Counselling Clients with Chronic Pain

by

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Abstract

This capstone explores the evolving role of counsellors in the interdisciplinary treatment of chronic pain within a biopsychosocial (BPS) framework. Despite growing empirical support for the BPS model as best practice in pain care, its application in clinical settings remains inconsistent. This paper investigates whether counsellors, through expanded training, particularly in pain neuroscience education (PNE), could broaden their scope of practice to contribute more effectively to pain management. It examines current gaps between evidence and practice, challenges in access and delivery of care, and the need for more integrated, person-centered approaches. Emphasis is placed on the counsellor's unique position to address the complex psychological and social dimensions of chronic pain, to promote coherence in interdisciplinary care teams and to respond to the need for more effective approaches to managing the problem of pain in society.

Key words: biopsychosocial model, central sensitization, chronic pain, interdisciplinary care, pain psychoeducation

Dedication and Acknowledgement

I dedicate this capstone to my husband and daughter, who have supported me through this Master's degree and, finally, this Capstone. I thank them for their patience and ask them to forgive me where I have not been my best self. I also dedicate the work to my cohort who have nudged me along the way and become lifelong friends. Lastly, I hope this work may be useful to at least one other human being, and that I apply what I have learned as I go forth into counselling practice. It has been such an honor to do this work.

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Chapter 1: Introduction

Pain is a human experience common to us all, except for rare cases (estimated as 1 in 25,000 people) where individuals do not experience pain due to a genetic anomaly, often leading to life-threatening health issues (Rodríguez-Blanque, 2024). Pain is protective and necessary for survival, yet when it persists, it is a problem that can threaten well-being. Pain persistence is not uncommon, with chronic musculoskeletal pain said to affect 20-30% of adults worldwide (Watson et al., 2019; Cohen et al., 2021). In Canada, 7.6 million (approximately one in five) individuals suffer from chronic pain, which costs the economy between $38.2 and $40.3 billion CAD (Canada.ca, 2021). Annual costs of chronic pain in the USA have been between 560 and 635 billion USD, higher than the cost of heart disease, cancer and diabetes combined (Prego-Domínguez et al., 2021).

According to such statistics, in North American populations, counsellors can expect at least one in 5 clients who enter the therapy room to be experiencing chronic pain. In light of this prevalence, it is important to consider how therapists are managing this issue.

Traditionally, the mental health practitioner has treated the *secondary* effects of chronic pain (Zanini, 2018), such as anxiety and depression. There may be a newer perspective that considers the role of mental health practitioners and their work with psychological and social factors as *primary* drivers of pain. Such a perspective could change the counsellor's role with clients in pain, including recognizing that counselling may have a role in pain reduction.

Neuroscience has shown that psychological and physiological states can cause pain in the absence of tissue damage. Migraine, irritable bowel syndrome or fibromyalgia (Cohen et al.,

2021) are examples of pain without pathological origin. Counsellors would seem well-positioned to help manage the physical pain as well as its side effects. This paper will examine the approaches counsellors currently use to support people in pain and consider if further training is recommended to better serve this population, given the neuroscientific understanding that pain is a biopsychosocial issue (Driscoll et al., 2021).

In Chapter One, I will discuss the problem of persistent pain (non-cancer pain) and the role of counsellors in supporting this population. The chapter will review the gaps between evidence-based aspects of a biopsychosocial approach and their application in the field, which may prompt new perspectives and choices of interventions for counsellors.

Chapter 2 will review the literature on best practices for chronic pain interventions based on neuroscientific research, focusing specifically on psychological approaches. It will define the key aspects of a biopsychosocial (BPS) and integrative model, in contrast to the biomedical model, for treating pain. The chapter will consider counselling approaches and how they align with the biopsychosocial model, as well as gaps between evidence and practice (Declercq, 2023). Barriers to providing BPS and interdisciplinary, evidence-based care – as 'gold standards' for chronic pain (Sullivan et al., 2023; Driscoll et al., 2021; Cohen et al., 2021) - will be examined in relation to counselling practices.

Chapter 3 will summarize the findings in the literature and their implications for the future role of counsellors in pain management. It will propose suggestions for counsellors working with clients with pain that contribute to the shift towards more effective, integrated and equitable care for pain sufferers. There will be suggestions for further training at undergraduate and postgraduate levels on neurophysiology and the influence of psychosocial and behavioral factors on pain causation, exacerbation and reduction (Cohen et al., 2021).

The Issue with Pain

There is convincing evidence in the literature that pain management requires a biopsychosocial (BPS), interdisciplinary and integrated approach (Cohen et al., 2021; Driscoll et al., 2021; Declercq, 2023; Sullivan et al., 2023) to treat the whole person and produce sustainable outcomes. Often, however, individuals in pain continue to receive care that is "delivered by a single provider and use of analgesic medication, especially opioids" (Driscoll et al., 2021, p.54). Opioids, along with non-opioid analgesics, are no longer considered the preferred treatment for chronic pain (Cohen et al., 2021; Dowell et al., 2016; Quaseem et al., 2017; Majeed et al., 2018), with more opioid dependence and poorer treatment outcomes noted for patients with chronic pain (Rijswijk et al., 2019). These findings support multidisciplinary approaches as the optimal approach to the management of chronic pain (Rijswijk et al., 2019).

Despite the problems associated with it, the biomedical model continues to dominate health care for pain, prioritizing biological factors over psychological and social components (Wallace et al., 2021; Sullivan et al., 2023; Cohen et al., 2021). Issues such as sleep disturbance, depression, psychosocial challenges, adverse life experiences and trauma are considered with secondary importance through the biomedical lens (Turk & Gatchel, 2018; Cohen et al., 2021; Sullivan et al., 2023; Driscoll et al., 2021) rather than acknowledging their contributions to pain onset, intensity and chronicity. Recent neuroimaging shows an overlap in the neural circuitry of the brain between physical pain and socially painful experiences such as exclusion, rejection and bereavement (Sullivan et al., 2023). There is convincing evidence that neurological and physiological changes can occur in the absence of injury or pathology. Since there is such mounting evidence, chronic pain has been labelled a disease unto itself rather than a symptom of underlying conditions (Cohen et al., 2021).

Since psychological factors are inextricably linked to pain (as will be discussed in Chapter 2), the skills of counsellors seem vital for pain management. This raises the question of how therapists are working with pain and if their methods align with best practice principles. One concern noted in the literature suggests a disparity between evidence-based psychological interventions and their availability *and* application in clinical care (Driscoll et al., 2021). The barriers to receiving psychological treatments for pain will be reviewed in Chapter 2.

In addition to the ill effects of opiates, other forms of iatrogenesis in the Western healthcare system call for paradigm shifts in pain treatment. This includes the way chronic pain patients have felt dismissed, not validated and stigmatized by healthcare practices and practitioners (Declercq, 2023; Todic et al., 2021; CIHR, 2016).

Counsellors have specific skills in listening, validating and destigmatizing with a duty to uphold integrity, dignity, caring and a responsibility to society (BCACC, 2014). This positions them well to counter harms experienced in the healthcare system and validate suffering. Another skill of counselling is to deliver culturally and socially sensitive psychoeducation. This capstone examines how pain neuroscience education may be integrated into current methods to increase understanding of pain, enhance agency and advocacy in the healthcare process and increase engagement in interventions.

Further iatrogenic factors such as over-medicalization, unnecessary tests and interventions, conflicting healthcare approaches and untreated pain call upon the skills of counsellors to work with the psychosocial factors in chronic pain and will be discussed further in Chapter 2.

Finally, and perhaps most importantly, there is the issue of inequity in accessing health care services for pain sufferers. Wallace et al. (2021, p.9) discuss how “chronic pain is as much of a social issue as it is a pain issue” and that barriers to receiving care are intersecting,

interrelated and associated with social identities and locations, discrimination and stigma. The paper states that “pain management is a fundamental human right even though inequities and injustices are identified as the greatest challenges to responding to pain globally” (Wallace et al., 2021, p.2).

Despite evidence for the BPS model for pain care, there is often limited accessibility and uptake of the approach. According to Declercq (2023), reasons for this can include dualistic perceptions of mind and body and the importance placed on biological treatment approaches (e.g., medication) over integrative or behavioral approaches. This suggests a shift is required in sociocultural understandings of pain and its management with increased attention to body-mind constructs during clinical interactions and discussion with clients (Declercq, 2023).

A major theme of this capstone is that the increased integration of neurophysiological perspectives and psychosocial factors into a BPS framework can help us better understand individuals with chronic pain and their disability. Furthermore, this will facilitate effective treatment planning (Turk & Gatchel, 2018).

Purpose Statement

The purpose of this capstone is to examine the role of the counsellor in the field of chronic pain, now and in the future. Given the evidence favoring a BPS framework for pain management, this project will examine the evidence on whether counsellors could broaden their scope to include more focused and collaborative work with pain. The paper will highlight gaps between evidence and clinical practices of managing pain and consider challenges in access, delivery and uptake of best practices in pain care.

Given that chronic pain is a biopsychosocial phenomenon (Watson et al., 2019; Turk & Gatchel, 2018) and evidence supports the BPS approach as best practice in the treatment of pain

(Declercq, 2023; Cohen et al., 2021; Driscoll et al., 2021; Yamin et al., 2024) this capstone considers how counsellors work with biopsychosocial factors, proposing that training in neuroscience may increase capacity for interdisciplinary collaboration with other providers and provide congruency in pain neuroscience (PNE) messaging for pain sufferers. This would contribute to more effective and cohesive, client-centered management. This could fill the psychosocial practice gaps of the current biomedical system and address certain barriers to access to care, specifically, to counsellors who work with pain.

Research Questions

The research questions this paper will address are:

- If the biopsychosocial model is the preferred method for managing pain, how is it being applied in practice?
- Would further training in pain neuroscience be beneficial for counsellors working with individuals who have chronic pain?
- What are some of the barriers hindering the provision of effective BPS pain care?

