation and emotional expression vary from person to person and vary greatly depending on predisposing factors like brain and ability differences. Consequently, this information can help guide understanding in a general sense but will only be accurate for some teens and should be considered when applying to specific people. Supplemental research would help understand emotional maturation with particular conditions

like ASD, fetal alcohol syndrome (FASD), and others. This section could have expanded the scope to include a deeper look at the myriad of factors impacting stress and mental health in teens and suggestions for coping and regulation strategies.

Furthermore, the final section on sleep habits is limited because it is only one part of the triad of health habits: sleep, nutrition, and exercise. The investigation on sleep helped us understand mental and physical health, memory and learning, and the effects of stress. Yet, it is so closely linked to nutrition and exercise that it is almost incomplete without them. Exploring nutrition and exercise would add to a complete look at teen health habits and give youth and adult stakeholders a better understanding of health aims and suggestions for health promotion.

Lastly, this capstone took a largely Eurocentric view and only explored a few cultural considerations in the review. While some topics look at adolescent health in general, it may not apply to other cultures and value systems and must be considered in its application. While the suggestions presented are intended for multi-level system education and change that benefits a general population, it is always important to use cultural humility and a client/student-centred approach honouring unique values and beliefs. A deeper look into cultural variations in mind-body awareness, emotional development, and sleep habits was outside the scope of this capstone literature review, yet it is an important piece to consider in application in homes, classrooms, and schools.

Implications

This literature review has two implications for educational organizations. One is the necessity for schools to reverse the dichotic nature of minds and bodies and give greater attention to the bodies of the students in classrooms. Rather than teaching to only brains at desks, teachers and other school personnel must consider the holistic persons and educate with mind and body

awareness. This goes beyond food programs like Backpack Buddies, which are important and necessary; this entails acknowledging the physical realities, messages, signs, and signals of our bodies and education in these concepts. Schools need to incorporate this into the curriculum, and in-service trainings for teachers. As with all school initiatives, buy-in from teachers is key and would need to be approached in a way that offers adequate training and maximizes the potential outcomes. This is a large-scale shift in education and requires many levels of planning and promoting, and realistically, it would take immense effort and time.

Furthermore, another implication presented in the sleep habit topic is the suggestion to later secondary school start times to accommodate adolescent sleep patterns. The research here showed that safety and health outcomes improved with later morning start times, and this needs to be seriously considered in school districts. Presenting the findings from these studies may prove helpful in this endeavour and hopefully work in favour of youth without compromising staff wellness.

Recommendations

The literature review included various suggestions for promoting wellness and health aims for teens and argued for adoption into our education system. This learning is essential for youth, and we need to adapt to the realities of our time to support young populations in their health outcomes. While other modern advances like technology and AI expand, it is relevant to reconsider our educational goals and include more mental and physical health teaching in our curriculum and homes, especially if the research and knowledge are established. Society and our educational organizations need a significant shift in this way. While that is a necessary and worthwhile pursuit, so is the transmission of knowledge on a grass-roots level, focusing on a

smaller and more personable scale. As such, I have created a psychoeducational health promotion bulletin board resource that can be used to share this information in schools, youth and recreation centers, clubs, health offices, and more. This buildable resource currently includes an information sheet highlighting pertinent topics: mind-body awareness, emotional development, and adolescent sleep habits. A 'tips' sheet for teens or those who are supporting teens is also included. These posters simplify the actionable responses people can take with the provided information. Finally, a takeaway pamphlet is shared for each topic, providing important points, actionable steps, and relevant resources. This bulletin board resource is meant to grow over time, and eventually include more pamphlet take aways, resources, mindful practice opportunities, and informative topics like nutrition and exercise. I hope this bulletin board can be used in the counselling waiting areas in my district's high schools and provide approachable, practical, and helpful teaching to staff and students.