Significance of the Study

Counsellors are already working with chronic pain and its concomitant issues on a daily basis. Adverse life experiences and trauma, for example, are known as precursors to the persistence of physical pain (Tidmarsh et al., 2022), and counsellors are experts working with this population. This capstone suggests that counsellors may further expand their skills in chronic pain management with further training in pain neuroscience at the undergraduate and postgraduate levels.

This capstone provides a view of the whole-person in pain, with the client central in decision-making processes, prioritizing agency through education, choice, goal setting and

interventions tailored to their unique context. By providing PNE that reconceptualizes pain for the client and aligns with the most recent findings, it is possible to facilitate improved coping with pain (Watson et al., 2019) and more sustainable self-management long-term.

Theoretical Orientation

My work tends to come from an integrative worldview, which, according to De Witt et al. (2016), considers the fragmentation in healthcare and ponders integrating knowledge, realities, identity, values and society (De Witt et al., 2016) to support more effective, person-centered care.

From this worldview I will apply a biopsychosocial theoretical orientation that focuses on "the interrelatedness of biological, psychological, and social factors in the context of health and illness, including pain and its management" (Driscoll et al., 2021, p.51) recognizing that many health conditions are not defined by detectable changes at the tissue level (Rocca & Anjum, 2020). In particular, the role of the counsellor to optimize biopsychosocial pain treatment will be considered, and the evolving definition of the term 'biopsychosocial' will be reviewed, given the ongoing overemphasis on biology relative to economic, psychological, social, and cultural determinants of health (Ng et al., 2021; Todic´ et al., 2022).

Positionality Statement

Pain has been a focus of my personal, academic, and professional life since 1998. The fascinating, multifaceted nature of the pain experience led me to focus on pain management as a physiotherapist and further studies in mindfulness and yogic philosophies of healing. I value the exploration of pain from many angles, including spiritual and existential perspectives, however, I narrowed the scope of this project to a clinical, biopsychosocial view, informed by my clinical experience of the gaps I observed in pain management. There is a clear bias in this capstone

based on these personal experiences, and a predominantly Western viewpoint of healthcare and pain neuroscience.

I have witnessed how individuals in pain are often not validated, which can pose a challenge for the sole practitioner attempting to manage their care and compensate for iatrogenic harms. I recently met the challenges of rural healthcare, living in Tofino (BC), and providing and coordinating care for people with chronic pain. Acute pain can become chronic pain due to a lack of available, accessible treatment, although this is not exclusive to rural environments. Clients often must advocate for alternative therapies or find online resources to fill the gap where biomedical methods have not been adequate. Pain sufferers are disheartened with the medical 'fix' of pharmaceuticals or extended waitlists, and more open to psychosocial, behavioral and counselling approaches, even if just to have their stories heard or to be validated and seen as a human being. Nonetheless, there can be reluctance with the slower healing process and increased effort required of the client in BPS methods, adding to the challenges of service delivery, especially for providers working in isolation.

I am curious how counsellors currently work with pain. After working with clients who gain significant improvement in pain and function when they understand their pain better, I was driven to consider whether counsellors could integrate more neuroscience in their training and interventions to support a shift from outdated assumptions about pain, dispelling myths that pain requires damage or pathology to exist (Cohen et al., 2021) and growing the credibility of psychological approaches in pain treatment.

The literature examined in this capstone lacks representation of diverse cultures and populations and their unique perspectives on healing. This inherent bias means that the information presented is not generalizable to all pain populations, and although I will touch

upon issues of equity and accessibility, I write from the lens of a cisgender white, heterosexual female and middle-class privilege. The privilege of my intersectionality has brought a relative ease of access to health care, compared to less advantaged populations, hence, I have not experienced the struggle and suffering of those from marginalized communities.

Throughout my career in pain management, I noticed the limitations of the biomedical model to meet the multifactorial nature of pain. I intentionally practiced biopsychosocial approaches to healing, drawing upon eastern philosophies of health, such as yoga teaching and mindfulness-based stress reduction (MBSR) to compensate for the insufficiencies of my traditional biomedical (and biomechanical) training. Mindfulness-Based Interventions (MBI's) have evidence to support their benefit in pain management (Jinich-Diamant, 2020) and are increasingly integrated into Western pain management strategies (Aygün et al., 2024) as an alternative or adjunct to the medical system. Many practitioners have had to step outside the biomedical framework to provide whole-person, compassionate care for people in pain.

Definition of Terms

Biopsychosocial: "the interaction of biological and psychosocial elements" (Raffaeli et al., 2021).***Central Sensitization*:** "the amplification of neural signaling in the central nervous system contributing to hyperalgesia" (McKernan et al., 2020).

Chronic pain: According to the IASP "chronic pain is ongoing or recurrent pain that lasts beyond the usual course of acute illness or injury or for more than 3 to 6 months and adversely affects an individual's well-being" (Driscoll et al., 2021).

Interdisciplinary care: a team of clinicians or professionals with a variety of skill sets collaborating for optimal client outcomes (Connell et al., 2022).

Pain: According to the IASP "An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage" (Raja et al., 2020, p.1).

Pain Psychoeducation: specific information offered to enhance understanding of the psychological component of pain (Louw et al., 2024).

Chapter Summary

The remainder of this paper will include a literature review of best practices in pain management, current counselling approaches used in pain care and the gaps and barriers in the provision of pain care, relating to the questions stated in this chapter. Chapter 3 will consider a future vision for optimal pain management including a broader scope for counsellors, supported by the neuroscientific literature on BPS and integrated and collaborative care models for chronic pain clients (Raffaeli et al., 2021).

Chapter 2: Literature Review

Introduction

The following chapter reviews the literature on the biopsychosocial (BPS) model of pain care, prevalent counselling methods used in pain management and the role of pain neuroscience in training for counsellors and education for clients. Aspects of accessibility and provision of chronic pain services, as well as the gap between research and practices of pain care, will be considered. The theoretical framework used to examine the research and the questions for this capstone will be discussed. This will lead to recommendations, in Chapter 3, for future counselling practices to support the gap between evidence and practice and expand the counsellor's role in pain management.

The Biopsychosocial Model of Pain Management

The biopsychosocial model (BPM) was suggested by Engel in 1978 (see Figure 2) as a way to highlight the interrelated and dynamic nature of biological, psychological, and social factors in the context of health and illness, including pain management (Van Dessel, 2024, Cohen et al., 2021; Declercq, 2023). Through a biopsychosocial (BPS) lens, this capstone will consider the condition of chronic (or persistent) pain and how it is managed in healthcare. In comparison, I refer to the use of a traditional, biomedical approach, which has been found inadequate for the complexities of chronic pain since it is based on the treatment of physical constituent parts of a person failing represent the whole picture of human suffering and healing (Rocca & Anjum, 2020; Driscoll et al., 2021; Darnell et al., 2017; Parraga & Castellanos, 2023). The biopsychosocial model acknowledges the complex interactions among the biological, psychological, and social domains that collectively influence pain. This promises to move beyond the biomedical approach and provide more holistic care for individuals suffering from

chronic pain (Bolton, 2023). Today, an evolving biopsychosocial model is seen as the principal framework informing pain research, clinical practice and the education of healthcare professionals and the public (Driscoll et al., 2021; Cohen et al., 2021). Since the BPS model integrates multiple systems, it represents the multidimensionality, individual variability, and complexities of the pain experience (Driscoll et al., 2021; Cohen et al., 2021; Sullivan et al., 2023). However, there are other factors, e.g., certain cultural and societal considerations, that are lacking from current BPS practices (Parraga & Castellanos, 2023), demanding its continual evolution to live up to the definition of a whole person-centered approach to health.

Counsellors (and other mental healthcare practitioners) are well placed to work within a BPS framework given their skills, such as those promoting resiliency and providing emotional support (Cohen et al., 2021). Such psychological inputs can reduce chronicity, improve quality of life and reverse maladaptive neuroplastic changes when integrated with other forms of pain management (Cohen et al., 2021. From a sociocultural perspective, chronic pain can be associated with low educational attainment, cultural characteristics, poor social support, homelessness, addiction, worklessness, divorce and suicide, to name but a few factors (Cohen et al., 2021). From the psychological perspective, anxiety, depression, poor sleep, post-traumatic stress, poor coping skills, and catastrophization are among many other issues that can contribute to the onset and perpetuation of pain (Cohen et al., 2021). From a biological perspective, it may be well understood that injury or disease can cause pain, however, the biological reasons for chronic pain are less understood when it develops without a medical explanation or tissue damage. One behavioral factor known to affect pain is sleep. It is known that a single night of total sleep deprivation induces generalized hyperalgesia (increased sensitivity to pain) and

increased anxiety, whilst sleep curtailment impairs the body's capacity to manage nociceptive input and increases spontaneous pain (Nils et al., 2019).

Depression, anxiety, and emotional distress, along with negative emotions, thoughts, and behaviors or "negative affect", are strongly correlated with persistent pain. Furthermore, emotional and psychosocial distress have been seen to increase the chance that an individual with acute pain will transition to chronic pain (Meints & Edwards, 2018).

The biological aspects of chronic pain in such cases can be linked to adverse pathophysiological and anatomical changes, which include peripheral and central sensitization, growth of new neural connections, and changes in the brain itself, all of which can be affected adversely by psychosocial factors (Cohen et al., 2021).

Chronic Pain

Chronic pain can involve unique changes in the nervous system. These can include peripheral and central sensitization (CS), which amplify pain responses and alter brain physiology and affect pain perception (Cohen et al., 2024; Driscoll et al., 2021). Such changes can be seen on neuroimaging and can demonstrate an important distinction between chronic and acute pain. Acute pain biological changes are primarily localized in the body and may have no neurological changes, for example, where there is an ankle ligament strain and inflammation. In contrast, in chronic lower back pain (CLBP) there can often be an absence of localized tissue change or spinal damage as shown on MRI or CT scans, therefore the tissue state does not correlate with the degree of pain experienced by the individual (Dahmani et al., 2023). The reason why the pain can be disproportionately high in individuals who may have no spinal damage at all, may be attributed to neuroplastic changes in the peripheral and central nervous systems that lead to sensitization. This results in more pain than can ever be accounted for by the

visible damage to the tissues of the body (Dahmani et al., 2023). Current scientific thought suggests that when the brain perceives a threat (or potential threat), it decides to produce pain for the protection of the organism (Parraga & Castellanos, 2023). This protective system alarm can be exacerbated by depression, anxiety and catastrophization and reciprocally dampened where there is positive affect, optimism and reduced catastrophizing (Meints & Edwards, 2018; Dahmani et al., 2023). Such physiological changes can significantly impact an individual's quality of life (Cohen et al., 2024; Driscoll et al., 2021) and lead to secondary health issues and disability, exacerbated by comorbidities or pre-existing factors (Williams et al., 2021). Chronic pain is also known to be a risk factor for cognitive decline and premature death (Yarns et al., 2024).

According to the literature, the provision of inadequate pain assessment and treatments has led to significant personal and economic burdens for sufferers (Darnell et al., 2017; Cohen et al., 2021; Connell et al., 2022; CIHR, 2019). Delays in accessing treatment can lead to further chronicification of pain and worsening co-morbidities, with those in marginalized or rural communities often lacking care at all (Kasewater et al., 2023). Over-medicalization can lead to worsening pain. where biomedical treatments fail to address key psychosocial drivers of pain (Eneberg-Bolden et al., 2020), and there is increasing disillusionment with medical care, nudging people toward alternative treatments that can be expensive and ineffective (CIHR, 2016). The financial burden on clients can impact their quality of life, relationships and access to care (Rocca & Anjum, 2024) and can exacerbate the suffering due to the stress of funding unaffordable or unsustainable avenues of care (CIHR, 2016).

Many pharmacological approaches for chronic pain management are laden with problems and negative side effects, such as tolerance, addiction, constipation, rebound pain, sedation, and

impaired cognition (Day et al., 2015; Jinich-Diamant et al., 2020). Overall, it is deemed that pharmacological treatments are not very successful in the treatment of chronic pain (Nijs et al., 2019). One of the most documented concerns is the ineffective use of opiates for chronic pain, where individuals build tolerance, risk addiction (Jinich-Diamant et al., 2020) and can increase central sensitization through altered neurological function, which is called opioid-induced hyperalgesia (Nijs et al., 2019). Serotonin noradrenaline reuptake inhibitors have been shown to be effective in the treatment of some chronic pain conditions involving CS, such as fibromyalgia and osteoarthritis. Amitriptyline (a tricyclic antidepressant), despite its use, lacks evidence for its benefit in treating pain, and in fact, randomized controlled trials suggest this is the case for antidepressants in general (Nijs et al., 2019).

Fragmented care in chronic pain, which is disjointed between multiple providers, continues to prevail and lead to poor outcomes (Connell et al., 2022) such as worsening pain, psychological distress, exacerbation of comorbidities, disillusionment with the medical system and overuse of medications (CIHR, 2016). Despite the ill-effects of fragmented care and the growing evidence in favour of psychotherapeutic and non-pharmacological treatments such as exercise, therapeutic education, and cognitive-behavioral therapy (Darnell et al., 2017; Day et al., 2018; Nijs et al., 2019; Cohen et al., 2021), there is still a reliance on treatments hinged on biological factors, failing to address psychological components (Parraga & Castellanos, 2023; Rocca &Anjum, 2024). With around 30% of people worldwide suffering from chronic pain, and pain described as a disease unto itself (Cohen et al., 2021), there is a desperate need to implement the evidence-based biopsychosocial model and make it more accessible for all.

The Evolving Biopsychosocial Model

As mentioned, the BPS model provides a multidimensional perspective on pain where biological, social, cultural and psychological factors affect one another reciprocally (Cohen et al., 2021; Driscoll et al., 2021). In their paper on best practice in chronic pain management, Cohen et al. (2021) highlight the bidirectional nature of factors influencing pain. They state that depression, post-traumatic stress, sleep dysfunction, poor coping skills, catastrophization, and social issues can *arise* from persistent pain, but that it is less understood that they also *predispose* an individual to pain (Cohen et al., 2021). This further endorses the use of a BPS model since the biomedical model considers a more unidirectional and biological stance, i.e., there is a biological cause to pain; therefore, using only biologically based treatments. "Pain-related research evidence and pain theory agree that biological mechanisms alone cannot adequately explain processes or mechanisms underlying pain" (Tidmarsh et al., 2024, p.5).

Sociocultural factors need to be integrated, to attend to a person's education level, social, cultural and racial background, family or community support and expanding those biological factors that can get missed, such as genetics, age, sex, sleep, hormones, and the individual endogenous opiate systems of the individual. Epigenetics is now said to contribute to how much pain a person will experience according to a particular context (Cohen et al., 2021). All these factors, and more, powerfully validate why a person can be in pain when there is no apparent medical explanation. This can be therapeutic for many pain sufferers to hear, especially where they have felt dismissed or invalidated (CIHR, 2016) and speaks to the value of PNE.

Cohen et al. (2021) outline the differences between three types of pain: nociceptive, neuropathic and neuroplastic, which are accepted terms used by the International Association for the Study of Pain (n.d). Nociceptive pain is due to an activation of neural pathways due to actual stimuli (that may or may not cause harm e.g., mechanical pressure on a limb), neuropathic pain is

due to damage or disease of part of the nervous system (e.g., a nerve injury) and neuroplastic pain arises from an abnormal processing of signals without any obvious pathology or tissue damage (e.g., in fibromyalgia or irritable bowel syndrome) (Cohen et al., 2021). These categories of pain may present in differing degrees and at different times for the individual with chronic pain, and, ideally, an individual would be treated according to their specific presentation and the guidelines for that type of pain. However, as mentioned, identifying the mechanisms behind a person's pain can be "challenging or impossible in clinical practice, so treatment is typically symptom-based or disease-based. For many patients, the goals of therapy should be tailored towards an improved quality of life, which might be more realistic than meaningful pain reduction" (Cohen et al., 2021, p.2086). The US Department of Health and Human Services published a document in 2019 on pain management best practices (Cohen et al., 2021), which is summarized by the panel in Figure A3.

As a result of such developments in our understanding, we need to consider chronic pain a biopsychosocial rather than medical phenomenon requiring "a major paradigm shift in the way providers assess, conceptualize, and treat pain" (Driscoll et al., 2021, p.55). This moves away from treating Central Sensitization (CS) as a pathophysiological process and invites clinicians to treat people as biopsychosocial beings and account for CS and chronicity in the way care is administered (Nijs et al., 2019). A person-centered approach where personalized care plans are developed, supporting patient education and empowerment and incorporating actionable strategies around the values and goals of the individual (Driscoll et al., 2021) would move away from formulaic, stigmatizing approaches and allow individuals to feel believed and recognized for their suffering (Declercq, 2023). An example of this may be using mindfulness-based cognitive behavioral therapy (MCBT) that combines evidence-based practices (to be outlined

later) with deep listening and cultural sensitivity as part of whole-person care. Such an approach may harness "psychological interventions to address the many facets of biopsychosocial functioning that are demonstrably affected by chronic pain, including the intensity of pain itself, physical functioning, emotional and social well-being, productivity, and even self-esteem" (Driscoll et al., 2021, p. 58). Features of such interventions would focus on validation, emotional-regulation, identification of dysfunctional beliefs, patterns, and stressors that amplify pain, and work with trauma or emotions that can maintain pain via neurological pathways and the brain. This can reduce psychological risk factors or, conversely, increase protective factors to address pain (Driscoll et al., 2021).

Trauma and Biopsychosocial Model of Pain Management

A significant risk factor for the onset of pain, chronicity and poor outcomes includes trauma and violence (Wallace et al., 2021). The incidence of chronic pain doubles in people who have had Adverse Childhood Experiences (ACE's) when compared to those without ACE's, and the prevalence of CP in adults who have had ACE's being 84% which emphasizes the higher occurrence of childhood adversity and trauma for people with CP (Tidmarsh et al., 2022). Yamin et al. (2024) similarly report ACE's to be a risk factor for the development, exacerbation, and maintenance of chronic pain, stating that trauma contributes to pain by disrupting physiological, cognitive, emotional, and interpersonal processes.

Centrally sensitized (CS) pain, specifically, has been strongly correlated with psychosocial trauma and lifetime adversity. This includes trauma based in racism or discrimination, psychiatric conditions and military combat and post-traumatic stress disorder (PTSD), with trauma history leading to three times the likelihood of developing pain conditions involving CS later in life. People with a trauma history experience worse pain and health outcomes, more

severe symptom presentation, increased disability and unemployment, and increased healthcare utilization (McKernan et al., 2019; Meints & Edwards, 2018; Yarns et al., 2024). In their article, McKernan et al. (2019) suggest the importance of assessing the levels of PTSD symptoms to help understand, predict, and potentially treat symptoms of CS among individuals presenting with chronic pain.

Whilst more evidence is still required, psychoneuroimmunology studies emphasize the interaction between behavioral, neural and immune processes on health, further supporting the biopsychosocial approach. It has been shown that exposure to adversity during the neuroendocrine development of childhood can lead to altered stress reactivity, physiological sensitization to stress, dysregulation of the immune system and increased inflammatory markers. This would suggest a mechanistic connection to pain. Prolonged inflammation can add to the sensitization of the nervous system and lead to pain (Tidmarsh et al., 2022). Another contributing factor is where sustained environmental challenges exceed the ability of a person to cope, and if a person is chronically activated, their neuroendocrine system is no longer adaptive, resulting in allostatic overload. A key point, is that cortisol levels are dysregulated, and this can create an overactive threat response, which activates pain (Tidmarsh et al., 2022) as an attempt to protect the individual from further threat; thus, the pain cycle self-perpetuates.

The evolving evidence linking trauma and pain calls for the provision of trauma-and violence-informed care (TVIC) that recognizes an individual's history, unique context and lived experiences (Wallace et al., 2021) and prioritizes cultural safety as part of a BPS model of pain care (Tidmarsh et al., 2022). It has been shown that following BPS and multidisciplinary pain rehabilitation, significant improvements in pain, physical and psychosocial functioning can be observed, whether ACE's were part of their history or not.