Sleep

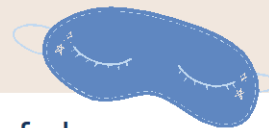
how sleep impacts youth



current sleep facts

teens need between 8-11 hours of sleep each night. the 2018 Public Health Agency of Canada report showed:

- 25% of teens are not getting enough hours of sleep
- 1 in 3 teens have trouble falling asleep and staying asleep
- 1 in 5 teens struggle to stay awake during the day



importance of sleep

body systems rest and replenish during sleep. this helps manage stress, reduce mental strain, regulate blood sugars and body weight, and maintain heart health and immune functioning. sleep is the "glue that allows us not only to recollect our experiences but also remember everything we learned that day. sleep isn't a luxury. memory and learning are thought to be consolidated during sleep, so it's a requirement for adolescents and as vital to their health as the air they breathe" (Jensen, 2015, p. 89).

dangers of inadequate sleep



not getting enough sleep impacts us in many ways.

- physiological concerns include hypertension, diabetes, cardiovascular incidents, even early mortality (Chattu et al., 2018)
- cognitive concerns include impairments in executive functioning, disturbances in mood, memory, judgement, learning (Chattu et al., 2018)
- teens who do not get enough sleep show more signs of hyperactivity, stress, and poor mental health (Public Health Agency of Canada, 2018)
- sleep deprivation increases the risk for depression (Chattu et al., 2018)

Low power mode



without adequate sleep, the prefrontal cortex (PFC) part of our brain goes into low power-mode and our whole functioning suffers because our brains resort to short-term thinking and use the easiest or most habitual response, not the most logically desirable one. low power mode makes it very challenging to learn and practice new habits and skills, which is a key component of teenage life, especially in school! teens are also disadvantaged by the slower maturation of the PFC, which happens around age 24. this stresses the importance of getting enough sleep to keep it optimally working and doing its important job. (Begeti, 2024)

why teens have poor sleep

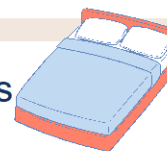
there is a biological shift that happens in adolescence that causes teens to get sleepy later in the evening, and wake later in the morning. there are some conditions like ADHD, autism spectrum disorder, anxiety, and depression, that may affect quality of sleep. teens often have demanding schedules and prioritize other activities over sleep.

nighttime screen and phone use is common with teens and contributes to later bedtimes and poor sleep:


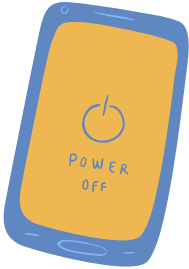
- phones can cause sleep disruptions and content may induce stress responses (Begeti, 2024)
- the National Sleep Foundation reported in 2014 that 75% of youth 6-17 years old, have at least one media device in their room



how to help teens get adequate sleep



education about sleep health is important! schools, parents, and all stakeholders need to take part in this effort. they can also: ensure that the teens in their care have optimal sleep conditions, model good health habits by following a bedtime routine and sticking to a predictable sleep and wake schedule, and by helping their teens plan their own. parents and guardians must also make clear guidelines around phone and media use, especially around bedtime.

*** TAKE ONE ***

SLEEP TIPS

minimize screen use at least an hour before bed, and consider removing screens from your bedroom 

 try keeping your bedroom cool, dark, and quiet for optimal sleep

watch your caffeine intake throughout the day, especially late in the day 

 exercise regularly- it helps get to sleep and stay asleep

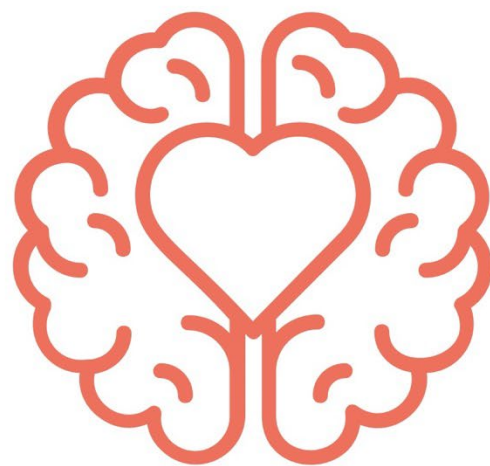
plan for 9 hours of sleep each night!

 keep a relaxing bedtime routine

plan and stick to your sleep schedule 

Suni, E., & Dimitriu, A. (2023). Teens and sleep. Sleep Foundation. <https://www.sleepfoundation.org/teens-and-sleep>

MIND-BODY AWARENESS



mind-body awareness

understanding mind-body awareness

mind-body awareness



mind-body awareness is being aware of the body, and including it in your lived experiences. the body senses everything in your environment and creates messages and signals that often go unnoticed. if we fail to acknowledge our body for too long, physical symptoms may show up as sickness and disease.