Provider and Client Barriers to the Implementation of a BPS Approach

One of the barriers to the delivery of evidence-based pain care in mental health includes the significantly limited number and availability of psychologists and therapists who are skilled in treating pain (Darnall et al., 2017; Driscoll et al., 2021). In their article, Darnell et al. (2017) identified that 72% of therapist and psychologist respondents reported having little or no formal pain training, with 55% of clinicians reporting low comfort levels in pain treatment. The results of a national survey on pain suggest that while clinicians may recognize the value of the biopsychosocial model for pain treatment, they lack the resources to apply it in their daily practices (Darnell et al., 2017). There can be a deficit in providers' deeper understanding of the BPS model, which affects service delivery on many levels, one being that individuals can misunderstand the rationale behind treatments and their mechanism of action, therefore doubt their effectiveness or relevance to their situation (Driscoll et al., 2021).

There are limitations from the individuals themselves, who may have experienced widespread stigma or even suggestions from clinicians that their pain is "all in their head," which can impact the engagement of the client in a treatment that addresses psychology, emotions and cognitions or utilizes talk therapy (Driscoll et al., 2021, CIHR, 2016). Individuals have also reported resistance to treatments requiring more active participation and time investment, compared to passive or biomedical 'solutions' (Driscoll et al., 2021).

Even providers can misunderstand the rationale behind psychological pain treatments and their mechanism of action, doubting their relevance or benefit in the management of pain. This doubt can be passed on to individuals, subconsciously or consciously, and may discourage engagement, whether actively or inadvertently (e.g., by failing to recommend such treatments) (Driscoll et al., 2021).

Socioeconomic and Cultural Barriers to the Implementation of a BPS Approach

From the social perspective, recent literature highlights factors that are intersecting, such as social identities and locations, discrimination, dismissal, violence, and stigma, all of which can increase the suffering of those living with pain and impact both access and quality of care (Wallace et al., 2021). Other issues such as social trauma related to colonization, misogyny and intimate partner violence, the overdose crisis, homelessness and poverty, increase the spiral of suffering in this population (Wallace et al., 2021). It makes sense that "paying attention to the social determinants of pain is crucial to realizing a more just, equitable, and healthy society" (Wallace et al., 2021, p.2) and, important to shift towards more biopsychosocial provisions of care.

It is known that the timely access to evidence-based strategies that prevent the transition from acute to chronic pain is important to reduce the prevalence of chronic pain in Canada (Health Canada, 2021) and yet evidence-based pain care lacks affordability, especially for those without insurance coverage, and particularly for psychological therapies such as counselling (Darnell et al., 2017; Becker et al., 2017). Even when a person has insurance, there can be strict limitations on the amount of eligible treatment, resulting in ineffective and insufficient pain care (Darnell, 2017) rather than allowing a longer period of therapy that integrates biopsychosocial changes over time.

Racial disparities have been reported, for example, African Americans can experience decreased provider and treatment access compared to white Americans (Kasewater et al., 2023; Maly & Vallerand, 2018). Whilst some studies have shown increased pain prevalence in non-Hispanic White people, most have shown the highest prevalence in racial and ethnic minorities such as African-American and Indigenous populations, with differences including increased pain

sensitivity, cultural differences and reduced access to care (Cohen et al., 2021). Other socioeconomic factors that exacerbate pain include exposure to violence, fewer social supports and less safe access to physical activity (Maly & Vallerand, 2018). Studies show that there is a high prevalence of chronic pain in veterans, which may be linked to trauma (Cohen et al., 2021; Yarns et al., 2024), yet they are usually eligible for substantial compensation and benefits which removes financial barriers to care and expedites access to pain specialists (Canada.ca, 2023).

Certainly, it is known that interventions that increase physical activity to relieve pain, decrease social isolation, improve access to care providers, as well as access to multidisciplinary chronic pain teams, would contribute to a major shift in the inequities in pain service accessibility (May & Vallerand, 2018).

On a structural level, Todic et al. (2022, p. 986) state that "persistent healthcare inequities have been difficult to eradicate because the interventions to address them often use the same cultural and organizational processes that create and sustain them". This sentiment calls for an honest and thorough examination of why current pain management approaches are failing and suggests a radical, systemic shift in service delivery may be warranted.

Culture in the BPS model

Declercq et al. (2023) describe *culture* as a sub-element of the social domain involving aspects such as interpersonal relations, work history and environmental stressors, and suggest that this aspect deserves further development and representation in the BPS model. For example, it has been shown that problematic work relationships, lack of social supports, injustice perceptions and people with disability benefits or compensation are predicted to have more pain-related disability (Meints & Edwards, 2018). The experience of pain can also be influenced by cultural values, beliefs and attitudes. These factors influence the meaning attached to painful

experiences, the response to suffering, and the likelihood of seeking medical support for pain. Similarly, religious beliefs and practices can influence a person's experience of pain and their responses to it, influencing psychological effects such as the severity of depression and anxiety experienced by the individual (Rajkumar, 2023).

Declercq et al. (2023) describe the domains of the BPS models as fluid and overlapping rather than separate entities, with the social-cultural determinants of pain intersecting with psychological and biological elements at every level. Without a deeper acknowledgement of cultural factors, the BPS model may lack the social justice capability to address social exclusion, discrimination, stigmatization and injustice perceptions and their power to diminish or amplify pain (Darnell et al., 2017).

Whilst studies have found that culture and ethnicity can influence how individuals perceive, manifest, and tolerate pain, this subject still requires more attention and research (Miller et al., 2019; Declercq et al., 2023) if it is to be adopted further into clinical practice. Nonetheless, the implications of these socio-cultural aspects for those living in pain may prompt practitioners to adopt social justice approaches that prioritize trust and respect, recognizing their power as a provider and the effects of colonization on marginalized social identities as well as discrimination based on race and ethnicity (Wallace et al., 2021). Whilst some culturally sensitive approaches *attend* to differences based on race and culture, cultural safety recognizes the responsibility of care providers to *create* safety, challenging discriminatory values, assumptions and inequalities in healthcare delivery for pain (Wallace et al., 2021).

Interdisciplinary and Collaborative Care as part of a BPS model

Multidisciplinary pain management programs have growing evidence for helping reduce pain intensity, improve self-efficacy, decrease opioid dependence and increase quality of life for

people in pain (Deslauriers et al., 2021). The intersecting nature of biological, psychological and socio-cultural factors in pain has led to clinical guidelines recommending interdisciplinary treatment to provide a customized approach as part of a shared-decision model (Cohen et al., 2021; Connell et al., 2022). According to Bolton (2022), a key feature of the BPS model is its interdisciplinarity, with unified theoretical perspectives and an integrated approach. Communication, collaboration and coordination of an individual's care performed by teams including physicians, physiotherapists, social workers, pharmacists, and mental health therapists can offer personalized, patient-centered care by bringing together unique perspectives and expertise and addressing the patient's physical, emotional, social, and psychological needs with improved pain outcomes (Connell et al., 2022; Kasewater et al., 2023; Danilov et al., 2020; Gatchel & Okifuji, 2006). The literature supports the use of integrative, psychobehavioral approaches with pain specialists (Darnell, 2017) over a biomedical approach, yet recognizes the lack of access to specialists and pain programs, and the lack of trained professionals who offer pain treatment (Darnell, 2017; Kasewater et al., 2023).

Interdisciplinary team interventions have been deemed the gold standard for pain treatment with superior outcomes compared to usual care demonstrated in a systematic review of randomized-controlled trials as well as more cost-effectiveness in the long term (Connell et al., 2022; Kaseweter et al., 2023). Some literature suggests a lack of evidence showing the efficacy of team-based pain management (Connell et al., 2022; Kaseweter et al., 2023), whilst other studies state that interdisciplinary care produces small but reliable improvements in the experience of pain, emotional distress, disability, coping and pain behaviors (Smith et al., 2016). An example of a CBT-based pain management program (PMP) documented by Smith et al.

(2016) examined the results of 760 individuals who had attended a 4-week program between 2006 and 2010 and found clinically significant gains in both pain and psychological outcomes.

There are limitations and barriers to the delivery of interdisciplinary care, such as a limited number of facilities available and long waitlists (Kaseweter et al., 2023). Affordability is also a significant barrier, as interdisciplinary care can be limited to those who are attached to insurance companies and even then, insurance companies remain reluctant to compensate for such comprehensive care despite its long-term cost effectiveness in comparison to outdated treatment protocols (Danilov et al., 2020).

'Teaming' is the dynamic act of bringing individuals together around a task, goal, or client and teaming helps meet an individual's needs when clinicians need to work together to address the complex dynamics of persistent pain (Connell et al., 2022). Whether the team is in-house or 'bounded', or whether clinicians are transiently teaming, the collaboration process can positively impact client outcomes. Unfortunately, there is a lack of emphasis and understanding on how to promote successful teaming (Connell et al., 2022), which presents another barrier to practitioners, such as counsellors, trying to implement a collaborative, BPS model of pain care.

Economic barriers prevail as a significant limiting factor for people in pain trying to access community-based allied health services, such as psychological therapy and physiotherapy (Kaseweter et al., 2023), and it is a challenge for individuals to see more than one clinician at a time due to a lack of affordability. This limits the prospect of team-based care.

Biopsychosocial methods of Pain Management in Counselling

There are many ways the BPS is already applied in clinical counselling practice. Cognitive and emotional components are key in the experience of pain, supporting psychological

interventions such as psychotherapy for pain management. However, a significant gap exists between evidence of their effectiveness, availability and application in practice (Zanini et al., 2018; Driscoll et al., 2021). In general, "non-pharmacologic treatments including cognitive behavioral therapy (CBT), acceptance and commitment therapy (ACT), mindfulness-based programs (MBPs), and occupational and physical therapy, where accessible, have been demonstrated to be effective and durable in the treatment of chronic pain" (Majeed et al., 2019, p.2).

Cognitive Behaviour Therapy (CBT)

The most common psychologically based BPS intervention for chronic pain is cognitive behavioral therapy (CBT) (Cohen et al., 2021; Van Dessel., 2014). By acknowledging the interrelationship between cognitions, behavior, psychology and physiology, CBT understands that psychological factors can both exacerbate and maintain physical pain. It proposes that the experience of pain can be disentangled from the emotional, functional, and social difficulties it precipitates and that improvements in those aspects can occur regardless of whether the pain itself changes (Driscoll et al., 2021). As with any intervention, a strong therapeutic relationship is crucial to optimize the effect of CBT, with ideal candidates being motivated, educated individuals with specific personal goals (Cohen et al., 2021).

CBT strategies applied in pain management by therapists may include problem-solving, decision-making, scheduling, relaxation techniques, mindfulness training, and role-playing (Zanini et al., 2018). The approach has been shown to improve function and coping in chronic pain sufferers (Williams et al., 2020), with some studies showing CBT-based psychotherapy can also reduce the pain intensity (Zanini et al., 2018). A focus on pain intensity as a treatment target

improves the outcomes of interventions and increases credibility relative to forms of psychotherapy that focus on emotional function, despite their benefits (Driscoll et al., 2021).

Whilst there is substantial support for CBT as a gold standard treatment for pain (Zanini et al., 2018; Williams et al., 2020), a systematic review evaluating psychological therapies for chronic pain found that CBT provides benefits in the short term when compared with usual treatment, but not when compared with an active control (Cohen et al., 2021) and a Cochrane review in 2020 indicated that CBT is ineffective to reduce pain intensity and mood over the long-term (Williams et al., 2020).

A systematic review and meta-analysis describing emotional regulation approaches for pain by Norman-Nott et al (2024) proposes a specific gap in CBT, stating that it may reduce negative affect, but it does not teach skills that increase emotional awareness and expression, which are helpful for self-regulation and in reduction of pain disability and intensity (Norman-Nott et al., 2024).

An important sociocultural limitation is the application of CBT for low-literacy populations, where aspects such as homework, goals, or information sheets could be challenging and therefore ineffective for some individuals. In rural USA, over 58% of the population is reading at or below the 5th grade level, which can affect an adult's capacity to navigate healthcare systems (Kuhajda et al., 2011) and limits the uptake of available resources.

Another example of a gap in CBT protocols relates to injustice perceptions, which are not specifically recognized in traditional CBT methodology (Bissell et al., 2018). Perceived injustice significantly impacts pain outcomes, with reports of greater pain, disability and depression in those with a sense of injustice (Bissell et al., 2018). These psychological effects can also contribute to work disability and reduced well-being, and whilst CBT helps address maladaptive

thoughts, it can be less effective for those with strong injustice perceptions, suggesting that alternative approaches for individuals with high levels of perceived injustice should be considered in pain management (Bissel et al., 2018).

Acceptance and Commitment Therapy (ACT)

A frequently chosen new generation branch of CBT used to help people in pain is Acceptance and Commitment Therapy (ACT), as it can help reduce pain interference, disability, and depression, and lead to improved quality of life (McKracken, 2022). ACT is derived from CBT and focuses on improving psychological flexibility as a process of change. It involves acceptance, awareness, and behavior change processes with clear goals and values, without allowing feelings or thoughts to dominate (McKracken, 2022).

Although there is a lack of evidence for benefits in pain reduction, there is good evidence to show that ACT methods can affect outcomes via theoretically supportable mechanisms of action, or mediators, although neither inferior nor superior to a traditional CBT approach (Mckracken, 2022).

Norman-Nott et al. (2024) suggest that ACT (like CBT) may lack certain emotional awareness and regulation strategies that would otherwise increase its effectiveness. ACT, like CBT may have limited cultural adaptability and yet may have more potential to adapt its approaches since the method of ACT emphasizes flexibility and openness to the individuality, history and context of the client (Woidneck et al., 2012). Masuda et al. (2021) emphasize the necessity for clinicians to adapt ACT interventions by considering each client's unique culture, learning preferences and situational context to ensure cultural sensitivity and effectiveness.

Self-Regulation Therapies (SRT's)

SRT's that have long been applied to pain management and have included relaxation training, biofeedback, and hypnosis (Driscoll et al., 2021). Relaxation methods may include deep breathing, meditation, progressive muscle relaxation, and visualization, which can help reduce stress and improve pain. Deep relaxation can reduce sympathetic nervous system activity, dampening the pain response (Primasari & Kama, 2024).

Biofeedback (BFB) is an approach that empowers individuals to regulate their physiological responses to alleviate symptoms and utilizes devices that give feedback on metrics such as heart rate, blood pressure, and skin temperature, allowing people to modulate their physiological reactions to discomfort and stress (Calderone et al., 2025).

A review of meta-analyses showed that hypnosis can improve pain as a stand-alone treatment. There does remain uncertainty around its effectiveness as an adjunct with other treatments, although some positive results have been shown with hypnosis as an adjunct to pain education (Hannah et al., 2024).

Emotional Awareness and Expression Therapy (EAET)

EAET focuses on emotional regulation skills to help develop emotional awareness and acceptance, understanding of emotions, emotional triggers, and emotional expression, since emotional dysregulation may increase pain intensity and disability and even predict treatment failure (Norman-Nott et al., 2024). It involves education about the neuroscience of pain (PNE), specifically, the role of neural pathways in generating and maintaining pain and how brain regions are connected and responsible for physical pain and processing. Individuals learn that early-life experiences such as trauma, conflict and stress can contribute to pain and that they can identify emotional stimuli, express emotions, and approach conflict through experiential

activities as well as rewrite narratives about pain emphasizing strength and empowerment (Driscoll et al., 2021).

A randomized-controlled trial by Yarns et al. (2024) showed EAET as superior to CBT (still often deemed the gold standard psychological approach for pain) with significantly greater improvements in pain reduction than in CBT. The paper suggests that the burden of chronic pain in society could be improved by integrating EAET into clinical pain management (Yarns et al., 2024).

Mindfulness-Based Interventions (MBI's)

Mindfulness-based practices have shown convincing evidence in the treatment of chronic pain over recent years. Neuroimaging has shown that when we alter the meaning, interpretation, and appraisal of the nociceptive inputs to the brain, there can be a change in the experience of pain (Jinich-Diamant et al., 2020). In the scientific context within which mindfulness-based therapies are studied, mindfulness may be defined as a self-regulated attentional state that is based on bringing awareness to the present moment without judgment (Jinich-Diamant et al., 2020). Mindfulness-based stress reduction (MBSR) has demonstrated clinical efficacy across a range of health outcomes, and other mindfulness-based therapies have been shown to improve pain-related symptoms for various health concerns. Significant improvements in affective factors that help manage pain include pain acceptance, stress, depression, and catastrophizing, which shows hope toward better understanding and mitigation of the psychosocial components of chronic pain (Jinich-Diamant et al., 2020).

Combination Therapies

Many combinations of therapies may help a person's pain management without necessarily requiring a large team of clinicians. An evidence-based approach is psychologically informed

physical therapy, which incorporates CBT techniques into traditional physical therapy (Archer et al., 2018). In this concept, individuals receive physical therapy and training on pain-related coping skills from the CBT perspective. A review of RCT's that examined this approach revealed short-term improvements in functioning among people with knee pain and low-back pain (Driscoll et al., 2021), though more research is needed on specific teaming approaches and their benefits for different types of pain conditions.

Pain Neuroscience Education (PNE) as part of a BPS approach

"An increasingly popular form of biopsychosocial education is pain neuroscience education (PNE), which has the overarching aim of facilitating individuals to reconceptualize their pain as less threatening" (Watson et al., 2019, p.2) which can calm the nervous system and increase the sense of safety (Louw & Gilley, 2024). Such education helps equip people with a coherent understanding of their condition and helps manage uncertainty, reduce fear-avoidant behavior, reduce catastrophizing, reduce hypervigilance, decrease healthcare utilization and increase self-efficacy (Parraga & Castellanos, 2023; Cuenca-Martinez et al., 2023; Louw & Gilley 2024).

Research suggests that PNE is an effective tool to improve pain, disability, and psychosocial factors in conditions such as fibromyalgia and low back pain, especially when in conjunction with other therapeutic approaches (Lepri et al., 2023). Since changing cognitions can have a significant impact on chronic pain (Louw & Gilley, 2024), counsellors are well-positioned to provide PNE as part of pain management.

Understanding why pain is produced, even in the absence of injury or pathology, can validate a person's pain and increase motivation, self-efficacy and engagement thereby making treatments more effective. The research shows that PNE, when applied with other multimodal

treatments such as exercise, can lead to significant clinical improvements (Cuenca- Martinez, 2023).

As we begin to transition from a biomedical model of pain assessment and management, there is a need for behavioral treatments that empower individuals who suffer from pain (Darnall et al., 2017). Studies have shown that there is a desire in psychologists to close educational gaps so that they may meet this gap, which aligns with the "ethical imperative to systematically integrate pain education into psychology training" (Darnall et al., 2017, p.1413). This speaks to the need for more pain education in the realm of psychology so that more mental health professionals are equipped to empower people who are suffering from pain (Darnell et al., 2017).

Issues with PNE delivery

There are various barriers to PNE delivery. One aspect includes the complexity of explaining neuroscience concepts to patients, such that, where health literacy is limited, an adult's capacity to assimilate the benefits of education and pain resources may be limited (Kuhajda et al., 2011). Another limiting factor lies with the training of the clinicians themselves, noted by Darnell et al (2016) who state that a root cause lies with insufficient training, where clinicians are uncomfortable educating on pain and struggle to convey the information effectively.

Even where clinicians may be specialized in pain education, individuals may be reluctant to hear BPS explanations of pain due to the stigma of pain being 'all in your head' and resistance to psychological and emotional approaches to pain management (Driscoll et al., 2021). From the cultural perspective, Bohjwani et al. (2024) state that clinicians often deliver pain education in ways that are culturally uninformed and that it is important to consider that certain

pain neuroscience education concepts may not be appropriate to all cultural groups. They suggest that the use of certain metaphors, illustrations and resources will not apply to some individuals given their age, gender, social circle, faith, values and belief about pain. This calls for a culturally sensitive and safe approach, as with any intervention and highlights that PNE may simply not be adaptable or applicable for some populations.