the disconnect

unfortunately, it has become quite normal and even expected to ignore messages from our body. there are many reasons for this: societal messaging, convenience, tradition, peer pressure, and time or other constraints. even with sometimes good intentions people can teach us to ignore our bodies by impressing their expectations (for example, sports and performing arts), or by failing to acknowledge our reality (for example, systemic racism, colonialism, and reliance on medicines and other substances).

reconnecting to the body

making deliberate effort to reconnect to the body and noticing the signs and signals from body sensations has many physical and mental health benefits. simply paying attention to the body is the goal, yet mindful practices are often suggested for reconnecting to the body. trying out different mindful practices and moving the body in new or enjoyable ways will help, and working towards new routines which incorporate self-awareness and health habits will benefit you, too!



big changes



several important books about the connection between mental and physical health have been published in the past few decades, bringing this idea to public attention:

- The Body Keeps the Score, by Bessel van der Kolk
- When the Body Says No, by Gabor Maté
- Full Catastrophe Living, by Jon Kabat-Zinn



interoception

interoception is the skill required to bring awareness inward, to sense and pay attention to the experience of the body. it allows the brain to register the signals and messages from the body.

embodiment

embodiment is the practice of fully experiencing and being aware of your body's sensations, movements, and presence in the moment.



mindful practices

mindful practices include:

- mindful movement (yoga, tai chi, dancing, walking)
- bringing mindful awareness to any activity (eating, brushing teeth, listening to music)
- mindful breathing (box breathing, big belly sighs)
- meditation
- body scan- taking intentional notice of each part of the body by scanning from the top down
- using apps and tech for guided meditations, breathing, and relaxation

a caution for trauma



if you have a history of trauma, explore mind-body awareness techniques with caution as certain practices may trigger distressing memories or sensations; consider seeking guidance from a trauma-informed professional.

mind-body practices

tips to help you connect your mind and body and improve your well-being



mindfulness

mindfulness is the umbrella term for the practice of paying deliberate attention to the present moment with a non-judgmental and accepting attitude. by focusing attention on bodily sensations, movements, and physically being in the present moment, it helps to build a deeper connection between the mind and body. many activities can be considered a mindful practice, as long as you are attuned and accepting of yourself and the present moment.

Mindful movement



mindful movement can be any physical activity that brings full awareness to sensations, movements, and breath in the present moment. these activities promote a connection between the mind and body. some common examples include:

- yoga
- tai chi
- dancing
- walking

other repetitive daily activities like sweeping, gardening, and exercise can also be enjoyable mindful movement options.

mindful activities



just like mindful movement, any activity can become a mindful practice by focusing your full attention on the present moment, engaging all your senses, and performing the task without self criticism for example, by bringing your full non judgmental awareness to the movements and sensations of your body like the stretching of your limbs while cleaning or warmth on your skin while showering can increase your body awareness and overall well-being.

meditation



meditation is a practice that involves training attention and awareness in the present moment for relaxation, clarity, in prayer, or other reasons. it involves focusing the mind on a thought or saying, or simply observing the breath and body sensations.

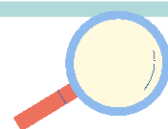
TIP- meditation can be done in any comfortable position, with eyes downcast or closed to help reduce distractions.

breathing



being able to control our breath is one of the best human super powers. our breath is very closely tied to our emotional states. fast short breaths are noticeable during times of stress or panic. slow breathing means we are at ease. by consciously manipulating our breath with different exercises, we can help control our emotions and work to improve our overall mental wellness. it is possible to increase our energy and adrenaline by forcing quick excited breaths, but commonly we manipulate breathing to bring calm and focus. to do so, try these:

- box breathing- trace your finger in a square pattern while breathing in equal pace... inhale, pause, exhale pause (each for 4 counts)
- sigh- take a normal inhalation, then a short burst of extra inhalation before releasing with a sigh



body scanning

body scanning is a mindfulness practice where you take intentional notice of sensations/tensions/ease in each part of the body, scanning from the top down.

app suggestions

try some of these suggestions for guided mindfulness practices:

- Calm
- Headspace
- Mindshift
- Smiling Mind



* TAKE ONE *

MIND-BODY TIPS

mindfulness practices help promote and protect both physical and mental health, and helps with brain power necessary for learning



pay attention to your senses and messages that your body sends like pain, shallow breath, fatigue, tension, ease, stillness, and joyful expression



try some mindfulness practices like:

- yoga, tai chi, dancing
- breathing exercises
- meditation
- body scan

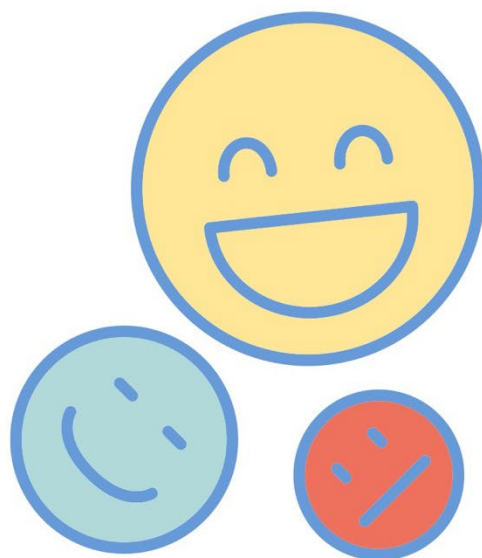
inhale
exhale

if you are new to mindfulness or prefer want guided practice, try some of these apps:

- Calm
- Headspace
- Mindshift



EMOTIONAL DEVELOPMENT



EMOTIONAL DEVELOPMENT

understanding emotions and brain development



ADOLESCENT CHANGES

adolescence is largely based on brain maturation, which occurs from age 10–24. hormones, bodies, identities, social influences, and interests also change.

USE IT OR LOSE IT



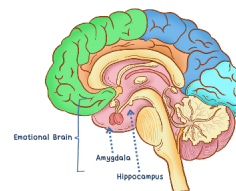
more than any other time in the lifespan, brain areas transform. many neurons are removed during *pruning*, and others grow and become more efficient because of *myelination*. in order to grow brain centers, teens must use it.

NOT ALL AT ONCE

maturization of adolescent brains starts in the lower emotional part of the brain (closer to age 10), and the higher thinking part develops later (closer to 24).

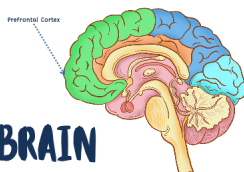


THE EMOTIONAL BRAIN



the emotional brain grows over time includes the amygdala and hippocampus. these areas are more immature and active than in adulthood, making teens more sensitive and prone to intense emotional reactions. messages from the body and environment can go straight to this brain area without being filtered with rational, logical, reasoned thought.

THE PFC: THE THINKING BRAIN



the thinking brain is later to develop in adolescence, maybe not entirely until age 24. this brain area, known as the prefrontal cortex (PFC), is responsible for higher level cognitive skills like rational and reasoned thought, decision-making, impulse control, and all of the executive functions needed for learning like planning and focusing.

"ALL GAS AND NO BRAKES"

(Damour, 2024, p. 91)

the lag in maturity of the emotion and thinking brain regions may lead to more impulsive and risk-taking behaviours, and less or no consideration for consequence. without filtering through the PFC, teens work only within the emotional brain and act on momentary feelings. this is especially true when teens are influenced by their social environment (friends, classmates), and when they are tired.



STRESS DOES NOT HELP

stress causes chemicals like cortisol to be released and other physiological changes in the body. in the brain, stress activates the amygdala, making access to the PFC more challenging. the higher the stress, the harder it is to use cognitive process like problem-solving and planning. stressors can be both internal and external and studies show that teenagers have tremendous amounts of stress in modern life and it is affecting their mental health.

WHAT CAN WE DO ABOUT IT?

youth need to practice emotion and regulation skills, while also staying safe and healthy. check out:

NAVIGATING EMOTIONAL LIFE AS A TEEN

NAVIGATING EMOTIONAL LIFE AS A TEEN

tips to help navigate the teenage emotional roller coaster



KNOW YOUR FEELINGS

sensing and acknowledging your feelings is the first step in emotional development. paying attention to the sensations in your body will help you make sense of what you are feeling. try using a feelings wheel to accurately label your experience.