Chapter Summary

As evidence for a biopsychosocial approach to chronic pain management continues to evolve, there is a progressive shift away from the traditional biomedical model (Ng et al., 2021; Parraga & Castellanos, 2023; Cohen et al., 2021; Driscoll et al., 2021). Unfortunately, the practical application of BPS continues to be hindered by accessibility and service delivery issues (Darnell et al., 2017) and the challenges of moving away from concepts embedded in the biomedical model. While the evidence in support of a BPS model for pain has existed for some time, the interpretation of biopsychosocial principles continues to evolve with science and shifts in cultural and social justice awareness.

Neuroscientific research delivers new insight into the way pain can be influenced bidirectionally by a human's psychological and social situation, not just their biological state (Cohen et al., 2021), and there is an urgent need to acknowledge the vast spectrum of cultural, social, and structural components, including discrimination and systemic inequities, if a truly biopsychosocial approach is to be achieved (Todic et al., 2022).

Counsellors and mental health professionals are uniquely positioned to address the cultural and psychosocial dimensions of pain, given their expertise in this area (Driscoll et al., 2021). Further training in Pain Neuroscience Education (PNE) could equip counsellors with a more comprehensive framework to support clients in pain and facilitate collaboration with teams of

clinicians in the field as part of an interdisciplinary approach (Darnell et al., 2016). The access to psychotherapeutic and specialized services continues to be hindered by financial, social, cultural, or systemic barriers (Darnall et al., 2017; Deslauriers et al., 2021) thus training for professionals on access and delivery is vital.

The following chapter will explore a future vision for the counselling profession working with chronic pain within a biopsychosocial framework and considering the existing limitations of the healthcare system. It will examine how counsellors can navigate these challenges, enhance service provision and advocate for more inclusive and accessible care for people suffering with pain.

Chapter 3: Recommendations for Counsellors Working with Chronic Pain

Summary of Findings

The biopsychosocial model of care continues to evolve and gain favour in the literature as the gold standard approach to chronic pain. Whilst the inadequacies of the biomedical model are becoming clear, the literature states that everyday pain treatment remains firmly rooted in the biomedical realm, which fails to address a major part of how pain works (Darnall et al., 2017; Parraga & Castellanos, 2023)

There is an underutilization of counsellors in pain management, and one piece of this may be due to gaps in training to equip them with the additional skills to work with this population and alongside other disciplines in an integrated BPS approach.

The immense barriers to accessibility and availability of biopsychosocial pain services, especially for marginalized populations, are clear. Pain continues to be an unmet form of suffering and a crisis for the health of the individual. This chapter looks at how pain management training for counsellors and their increased involvement in the field could support an evidence-based BPS model of care and fill certain gaps in pain service delivery.

The Layers of Suffering for the Individual in Pain

Chronic pain is, by nature of its complexity, challenging to treat, in part due to the affective, cognitive, and sensory mechanisms that modulate pain, which can add to the challenge in identifying and managing many pain conditions (Jinich-Diamant et al., 2020). The way that people in pain can become stuck in unhelpful patterns of behavior and lifestyle can further perpetuate pain and increase their risk of over-treatment, co-morbidities, mortality and suicide (Williams et al., 2021).

One of the most significant concerns in the way pain has been treated is the overuse of opioids. Physical dependence and increased tolerance have the potential to cause maladaptive cognitive-affective sequelae and lead to an increased rate of opioid use disorder (OUD) in this population (Jinich-Diamant et al., 2020). There has been a four-fold increase in opioid prescriptions for non-malignancy related pain, with no significant improvement in pain outcomes in the US and despite a lack of efficacy, up to 20% of individuals with chronic pain in the US have continued to be prescribed opiates by medical doctors (Hassan-Majeed et al., 2019). In 2018, one in eight Canadians was prescribed opioids. In 2017, approximately 37% of Canadians with Opiate Use Disorder (OUD) accessed opioids legally (i.e., prescriptions), costing approximately $5.9 billion for Canada (Cid et al., 2023). Tragically, between 2016 and 2022, there were 30,843 opioid toxicity deaths in Canada (Cid et al., 2023). This is an urgent call to move towards non-pharmacological answers to the epidemic of pain.

Another challenge involves the impact of the delays in accessing pain services. Delays lead to detrimental consequences on health and quality of life and poorer treatment outcomes once services have been accessed (Lauriers et al., 2021). Since chronic pain can lead to damaging pathophysiological and anatomical changes in the brain and nervous system (Cohen et al., 2024), it may be assumed that delayed treatment will exacerbate chronicity and illness. Unfortunately, few people have access to pain specialists or pain clinics, leaving marginalized communities such as rural populations without access to optimal pain care (Kaseweter et al., 2023; CIHR, 2019) and more at risk of the ill effects of medications or ineffective treatments.

If an individual does eventually see a pain specialist, there remains a predominantly biomedical approach (Parraga & Castellanos, 2023; Sullivan et al., 2023) that risks further

medicalization. Deeper entrenchment in the medical system and unnecessary testing can exacerbate the pain cycle (Eneberg-Bolden et al., 2020), which is worsened if opiates are administered with negative consequences (Jinich-Diamant et al., 2020). Surgery comes with a risk of disappointing outcomes for chronic pain, including the risk of post -surgical central sensitization and other unwanted surgical side-effects (Rosenberger & Pogatzki-Zahn, 2022).

Even if an individual has managed to see a specialist, there can still be fragmented care and conflicting opinions on diagnosis and treatment (Canadian Institutes of Health Research, 2019; Dewar et al., 2009). In one study representing the voices of individuals with pain, it was stated that contradictory diagnosis and treatment advice caused skepticism and dissatisfaction with healthcare and contributed to high utilization of or withdrawal from health care providers and the health care system (Dewar et al., 2009; CIHR, 2016). Studies inviting the voice of the individual in chronic pain found that people want clear explanations, supportive reassurance, advice about how to manage their pain (Dewar et al., 2009) and support with comorbidities that risk being untreated or missed (CIHR, 2016). The stress of navigating complex healthcare systems exacerbates the psychosocial impacts of pain. Those unable to advocate for themselves, vulnerable individuals, people with disabilities, or those too debilitated by their pain to navigate the medical system can end up defeated or reliant on pharmaceuticals and ‘quick fixes,’ thus feeding the cycle of suffering (Dewar et al., 2009; Delauriers et al., 2021).

Pain treatment delivered via biomedical approaches can be disempowering for the sufferer. They can experience objectification as a passive recipient, separated into parts rather than seen as a whole being with agency in their healing process (Rocca & Anjum, 2020). This may be seen as reductionism; the “philosophical idea that all higher-level (e.g. social, mental or medical)

phenomena and processes can in principle be explained at a lower level (e.g. biology, chemistry, physics). Ontological reductionism states that all processes and events must ultimately be the result of physical causes" (Rocca &Anjum, 2020, p. 77). This may be seen as an underlying reason why the biomedical model does not meet all aspects of pain as a complex, unique and biopsychosocial phenomenon.

Financial burden

In addition to the physical and psychological burdens, the individual who is waitlisted or lacks access to services carries a financial burden. Those without a diagnosis for their pain may not be eligible for economic compensation, such as long-term sick leave or insurance coverage (Rocca & Anjum, 2024). Axon and Ullah (2023) discovered that individuals in the US with chronic pain had approximately USD 300 billion per year higher health costs than those without pain. The strain of funding one's treatment exacerbates stress on the nervous system and the suffering associated with pain, for both the individual and their family. Lack of affordability of pain treatment options creates an inequity in the way that pain services are utilized, leaving many sufferers without treatment, even if services are available in their community (CIHR, 2016).

The financial burden of chronic pain in Canada for the taxpayer has been estimated at $56 billion per year in both direct expenses (e.g., hospital visits and medications) and indirect expenses (e.g., missed productivity) (Kaseweter et al., 2023). This exceeds the costs of heart disease, cancer and HIV combined (CIHR, 2016) and places additional strain on the social and health services outside of pain management.

Impact on Service Providers

The lack of accessibility of allied health pain services adversely impacts primary care clinicians (Kaseweter et al., 2023). Many individuals with pain utilize primary care settings,

such as family practices or walk-in clinics, seeing their family physician twice as often and requiring longer appointments than other patients (Kaseweter et al., 2023), which overwhelms services. This is a heavy burden on physicians who report a lack of education and confidence in treating chronic pain effectively, as well as frustration in managing patients with chronic pain (Kaseweter et al., 2023). There has been an over-prescription of opiates as a consequence (Jinich-Diamant et al., 2020). Such challenges add to the reluctance, and even fear, of physicians of treating chronic pain (CIHR, 2016) which is sensed by the patient who feels like a burden and also that they are not getting the treatment they need for pain or other co-existing conditions (Dewar et al., 2009; CIHR, 2016).

Despite the overwhelming evidence for a BPS approach that includes education, cognitive-behavioral and psychological approaches (Driscoll et al., 2021), there is a stark underutilization of counsellors in the treatment of chronic pain. This is, in part, due to a lack of awareness [of clinicians and the public] of their scope and also due to financial barriers in accessing their care (Clauw et al., 2019). Van Dessel (2018) suggests that psychological therapies have not traditionally been integrated into healthcare approaches to chronic pain and wonders how the system may be restructured to increase their presence in the field.

For counsellors who do work with pain, the challenges of managing clients, especially as sole practitioners, can be overwhelming calling for more training in pain management (Eneberg-Bolden et al., 2020; Darnall et al., 2017), not just in pain neuroscience but also in management strategies such as teaming (Connell et al., 2022) and how to approach referrals for medical care or allied health professionals when needed.

Recommendations for Counsellors Working with Chronic Pain

Pain Science may be described as the "Foundation of Interdisciplinary Pain Management" (Eneberg-Bolden et al, 2020, p.541) as part of biopsychosocial interdisciplinary treatment, which continues to be espoused as the best long-term solution for chronic pain (Eneberg-Bolden et al., 2020; Rafaielli et al., 2021; Sullivan et al., 2023; Driscoll et al., 2021). Evidence-based pain education can help people to understand the complex, biopsychosocial nature of chronic pain and help to reduce distress, disability, and fear-avoidant behavior (Canadian Pain Task Force, 2021).

Traditionally, cognitive and behavioral change has been integral to psychological treatments to support agency and self-management (Williams et al., 2021), yet pain education, as a catalyst for cognitive-behavioral change, has not typically been involved. This capstone proposes that counsellors receive training in neuroscience to support their management of persistent pain. It may be "an ethical imperative to better train psychologists and therapists to address and treat pain, and thereby provide primary care physicians, nurse practitioners, physician assistants, and other referring clinicians the resources they need to treat pain comprehensively according to the biopsychosocial model" (Darnall et al., 2017, p.1413). Literature reports that there is a desire in clinicians to close educational gaps so that they may meet the deficits in pain care (Darnall et al., 2017, p.1413; Kasewater et al., 2023).

Research suggests that pain education be included at all levels of training in psychological fields, including the undergraduate level, where the concept of pain should be framed as a psychosensory experience and graduate/post-graduate training to involve more advanced pain education (Darnall et al., 2017). Training could include online courses, personal professional development, pain diplomas/certificates, supervision and mentorship on chronic pain for students and supervisors. This could be expanded by research or PhD programs

(for counselling) to help advance the field and build the presence and voice of counsellors in pain management. Since counsellors already receive training in trauma, it seems reasonable to integrate pain education (such as the connection of pain and the neurobiology of trauma) into the biopsychosocial approach. Trauma-informed principles such as empathetic communication, active listening, upholding respect for a person's experiences, ensuring clients have choice of interventions and supporting clear informed consent (Yamin et al., 2024) would be integral to person-centered pain care and aligned with the existing expertise of counsellors.

Individualization of Treatment

An integrative BPS approach calls for individualization of treatments that meet the uniqueness of the individual (McCracken et al., 2022), respecting their culture, background, preferences and physical abilities. This helps mitigate the harms of diagnostic labels or formulaic approaches that leave an individual feeling isolated and unheard and calls for a paradigm shift in how we assess, conceptualize, and treat pain (Driscoll et al., 2021). Pain affects each individual differently, and treatment plans that are based on tailored, measurable outcomes and focus on quality of life would support an individualized, patient-centered approach (Cohen et al., 2024). A collaborative approach should actively involve the individual in developing their own care plans (CIHR, 2016), supporting a non-hierarchical, dignified and trauma-informed approach in the healthcare system, which may be a new experience for many.

The Consequences of Pain Neuroscience Training

A greater understanding of the neurophysiological mechanisms involved in chronic pain syndromes, such as somatic symptom disorder and central sensitization, will allow counsellors to blend Pain Neuroscience Education (PNE) with existing psychoeducation approaches such as CBT, ACT and Mindfulness-Based Approaches. Assisting the client to understand why they

have pain, how a specific intervention works and how *pain can be changed* or reversed through neuroplasticity can be transformative for those disempowered by failed approaches or dismissive attitudes. Through a CBT lens, for example, if a person is experiencing catastrophic thinking, e.g., 'moving my back will damage it', pain can be exacerbated through immobility, tension and anxiety, and this can be worked through with cognitive-behavioral modification. PNE helps explain that hurt does not necessarily mean harm, and in conjunction with other modalities (e.g., movement) and compassionate care, the client can increase their sense of safety (lower threat) and increase their function, interrupting the cycle of pain. (See Appendix A for an example of how PNE may be integrated into counselling and its effects on service delivery.)

Collaboration and Interdisciplinary Work

As counsellors increase their work in chronic pain, they may become more involved in multidisciplinary contexts, advocating for their positions in pain management programs and other pain services. Education in the neuroscience of pain would help counsellors communicate with other providers, deepening understanding of their roles in treating pain and increasing skills of inter-referral for pain services. Creating a common language around pain supports consistent messaging around PNE concepts and reduces the fragmentation or mixed messaging between practitioners concerning diagnosis and treatment. This collaboration would increase the visibility of counsellors as key players in pain management, increasing demand and availability for their services.

The strategic promotion of counsellors' skills with training in BPS pain care would facilitate referral from other disciplines, i.e., medical doctors and allied health professionals such as physiotherapy, social workers, occupational therapists, and clients and their families

(Eneberg-Bolden et al., 2020). Successful marketing can present the benefits of pain counselling as tangible and personal to the consumer (Driscoll et al., 2021), dispelling myths and stigma about psychological approaches for pain (e.g., 'the pain is on your head') and increasing awareness of its importance as part of best practices of pain management.

Whilst the increased integration of counsellors into interdisciplinary work, such as pain management programs, may be ideal, the reality is that many counsellors work as sole practitioners. This requires tailored and creative, approaches to collaboration according to the specific demographic and context of the client. Private practitioners can connect with pain specialists, such as occupational therapists, physical therapists and physicians, to address the biopsychosocial aspects outside of their scope of practice. Learning from each other along the way. This may be in-person, by phone or virtual, with team meetings easily accessible through these platforms. Group work may be included in this model. Many aspects of multidisciplinary networking in healthcare have been longstanding practices in rural communities due to practical necessity.

Increased funding, accessibility and availability

With increased training in pain management, service promotion and greater visibility of counsellors in pain work, there is potential to attract more funding from health care benefits or insurance companies that reimburse for counselling services. This would increase accessibility for many individuals in pain and encourage referral sources, such as family physicians, to refer people to counsellors specifically for pain as a primary resource. Evidence suggests that the client should have access to both psychological and physical treatments to get the most benefit in pain treatment (Louw et al., 2021) and that PNE is most effective when delivered along with movement therapies (Louw et al., 2021).

As mentioned, equitable and affordable access for those in rural communities can be increased by video and telephone-based interventions. Asynchronous, personalized telephone feedback has also been shown to help pain-related functional interference and increase activity levels (Heapy et al., 2017), again offering feasible access to psychological treatments for chronic pain (Driscoll et al., 2021). To increase accessibility and affordability further, group work such as CBT for Chronic pain (CBT-CP) and ACT can be effective (Driscoll et al., 2021) and delivered through virtual platforms. Pre-recorded material, online or worksheet resources, may be used if a client is unable to attend live sessions due to childcare or other logistics, with the potential to address differences in language and learning styles.

Either way, access to pain assessment and treatment may be considered a fundamental human right (Darnell et al., 2017), thus, it is imperative to confront the barriers sustaining this epidemic, especially for marginalized populations. Health equity refers to fair opportunities for all people to optimize their health, requiring the removal of obstacles to access, such as discrimination and economic disadvantage (Todic´et al., 2022). It is within a counsellor's scope to identify areas where a person may lack support, to identify systemic or societal stressors and advocate for a client where possible to reduce the disparities and the burden for pain sufferers (May & Vallerand, 2018).

Limitations of this Capstone

Whilst the research for PNE as part of pain management treatment clearly shows effectiveness, there is a lack of research on *counsellors* administering PNE, with research to date focusing more on other professionals, such as physiotherapists (Louw & Riera Gilley, 2024). More research is needed on the potential of PNE to change pain outcomes when compared to non-PNE controls.

There may be many barriers to the implementation of training. At the undergraduate level, I have no evidence suggesting stakeholders interest in PNE becoming part of the curriculum within institutions and, e.g., degree programs. Whilst I have a bias that a basic understanding of how pain is produced by the nervous system, e.g., in Somatic Symptom Disorder or PTSD, would be beneficial, others may disagree or perceive it to be out of scope for counsellors. Resistance concerning counsellors' scope may also exist at the other levels of training suggested in this proposal. However, the recent surge of trainings and specializations in somatic, trauma and nervous system practices within psychological therapies (Kuhfuß et al., 2021) suggests a growing interest among counsellors to broaden their scope of work with the body and somatic pain.

There may be resistance or barriers for some counsellors to collaborate, since it may raise concerns around confidentiality, a valuable tenet of traditional, ethical counselling practices. Even where informed consent is given, the sharing of a client's personal information with other practitioners remains less standard practice for counsellors (relative to other allied health professionals) and could be a concern for some clinicians. Dynamic and updated protocols would be needed to protect clients and practitioners working in multidisciplinary contexts, with added vigilance around cybersecurity.

As mentioned earlier in the paper, I have an inherent bias as a physiotherapist working with pain in Western healthcare systems. My literature review was largely based on North American and higher-income countries. Whilst diversity and marginalized populations are acknowledged in North America, the global issue of pain in middle or lower-income countries is not represented in this capstone.

Gaps in the provision of pain services have been witnessed from my experience and limited intersectional lens. The idea that counsellors increase their role in pain care, arose through my experiences of either collaborating with counsellors (and the benefits observed for clients) or the barriers in accessing counsellors for clients, where it could have made a difference in their healing process. The view that counsellors become more involved in pain care, may not be shared by others. It seems important to honour that many counsellors may not wish to work in this field, and that a referral onwards may be preferred, especially in highly complex cases.

Intervention gaps

Despite the benefits of PNE for pain sufferers, the application can pose a challenge because not all individuals perceive PNE concepts the same way (Cuenca-Martinez et al. 2023). Cultural and educational differences may pose difficulties in the application of PNE protocols (Salazar-Méndez et al., 2024). My bias is that with respect for the individuality of learning style, language, culture, age and educational level, PNE may at least be modifiable for certain diverse populations. However, whilst believing that de-threatening concepts, such as '*hurt does not always equal harm*', may be conveyed in myriad ways, I acknowledge the gap in the literature on how PNE would be adapted for diverse groups and whether it is still effective when modified (Salazar-Méndez et al., 2024).

It is important to note that pain concepts in Canada, despite being culturally diverse, is rooted in Anglo-Saxon, colonial belief systems (CIHR, 2016), which questions the appropriateness of PNE, regardless of modification, for diverse cultures with different perspectives on health and healing. In fact, entire basis of BPS and interdisciplinary teamwork is rooted in Western concepts of health and healing, meaning that structural, societal or individual

levels of this approach may risk harm with culturally incompetent, colonizing or oppressive practices.