SELF-AWARENESS

self-awareness is a powerful and necessary skill for adulthood and wellbeing. when you find your emotions reaching high highs and low lows, try identifying and understanding your emotions, triggers, body sensations, and patterns of behaviour. it can help you make more informed choices and responses.

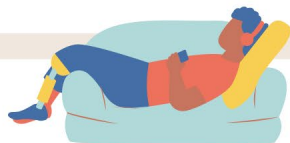


COPING SKILLS

using a variety of coping skills and strategies can empower you to effectively manage stress, regulate emotions, and navigate the ups and downs of life. some strategies to try out:

- mindfulness practices
- mindful breathing
- journaling
- hobbies
- laughing and having fun
- being socially connected

SELF-CARE



prioritize activities that nourish your physical, emotional, and mental self to help manage stress, regulate emotions, and navigate the ups and downs of life. building and maintaining health habits is a good start, as is participating in hobbies or activities for enjoyment. try making specific effort to set boundaries with technology and social media.

EXPRESS YOUR FEELINGS



expressing your feelings is an important component of emotional well-being. find a way to bring your inner emotional life out. some ways to share your feelings are:

- with words- write in a journal, talk to someone
- with art- paint, sculpt, doodle
- with movement- dance, exercise, martial arts

choose what feels right for you!

TIP- WHEN SHARING WITH OTHERS, LOOK FOR SOMEONE YOU TRUST, WHO VALIDATES YOUR FEELINGS, AND WHO CARES ABOUT YOUR BEST INTEREST.

DISCOMFORT IS OK



teens need to have experiences in order to learn and grow neural networks in the brain. even though some experiences may cause discomfort, they will inevitably help grow brain centres and build resilience. everyone feels uncomfortable feelings sometimes- it is part of being human.

HEALTH HABITS



physical health is connected to our emotional well-being. regular exercise, a nutritious diet, and adequate sleep will help you feel good, stay regulated, make good decisions, support your brain development and whole well-being, and more!

SEEK HELP



when your emotions become overwhelming, last a long time, or are preventing you from your daily life like school, work, or activities, seek professional help.

- talk with a counsellor
- Kids Help Phone- text 686868
- Suicide Crisis Helpline- dial 988
- Emergency- call 911

Conclusion

This capstone paper is intended to bring awareness to the development of adolescence and their health concerns amidst the backdrop of modern-day life in North America. It is meant to offer education about mind-body awareness, emotional development, and sleep, to better prepare teens for a future of holistic health and wellness. Through the health promotion and educational insights provided, adolescents and adult stakeholders can benefit from a more whole or universal understanding of health, and how our educational system can aid in the present day and future trajectories of youth.

The three main topics supported this effort. First, a look at mind-body awareness argued for the necessity to reconsider how we approach ourselves and others as neither just a mind, nor just a body, rather a whole person comprised of both. Our schools and students will benefit from this mind-body integration approach and can use mindfulness strategies to do so. Second, the review of emotional development in adolescence offered education about the typical neurological and emotional development of humans aged 10-24. Information in this section is useful for adults to better understand teens, and approach them with empathy and compassion to maintain connection and support during this transitional time. It is also directly relevant to teens themselves, and is intended for them, as it promotes their self-awareness and subsequent decision making and mental and physical health outcomes. Third, the inclusion of sleep habits was pertinent to the holistic health promotion efforts of this paper. It incorporated effects of sleep on mental and physical health and advocated for prioritization and promotion of health goals. In all, these three areas worked together in pursuit of education of teen wellness, and actionable steps to encourage lifelong holistic health.

Undoubtedly there is much more to add and consider in this ambitious goal, and many other subject areas and aims are critical contributions. In my personal and professional development to this end, I intend to explore the other two health habits- nutrition and exercise- especially in the context of brain health and executive functioning during adolescence. Executive functioning, self-regulation, and cell phone use are other interconnected topics that are pertinent to youth well-being and important to my understanding of teen health and in my supportive counselling role in a secondary school. Eventually I hope to build all these topics into bulletin board posters and information sessions to share with parents, and support teens and their families through psychoeducation. I am committed to these actions because I believe that we must equip today's youth with the knowledge they need to know themselves and have the opportunities to improve their health as they continue into adulthood. As the scientific community and we, the adults, begin to know more, we can do better. It is now our duty to ensure our adolescents have this knowledge and can do better for themselves too.

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