Another limitation of this capstone is that it fails to represent many existing forms of counselling that can be transformative for pain sufferers. Much research is documented on CBT for pain, for example, leaving many potentially effective methods under-examined, including some that may be more culturally adaptable and responsive.

Despite support for BPS models of teamwork and collaborative care for pain, some sole practitioner models of counselling may be adequate and effective for certain individuals without the need for neuroscience training, administration of PNE or team collaboration. As mentioned in Rocca et al., (2020), there is significant therapeutic potential in listening to the person's story and seeing the whole person for all their history and parts; a principle central to the counselling profession since its inception.

Areas For Future Research

I recommend that future research examine the effect of counselling for pain with PNE versus counselling without PNE. This may be best applied to a specific condition, such as Somatic Symptom Disorder or Post Traumatic Stress Disorder, examining changes in factors such as self-efficacy, fear-avoidance, catastrophizing (a factor highly correlated to pain intensity (Meints & Edwards, 2018)) or pain levels where PNE has been applied.

It would also be interesting to look at diverse cultures and culturally adapted PNE within a BPS model and whether this can be effective in these populations. Ideally, studies would have low bias and involve researchers working with indigenous and diverse cultures directly to exchange knowledge and understanding (CIHR, 2016). This may help support pain treatment in

marginalized populations, to uncover the inadequacies and biases and move away from dominant culture representation in literature, protocols and practices.

More research may be needed on the mechanisms and mediators of change for chronic pain (Mckracken et al., 2021). This may help us understand why many counselling methods that are under-represented in the literature may be effective for mediating pain and its associated suffering. This recognition may further expand credibility and attract funding towards counselling, increasing its presence in the field and enriching the vital psychosocial component of pain management.

Final Reflection

I hope that this capstone offers material for further discussion. It is an area I am personally passionate about and I have been inspired, through this capstone, to consider how I can contribute to this field going forward. I am curious to broach universities and discuss possibilities, or hear their views on pain neuroscience as a potential part of the curriculum. I am curious how I may develop formal education options that bridge the position of physiotherapist and counsellor in ways that support practitioners and eventually benefit individuals in pain.

It is clear in the literature that pain is longing for more psychosocial solutions. I hope that the concept of body and mind being inseparable becomes more accepted in society, rather than lacking credibility outside Eastern or alternative perspectives. I hope also, given the complexity of chronic pain, there is increasing support for multidisciplinary approaches, reducing the burden and burnout that is real for the sole practitioner.

In the meantime, I hope that the compassionate art of counselling practice becomes increasingly accessible to all those who would benefit from it, in the field of pain management or beyond.

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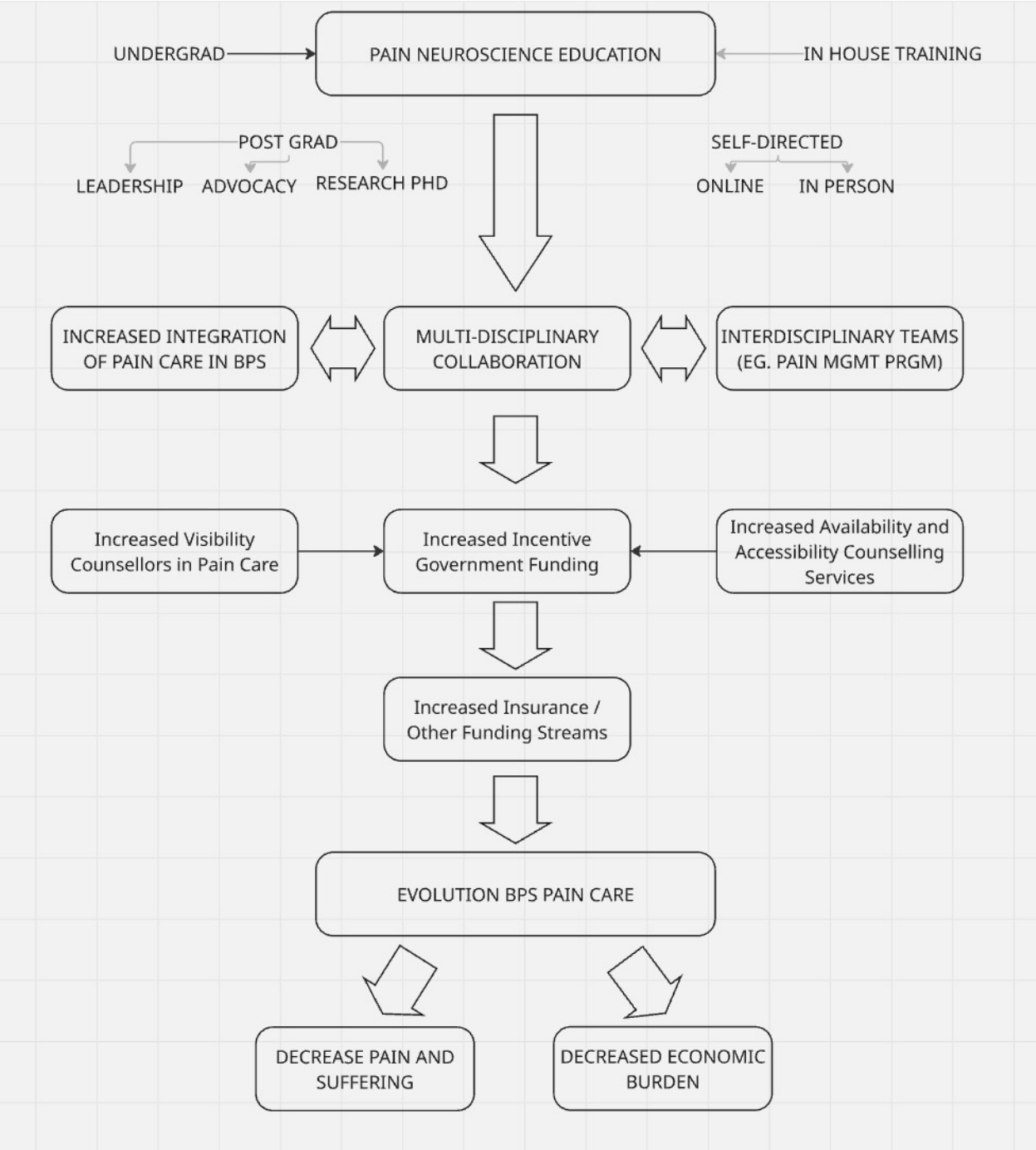
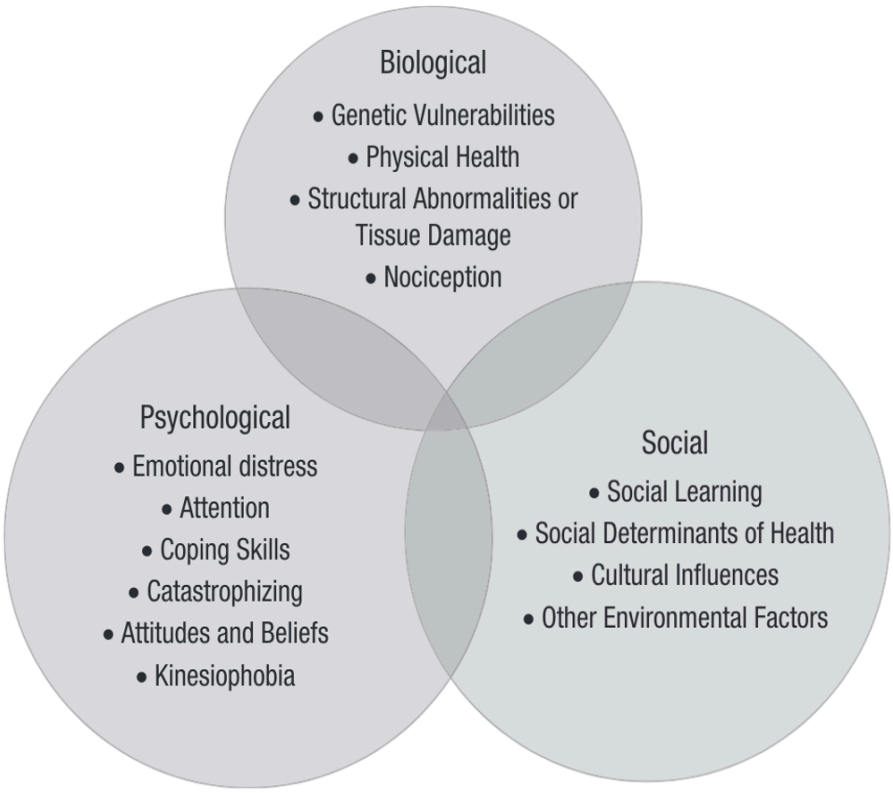
Appendix A

Figure 1. **A proposed example of how PNE may be integrated into counselling and its effects on service delivery**



Gillian Hurst (2021)

Figure 2: The Biopsychosocial Model of Pain – based on work of Engel (1978)



(Driscoll et al., 2021)

Figure 3. Panel: Best practices for pain management

***Panel:* Best practices for pain management**

- Development of a treatment plan that includes establishing a diagnosis, and measurable outcomes that focus on improvements in aspects such as quality of life
- Emphasis on an individualised, patient-centred approach
- Use of a multidisciplinary approach, which might include restorative therapies (eg, physical therapy, exercise), pharmacotherapy, procedural interventions, behavioural treatments, and complementary and integrative therapies
  - Safer and less invasive treatments including self-care (weight loss, exercise) should be used before more invasive treatments
  - Treatment should be tailored to the diagnosis and patient (eg, non-steroidal anti-inflammatory drugs for nociceptive pain; younger patients (<30 years old) are more likely to develop tolerance to and be harmed by opioids)
- Care should be based on the biopsychosocial model
- Consideration of the needs of some populations that are confronted with unique challenges associated with pain, including children, older people (≥65 years), racial and ethnic minorities, and military personnel
- Address barriers to access to care (eg, financial issues, stigma)